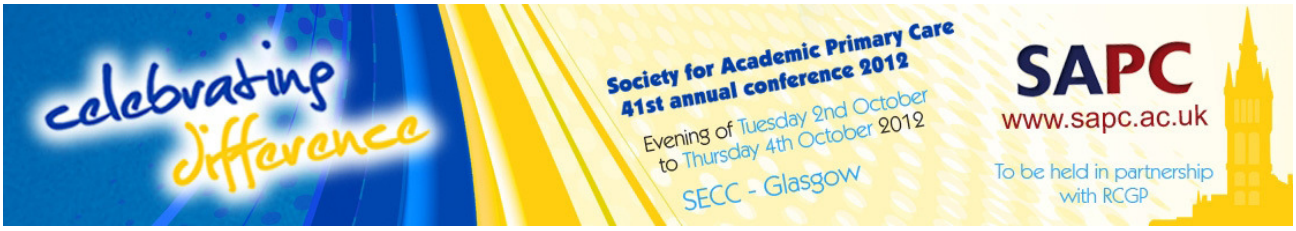

SAPC Annual Conference 2012 Abstracts
3rd and 4th October 2012, Glasgow

CONTENTS

WORKSHOP TITLES

PARALLEL ORAL SESSIONS - TOPICS

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THURSDAY 4th OCTOBER 2012 – joint day with RCGP
SAPC sessions

POSTER THEMES

Poster numbers	Themes
SP001 - page 99	**WINNER OF THE RCGP/SAPC Elective prize**
SP002 – SP018 - page 100	Patient centred health care
SP019 – SP041 - page 113	Mental health
SP043 - SP058 – page 129	Medical education
SP059 - SP073 – page 139	Public health
SP074 - SP100 – page 150	Organisation/delivery of primary health care
SP102 - SP114 – page 170	Cancer
SP115 - SP154 – page 180	Long term conditions
SP155 - SP166 – page 208	Muskuloskeletal health
SP167 - SP175 – page 216	Research methods
SP176 - SP184 – page 224	Women and children
SP186 - SP202 – page 229	Older people's health

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WORKSHOP ABSTRACTS

Workshop 1H

Developing generalism: a joint challenge for clinical and academic primary care?

J Reeve, A Howe and G Freeman

Aims and objectives
The WHO Primary Health Care vision exhorts us to put people at the heart of health care. Person-centred care is a central tenet of generalism: the professional philosophy of practice underpinning the work of generalist practitioners as experts in whole person medicine. Generalist care is a 'complex intervention' that is widely employed in the primary care setting. It is an intervention characterised by interpretive practice dealing with complexity and uncertainty in a changing context. It therefore offers significant challenges to both clinicians and academics working in primary care - in delivering the critical development and evaluation of the approach necessary to support a vision of person-centred care.

This workshop aims to bring members of the academic and clinical arms of primary care together in order to develop a research strategy for the critical development and evaluation of generalism at the heart of a model of person-centred primary care. By stimulating conversations on why generalism matters to both arms of the discipline; and the potential contribution of each, including enablers and constraints.

Format and content
We start with a scene-setting introduction, bringing together the latest developments in health care (RCGP 2012 report on Medical Generalism: why expertise in whole person medicine matters) and research in this area. Brain storming in small groups will consider the priorities, drivers and challenges for developing practice-based evidence of personalised, generalist care. The workshop will conclude with a first conversation about collaborative groupings to take the work forward.

Take away
The primary outcome will be the facilitation of new researcher-clinician networks supporting activity related to the critical development of generalist care. A post workshop action plan will be circulated to all attendees summarising the outcomes of the meeting and implementation strategy. The discussions and actions arising from the workshop will directly lead into the RCGP's programme of work on generalism. Workshop discussions will consider interest in the formation of a new Generalism Special Interest Group (SIG) within SAPC, and the opportunities for collaborative links with the NAPCRG (North American Research Group) 'Doing Generalism' SIG. The workshop will support SAPC in 'doing things differently'. Including strengthening collaborative links with clinical partners; the opportunities for developing practice-based evidence; and in contributing to the development of the new field of generalist research.

Intended audience
We welcome academics and clinicians with an interest in the critical development, delivery and evaluation of personalised care.

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Workshop 2H

Understanding the use of primary care electronic health records for research: benefits and pitfalls

Dai Evans, Barbara Heyes: Primis and Nottingham
Rohini Mathur, Sally Hull and Sandra Eldridge from Queen Mary, University of London

Aims and Objectives

This session will highlight current and potential techniques available to researchers wishing to use electronic record systems used in primary care settings for research.

Format and Content

An interactive 90 minute workshop consisting of:
Part 1
The first part of the workshop will describe the context and use of current primary care electronic record systems along with the terminologies they use. It will briefly describe techniques essential to constructing appropriate query sets and the potential pitfalls. Different mechanisms for data extraction will be covered, along with extraction using using nonstandard techniques. It will also cover data aggregation, anonymisation techniques and Information Governance principles.

Part 2
The second part of the workshop aims to give participants a better understanding of the social construction of routinely collected primary care data, the importance of hypothesis formation, and how to plan robust statistical analyses for routinely collected data. Using examples from local studies we will explore questions of data completeness, accuracy and bias, and the importance of understanding the context in which data is collected.

Reporting guidelines for other study designs have helped researchers to identify key questions which need to be answered to produce high quality research reports. Comparable guidelines for routinely collected data (RECORD) are under development and will be discussed in the session (www.equator-network.org).

The participants will take away

a) An understanding of the development and architecture of primary care computer systems
b) Techniques for data extraction
c) Understanding of how the social construction of routinely collected data affects its interpretation
d) Knowledge of how to identify key factors influencing the data
e) Knowledge of the relevant ‘pre-analysis' cleaning and checking required to understand potential hazards.
f) Better understanding of the role of statistical analysis planning.

Intended audience

Researchers, clinical and non clinical, intending to work on routinely collected primary care health data, particularly junior researchers.

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Workshop 3H

'Growing our own GPs'- working together to nurture the future GP workforce

Caroline Anderson
Nottingham Medical School, Nottingham, UK

Aims and Objectives:

- Increasing awareness of importance of proactive career management at undergraduate level
- Increase awareness of all GPs and GPRs as role models
- Develop an integrated and coordinated approach to local support to enhance GP training applications

Format and Content of the Session:

The problem:
At qualification as a doctor approximately 20% of students are considering Primary Care as their first choice of career. Two years later 50% of the medical workforce are required to train as GPs. This paradox is reflected in a current significant vacancy rate after first round of applications for GP vocational training.

The approach:

Nottingham Medical School has evolved an approach to career management over many years which is described in a poster of the same name. The local Career Handbook is available on the East Midlands Deanery website. This workshop will concentrate on medical school support and be a vehicle to share innovations, and discuss and brainstorm ideas.
Collaborative working is essential and relevant areas to consider are:

- Appointing appropriate applicants to medical school eg GPs on panels, consider personal RCGP characteristics
- GP tutor support
- GP clinical attachments eg core career management tutorial
- Graduate entry students eg enable to attend RCGP National Annual Conference (bursaries)
- GP Career Forum
- GP Soc - a recently formed student initiated society
- GPR shadowing day - new for June 2012
- Career taster week - proposed for 2013 as part of curriculum

Not forgetting work / life balance, babies and geography!

Take away:

Opportunity to work together to nurture the future GP workforce.

Intended audience:

- GPs who are tutors / trainers of medical students and GP registrars / foundation doctors
- GPs who aspire to be inspirational role models to medical students and GPRs
- Admin staff / managers with responsibility for Primary Care attachments for students / GPRs / foundation doctors

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ORAL ABSTRACTS

1A - Improving access to appropriate care

1A.1

"As long as they are a bit friendly and they actually listen": A qualitative study of young adults' use and experience of primary care services

Antoinette Davey, Mary Carter, Anthea Asprey, John Campbell
Peninsula College of Medicine and Dentistry, Exeter, Devon, UK

The Problem - Monitoring patient experience of primary care has become a key part of the healthcare agenda in the UK. Although there is a vast amount of international data on patient experience of health care services, there is a lack of focus on the healthcare experiences of young adults (aged 18 to 25). Young adulthood is a key time of transition, during which individuals may engage in health risk behaviours. Unmet needs at this stage of their development could impact on their future health and use of services.

The Approach - A qualitative study was conducted to explore how young adults use primary care services and to describe their experience as service users. Participants were recruited from two community-based settings. Semi-structured interviews with young adults (18 to 25 years) were conducted. Interviews were recorded, transcribed verbatim and a thematic approach was used to categorise data from interviews.

Findings - A total of 20 young adults were interviewed (13 female, 7 male). Four overarching themes were identified: general experiences of GP surgeries; perceived barriers to accessing GP surgeries; dissatisfaction with services, and use of other non GP primary care services. Participants reported that overall satisfaction with the services received from GP surgeries is dependent on the communication style and attitude of the GP. The general attitude and communication style of the GP during consultations impacted on the likelihood of young adults using the service in the future. Limited access and difficulties accessing services were seen as significant barriers for young adults, which would have a subsequent effect on continuity of care. Parents/carers assume responsibility of their children's health from birth through adolescence, thus young adults may lack experience in forethought and planning when managing their own health. This lack of experience coupled with a possible lack of confidence in asserting and knowing their rights as a patient could impact on their ability to voice their needs to healthcare professionals.

Consequences - Although young adults report positive experiences of primary care services, some young adults have voiced their dissatisfaction with the services that are currently available to them. GP communication and young adults' access to GP surgeries has had an impact on the ways in which this group uses primary care services. These messages may subsequently influence the future resourcing of services. The walk-in centre is a key service and regularly used by young adults. The future of walk-in centres as they are currently configured is uncertain due to differing priorities among local clinical commissioning groups around service provision. Greater understanding of the reasons for poorer access to primary care among this group will help ensure that the healthcare needs of young adults are adequately met.

1A.2

Healthcare access: does candidacy aid our understanding of the experience of chronic conditions?

Sara Macdonald, Susan Browne, Frances Mair
University of Glasgow, Glasgow, UK

The idea: For those with chronic illness an essential part of patienthood is access to suitable services. It has been proposed that 'it is perhaps most meaningful to consider access in terms of whether or not those who need care get into the system or not' (Aday & Anderson 1975). The traditional understanding of access that centred on the availability and utilisation of service has been criticised for ignoring the impact of personal,

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social and organisational factors. Moreover a one dimensional approach obscures the complexity of the association between access and inequity. Service use alone is not evidence of needs being met.

Candidacy, a model that describes the continual negotiation and renegotiation between individuals and health service, arguably simplified but deepened understanding of the access debate (Dixon-Woods et al 2006). From the time that an individual first appraises new or unusual symptoms until the point at which they make decisions about longer-term engagement with health care, candidacy for health care is being considered by patients and professionals alike. Others have extended the candidacy model to consider the impact of particular symptoms (Kovandzic et al 2011) or social factors (Klassen et al 2008).

We would like to extend this further and look at the extent to which notions of candidacy are facilitated or challenged by the representation of illness. Our preliminary analysis of interview data from interviews with colorectal cancer patients and end stage heart failure patients show that improved access may be facilitated by diagnostic category, as demonstrated in the following examples:

It's a case of, you know, I'm a cancer patient I'd like to see the Doctor today. (Hilda CRC patient)

I was admitted and I was treated and this doctor had said we will refer to the heart failure nurse and she will come and see you so I waited and waited and waited for this heart failure nurse but nobody ever contacted me ....(Lenny HF Patient)

Why it matters: To be certain that patient needs are being met we need to better understand access. Candidacy provides a vehicle for moving beyond conventional models. An extended candidacy model which includes illness-type as an additional dimension will facilitate a truly multifarious exploration of access. The extent that illnesses itself challenges candidacy will inform service development and redesign, and ultimately improve access for all patients.

Next Steps: A secondary analysis of qualitative data from three data sets gathered between 2006 and 2011. Interview transcripts from colorectal cancer patients and professionals as well as heart failure patients and professionals will be re-visited to conduct an amplified analysis that looks across data sets (Heaton 2008).

Risks - we consider this a low-risk endeavour.

1A.3

Improving the recognition of transient ischaemic attack (TIA) in primary care: Potential and pitfalls of prediction rules using observational data from the primary care record

Daniel Lasserson, David Mant, Richard Hobbs, Peter Rothwell
University of Oxford, Oxford, UK

The Problem - Accurate detection of patients with TIA in primary care is crucial for stroke prevention. Urgent referral to specialists for suspected TIA is recommended, with speed of assessment determined by the ABCD2 score at presentation. However, stroke cohort studies have shown that there are patients presenting to primary care after transient symptoms, which are not recognised as TIA, with a high early risk of recurrent stroke. Furthermore 50% of primary care referrals to TIA clinics do not have TIA. Hence there is scope to improve sensitivity (detecting TIA) and to reduce the numbers of patients referred who do not have TIA. Existing TIA recognition rules derived from specialist records of referrals to TIA clinics validate poorly in primary care. Therefore we sought to develop a prediction rule to improve TIA recognition in primary care by using GP records rather than specialist records as a derivation dataset.

The Approach - Primary care records of all referrals with suspected TIA from 2002 to 2006 to the Oxford Vascular Study (a prospective population based study of all vascular events occurring in 91,000 patients) were analysed for symptom content and grouped into predictor categories of nervous system dysfunction. TIA diagnosis and affected arterial territory were determined by a senior neurologist (PMR). A logistic regression model with TIA diagnosis as outcome was derived, and included predictors compared with secondary care models. Calibration was assessed with the Hosmer-Lemeshow goodness of fit test. Benefits

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of weighting using beta coefficients were assessed by creating weighted and unweighted scores, and comparing their discrimination for TIA using area under receiver operating characteristic curves (AUROC).

Findings - 496 patients were referred from primary care with TIA prevalence of 42%. Compared to secondary care models, weakness was not associated with a TIA diagnosis. Clinical predictors in the final model included five associated with reduced chance of TIA (confusion, memory loss, reduced consciousness, unilateral sensory disturbance, nausea/vomiting) and two with greater chance (speech disturbance and visual loss). The Hosmer-Lemeshow test showed good calibration (p=0.65). Model discrimination for all TIA diagnoses showed no difference between using weighted and unweighted scores with AUROC of 0.81 (S.E. 0.02) and 0.79 (S.E. 0.02) respectively. Similar performance was seen for recognising posterior circulation TIA with weighted and unweighted AUROC of 0.77 (0.04) and 0.74 (0.04) respectively.

Consequences - Diagnostic rules based on GPs' histories in suspected TIA have good discrimination but use different predictors compared with existing secondary care rules in similar patient groups. This improves model performance but changes the traditional TIA phenotype. A primary care prediction rule for TIA diagnosis may need a wider denominator for derivation (all patients with transient symptoms) rather than using primary care records in patients selected by GPs for referral to TIA clinics.

1A.4

Development and evaluation of a psycho social intervention for people with mental health problems from specific disadvantaged groups

Karina Lovell[1], Linda Gask[1], Carolyn Chew-Graham[1], Chris Dowrick[1,2]
[1]University of Manchester, Manchester, UK,[2]University of Liverpool, Liverpool, UK

The Problem - There is a need to develop and test interventions for disadvantaged groups who experience common mental health problems which are accessible, culturally sensitive, acceptable and effective.

The approach - Our aim was to develop and evaluate a psycho-social evidence based, feasible, acceptable and culturally sensitive intervention for older people (aged 50 +) and for those from BME groups (Pakistani, Bangladeshi and Somali).

Phase I: Determining content, delivery style, acceptability and cultural sensitivity of the intervention. In this stage we sought to:

Ø Synthesise the information collected in the relevant work streams of the overall programme grant to design and deliver the intervention

Ø Develop and deliver a training package for mental health workers to effectively deliver the intervention.

Phase II: Exploratory trial – in this stage we sought to:

· Test the intervention protocol designed in Phase 1 by estimating key parameters for a definitive trial of the intervention protocol to:

Ø explore the delivery of the intervention, adherence and acceptability

Ø optimum recruitment procedures and likely recruitment rates

Ø preliminary assessments of the effect size of the intervention

Findings - Developing the intervention comprised a number of stages. We drew on the results of 6 studies to develop the intervention 1) systematic review of access studies, 2) meta-synthesis of data on patient perspectives, 3) dialogues with local stakeholders, 4) review of grey literature from statutory and voluntary service providers, 5) secondary analysis of patient transcripts from previous qualitative studies and 6) primary data from interviews with service users and carers. This information was synthesised by the trial team and a

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draft intervention developed. The draft intervention was sent to our international experts and service user and carer focus groups for final refinement.

We evaluated the intervention using an exploratory randomised controlled trial:57 participants were recruited (37 older adults and 20 BME). Recruitment rates were lower than anticipated, especially amongst the Somali community. Qualitative interviews demonstrated high levels of acceptability of the intervention. Preliminary information on effect sizes will be presented.

Consequences - Our findings suggest that we have developed a culturally sensitive, acceptable, accessible and feasible evidence based intervention which can be delivered following a brief and intensive skills practice training programme. For a definitive phase III trial we have identified optimum and likely recruitment rates, and can determine preliminary effect sizes. We have also identified key learning points for primary care mental health services of changes that would be required to enhance access for hard-to-reach groups.

1B - New perspectives, new insights

1B.1

RAPPORT: Research with Patient and Public involvement: a Realist Evaluation. Findings from a national scoping exercise and survey.

Patricia Wilson[1], Marion Cowe[1], Claire Goodman[1], Amanda Howe[2], Sally Kendall[1], Elaine McNeilly[1], Diane Munday[1], Elspeth Mathie[1], Stephen Peckham[3], Fiona Poland[2], Sophie Staniszewska[4]
[1]University of Hertfordshire, Hatfield, UK, [2]University of East Anglia, Norwich, UK, [3]London School of Hygiene and Tropical Medicine, London, UK, [4]Royal College of Nursing Research Institute, University of Warwick, Warwick, UK

The problem - Public involvement in research (PIR) has now become integral to policy and research funding. The benefits of PIR have been widely discussed. However, how PI is implemented within health research is variable and reflects a continuum of levels of public participation. This study seeks to establish if different approaches or models of PIR achieve different outcomes, and whether there are common benefits or difficulties in PIR which occur no matter how it is organised.

The approach - The study uses a critical realist evaluation framework and mixed method data collection to gather information on the context, processes, structure and agency of PI in health research. To demonstrate what elements of PIR influence research outcomes regardless of setting, six topic areas have been selected to capture the full continuum of PI, research design and settings including primary care; cystic fibrosis, diabetes, arthritis, dementia, learning disabilities and public health.

The study has 3 stages; a national scoping of recent or current studies on the UK Clinical Research Network (UKCRN) portfolio for evidence of PIR; an on-line survey of 357 chief investigators and an 18 month in-depth case study phase where up to 20 studies in four regions of England will be followed.

Findings - Findings will be presented from the first two completed phases of the project; the scoping and survey. Emergent findings have revealed a wide variation of study design and levels of engagement with PIR. Official study documentation (protocols and final reports) have little mention of or include no appropriate sections to record PIR. Survey findings revealed that some researchers are incorrectly including study participants as examples of PIR. Significant differences between types of study design and topic area in relation to PIR will be discussed; for example, learning disabilities and dementia studies generally had high levels of PI, whilst the diabetes studies ranged from those with no PI to PI at all stages.

Consequences - Findings of the scoping and survey have been discussed with service user reference groups and the implications of minimal PIR in some topic areas and potential impact on research processes will be presented. To date there has been little evidence of the impact and outcomes of PIR. As PIR is resource and time intensive, the findings from this study are important in determining appropriate strategies for PIR, and for assessing whether particular forms of PIR that are effective in one research setting are

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transferable. This presentation will focus on some of the different approaches and levels of PIR amongst different topic areas and study designs. It will discuss some of the challenges identified in the survey of involving PIR which will be of interest to both service users and primary care health professionals.

1B.2

FUSION - Towards a Framework for Implementation of USer InvOlvemeNt in Primary Care

Anne McFarlane[1], Edel Tierney[1], Rachel McEvoy[4], Mary O'Reilly de Brun[2,3], Tomas deBrun[2,3], Ekaterina Okonkwo[5], Anne Rogers[6]
[1]University of Limerick, Limerick, Ireland,[2]National University of Ireland Galway, Galway, Ireland,[3]Centre for Participatory Strategies, Galway, Ireland,[4]Health Service Executive, Galway, Ireland,[5]Galway Migrant Service, Galway, Ireland,[6]University of Manchester, Manchester, UK

The Problem - Service user involvement in healthcare is a key element of many healthcare strategies internationally and nationally. However, literature reviews of user involvement conclude that it is very possible for health care professionals to be 'engaged' in numerous involvement activities with service users without genuinely involving people.

Our analysis of the literature indicates problems in relation to (i) *definitions* of user involvement (ii) *enrolment* of stakeholders in user involvement projects (iii) *methods* for 'doing' user involvement and (iv) issues of *evaluation*. However, these problems have not been investigated systematically. This social science, qualitative study is designed to address this gap in knowledge.

The approach - We are undertaking two complementary research activities:

- A review of international published accounts of user involvement projects for service development in primary care. Specifically we are undertaking a Critical Interpretive Synthesis of published literature to critically interrogate the practice of service user involvement in primary care settings
- A case study analysis of national on-going user involvement projects designed to enable disadvantaged communities to participate in newly formed Primary Care Teams (PCTS) around Ireland. We will employ a unique and innovative combination of Normalisation Process Theory and Participatory Learning and Action research to inform our case study analysis. We will use purposive sampling to develop a sample of stakeholders from the Irish Health Service Executive and community organisations who were involved in an inter-agency initiative to promote community participation in PCTs. We will use semi-structured interviews and PLA techniques to generate data and conduct a thematic analysis of data with an emphasis on co-analysis of data with research participants with attention to recommended procedures for quality and rigour in qualitative research

Findings - This work is in progress.

From our combined analysis of the published literature and case study research, we will report on the

- definitions of user involvement that are being used in user involvement projects
- methods that are being used to enact user involvement
- reported outcomes of user involvement projects (i.e. what changed, was it better? How do we know?)
- interrelationships and congruence (or lack of) between identified definitions, methods and outcomes.

Consequences - This research matters because policy imperatives to involve service users in primary care research and development projects in a meaningful way is not yet routine and normalised in primary care settings. Findings from the FUSION project will be used to generate a theoretically driven and user-informed framework for the implementation of high quality primary care user involvement projects to address this policy-practice gap.

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1B.3
Learning from Integration: Embedding Inter-organizational Research in Primary Care

Laura Nasir[1], Glenn Robert[1], Paul Thomas[0,2], Michael Fischer[1], Ian Norman[1]
[1]King's College London, London, UK, [2]NHS Ealing, London, UK

The Problem - Patients with chronic diseases use a variety of services along a complicated trajectory, crisscrossing through primary care. Lack of coordination and poor information-sharing has many risks, including ineffective care and worsening disease. Policymakers continue to call for greater integration but it is unclear how this is achieved at the micro level. Data collection happens routinely in health care, but rarely informs ways to improve the spanning of boundaries.

The Approach - An embedded clinician researcher was aligned with locally initiated multidisciplinary teams to observe and iteratively design research methods for examining service integration. A longitudinal nested case study design was utilized to explore the extent to which the formation and facilitation of boundary spanning teams enabled the coordination of services for patients with highly prevalent diseases, including diabetes, dementia, and anxiety and depression. Data was collected for two years across a broad system of care in a diverse area of London, England. Interviews with patients and practitioners, observations of team meetings, online staff diaries and staff surveys, patient focus groups and secondary data analyses of local data sets were used to examine the initiation, development, and delivery of innovative solutions for service improvement that spanned organizational and sectoral boundaries. Findings were examined for the type of innovation, extent of integration, and impact on patient care quality.

Findings - Non-clinical socialization was motivational, but providing dynamic learning opportunities where staff could understand and critique how cross-organisational connections actually needed to happen was even more effective. Boundary spanning solutions were enabled by setting focused objectives and facilitating staff-designed data collection which was responsive to local variation. Knowledge exchange was blocked by practice managers and supervisors who noted population level measures, but did not recognize successful access to right care at the right time. Perceived power differentials and entrenched accountability concerns blocked effective problem solving. Interested representatives from secondary care or the third sector, experienced staff, and well informed patients all missed opportunities to make good connections when meeting agendas were too controlled and infrastructure was too policy-bound. Online staff surveys and reflective diaries were shown to be a useful adjunct for developing staff insight and contributed to organisational learning at the micro level. Staff interviews and patient focus groups highlighted successful transitions in patient care that were not captured by local data sets.

Consequences - Practitioners, staff, and patients can be incorporated into service improvement efforts to improve integration for better patient care. Qualitative and quantitative data collection by an embedded researcher can support the iterative process of designing locally tailored improvement efforts. Regular and appropriate measurement of boundary spanning outcomes, paired with critical and constructive professional reflection, are most effectively enabled when facilitated, and systemized, by multidisciplinary teams adapting to local needs.

1B.4

Perceived barriers and facilitators to creating a national Research Register to enable 'direct to patient' enrolment into research: experiences from the Scottish Health Research Register (SHARE).

Frank Sullivan[1], Jenny Ure[2], Donald Nicolson[1], Janet Hanley[2], Aileen Grant[1], Aziz Sheikh[2], Brian McKinstry[2]
[1]University of Dundee, Dundee, UK, [2]University of Edinburgh, Edinburgh, UK

The problem - Difficulties with recruitment pose a major, increasingly recognised challenge to the viability of research. There are a range of approaches to this problem including the current proposal for a Clinical Practice Research datalink(CPRD) and direct to patient models such as Mediguard. We sought to determine whether a register of volunteers interested in research participation, with data linkage to electronic health records to identify suitable research participants, would prove acceptable to healthcare staff, patients and researchers.

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The approach - Design: Qualitative study in which a maximum variation sampling approach was adopted. Interviews and focus groups were used for data generation and Framework analysis facilitated exploring the perceived benefits and barriers to patients, healthcare professionals and administrative staff.

Participants: 70 people, including patients recruited from nine GP surgeries, health professionals and clinical researchers took part in nine focus groups and 17 individual interviews.

Setting: Tayside and Lothian, Scotland.

Findings - Setting up the register was widely regarded as beneficial for research and for society, but a number of important issues were highlighted, which need to be addressed as the model is developed.

Concerns of members of the public were pragmatic, relating to issues such as how they would be contacted, and the frequency and extent of the commitment that signing-up entailed. They also desired greater clarity as to who would see their data, with access being limited to those who needed to know. Trust, transparency and reassurance that this would not involve over-commitment were the key issues in participation.

From the perspective of general practitioners and practice managers, there was agreement on the potential benefits of such a register to enhance the speed and quality of research, as well as the representativeness of the samples. Their principal concerns related to the potential risks to patient confidentiality. Primary care staff sought clarity for their roles in recruitment, the management of patient data across boundaries, and the resources that would be available to them in supporting such an endeavour.

Researchers were generally supportive of the initiative seeing advantages in more rapid access to a wider pool of patients for some forms of research although they had concerns about the detail of the process including data quality, system interoperability and permissions.

Consequences - Patients, healthcare staff and researchers have a favourable view of the potential benefits of a national register to identify people who are potentially eligible and willing to participate in health related research. It has highlighted particular issues in relation to trust, transparency and reimbursement for time that need to be clarified or addressed in order to maximise the chances of successfully creating a national research register.

1C - Innovation through qualitative methods

1C.1

‘Doing' personalised health care: do we need to do more personalised research?

Lucy Cooper, Joanne Reeve
University of Liverpool, Liverpool, UK

The Problem - Patients, practitioners and policy makers alike want health care to be more personal. Providing personalised healthcare for those living with a chronic illness can be problematic as needs often change over time, sometimes quickly. Longitudinal qualitative research (LQR) is one way to understand a dynamic social world - allowing us to gain insight into how people move through life, offering us what Berthoud describes as a "movie" capturing life's fluidity. But LQR can be seen as costly, inefficient and time consuming especially as results may be open to multiple interpretations. Here, we draw on experiences of our recent study exploring experiences of living with chronic illness to consider whether LQR is worth the effort?

The approach - 25 in-depth interviews were conducted with people living with chronic health conditions recruited from primary care or via newspaper advertisements. Individuals living with diabetes, depression or back pain were followed for a six month period and interviewed up to three times to understand more about the work of daily living in the face of a disruptive complex illness. Narrative form/content analysis (Lieblich 1998) was used to explore changes over time.

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Findings - Analysis is ongoing. Our data confirm that life for this group of people is dynamic and often changes quickly. People described both new challenges, and changing available resources to match the challenges. Single interviews offered valuable insights into experience. Multiple interviews offered greater volume and depth, including new narratives of real-time change. But interviewing participants longitudinally also enabled us to do more than more than collect data, but instead travel with participants to construct a story with them over time. New narratives emerged over time, for example dramatic disclosures of a very negative opinion of healthcare that had been previously withheld. But also captured individuals' changing priorities and therefore life decisions as circumstances altered around them. For example a participant forced back to work following loss of benefits; or the shifting sands for a woman deciding whether to have a hip replacement. Personal narratives change.

Consequences - When developing personalised health care for those living with chronic illness, it is important to consider not only the clinician or health system but also the perspective and needs of the patient - how they would like their care to be delivered within the wider context of their life. Longitudinal interviews offer a rich, detailed understanding of the individual, but also a sense of the dynamic, uncertain and changing nature of how they both perceive and live their life with illness. LQR offers different insights into illness experience and health need, in particular highlighting that needs, and wants, change. The wider health care community need to discuss whether those insights matter.

1C.2

Patients' struggles with CBT: a qualitative study

Maria Barnes[1], Sofie Sherlock[1], David Kessler[1], Willem Kuyken[2], Glyn Lewis[1], Nicola Wiles[1], Katrina Turner[1]
[1]University of Bristol, Bristol, UK, [2]Mood Disorders Centre University of Exeter, Exter, UK

The Problem: Cognitive behavioural therapy (CBT) has been found to be effective for various patient groups. It is often reserved for patients who have not responded to medication i.e. those who have treatment resistant depression (TRD). CBT requires a significant commitment from patients in terms of attending a number of therapy sessions, engaging with the therapist and completing homework between sessions. Greater adherence should equal greater effectiveness. However, some patients do not adhere to treatment and there are no studies directly exploring what patients find difficult or dislike about CBT.

The Approach: In-depth interviews were held with patients taking part in the COBALT trial. COBALT was a 2 arm multi-centre randomised controlled trial (RCT) that aimed to assess the effectiveness of CBT in addition to pharmacotherapy for patients with TRD. We interviewed 26 patients who had been randomised to CBT. We interviewed 17 patients who had completed therapy and 9 patients who had not. We aimed to explore patients' views and experiences of CBT and reasons for completing or not completing therapy.

The interviews lasted about an hour, were audio taped and transcribed verbatim. Data were analysed thematically. The software package ATLAS.ti was used to aid analysis. Data collection ended when data saturation had been reached.

The Findings: Patients described how they had found CBT a challenging and difficult process at times, and had struggled to complete homework tasks for emotional and practical reasons. Emotional reasons included associating CBT homework with negative school homework experiences and feeling judged for their efforts. Practical reasons involved problems with incorporating written worksheets into their day, specifically if they worked. These difficulties were the reasons why some patients had not completed their course of CBT. However, despite struggling with aspects of the CBT, most patients – even those who had not completed their course – felt they had benefitted from the therapy. In particular, in learning to question and challenge their automatic negative thoughts, they felt able to better manage their depression.

The Consequences: GPs and patients with depression will be able to use these findings to discuss the possible challenges and benefits of committing to a course of CBT. This will enable patients to make more informed decisions about whether or not to be referred for CBT. This may reduce drop-out from therapy which, in turn, may result in efficiencies in the provision of this limited resource. Moreover, understanding

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what patients' may struggle with can also aid therapists in engaging the patient with CBT thus ensuring greater success.

1C.3

A longitudinal qualitative study of the role of primary care in the prospective management of long-term conditions: Exposing the different priorities of patients and practitioners

Alexandra Stenhoff[2,3], Cheryl Hunter[3,1], Peter Salmon[2], Jessica Drinkwater[1], Susanne Langer[2], Elspeth Guthrie[3,1], Carolyn Chew-Graham[1]
[1]University of Manchester, Manchester, UK,[2]University of Liverpool, Liverpool, UK,[3]Manchester Mental Health and Social Care Trust, Manchester, UK

The Problem - Patients with long-term conditions (LTCs) account for a large proportion of UK healthcare. Health care policy emphasises the importance of primary care in the management of LTCs, with recent Quality and Productivity Indicators (April 2011) setting targets for primary care to influence unscheduled care (UC) by promoting self-management and providing alternative care pathways.

This study forms part of an NIHR-funded research programme, CHOICE (Choosing Health Options in Chronic Care Emergencies), which aims to develop and evaluate an intervention to reduce UC in people with LTCs. The present study explored the role of routine primary care consultations in management of patients with LTCs.

The approach - A longitudinal qualitative design was adopted. Patients with one or more LTCs: asthma, coronary heart disease (CHD), chronic obstructive pulmonary disease (COPD), and diabetes - were recruited from GP practices in NW England. Consultations between consenting patients and practitioners (GPs and practice nurses) were audio-recorded, and tape-assisted recall used in interviews with practitioners and patients. Patients were followed for three months and re-interviewed about healthcare use during this time. Interviews and consultations were recorded and transcribed verbatim. Data were analysed using an integrative framework approach, employing the concept of "work" (Corbin and Strauss, 1985) to explore patient and practitioner activity within and between consultations.

Findings - 25 consultations have so far been recorded. 21 patients have been interviewed; 8 have completed follow-up interviews. 6 practitioner interviews (3 GPs and 3 practice nurses) have been conducted.

Interim analysis suggests that both patients and practitioners engage in, and value, biomedical work around maintenance of health and medication regimes within consultations. However, whilst their priorities converge during consultations, patients and practitioners views diverge about prospective management of illness in everyday life. Practitioners see primary care as influencing self-management to improve health and envisaged that this work would continue beyond the consultation. In contrast, patients emphasise biographical and self-care activities in maintaining health over the follow-up period but these had not been discussed within consultations.

Consequences - Comparative analysis of multiple perspectives (consultations, practitioner interviews and patient interviews), and longitudinal analysis of healthcare use from the patients' perspective have enabled a nuanced understanding of the influence of routine care over time. This innovative methodology exposed a divergence in practitioners' and patients' perspectives of the role of primary care consultation in managing LTCs. In contrast to practitioner discourse, patients did not view routine consultations as influencing the future course of their LTCs. Instead, patients' priorities were invisible in consultation. In order to effectively help patients to improve their management of LTCs, practitioners need to use their consultations to engage with the work patients do in everyday life to manage LTCs.

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1C.4

Reaching the 'seldom heard': using novel qualitative methods in applied health research

Sabi Redwood, Nicola Gale
University of Birmingham, Birmingham, UK

The problem - While death rates from chronic diseases are falling, their prevalence is rising. Consequently, developing and implementing evidence based strategies in primary care ways to prevent them is becoming increasingly important in a resource-depleted healthcare economy. Meanwhile, the socially, economically and educationally disadvantaged continue to carry a disproportionate burden of chronic illness, and finding ways to minimise the impact of chronic illness on quality of life through supporting self-management and monitoring for a wide range of complications present particular challenges for primary care. In terms of research, it is the groups who are disproportionately affected by chronic illness whose voices are seldom heard in research evidence, making it difficult to plan culturally appropriate services and develop interventions leading to further exclusion and poor health.

The approach - While qualitative methods are gaining increasing currency in the applied health sciences, the semi-structured research interview (SSRI) has dominated the methods used. In this paper, we explore the assumptions that underlie the use of SSRIs and critically examine the method's dominance. We explain why, in a number of the projects under the banner of the CLAHRC [1], we selected alternative ('novel') methods to gain access to data (individuals' accounts) that could not have been constructed within the social space of the SSRI.

Findings - We illustrate the use of 'novel' methods through the examples of an art-based activity to elicit South Asian women's beliefs about food and type II diabetes, participant-generated photo elicitation in interviews about primary prevention of cardiovascular disease, and 'go-along interviews' to understand the experience of introducing telehealth technology in the home for Chronic Obstructive Pulmonary Disease patients. We present examples of data collected, and discuss the merits and limitations of these 'novel' methods in terms of data quality, and in terms of feasibility and acceptability within the institutional structures of applied health research.

Consequences - The exclusion from health research of groups most affected by poor health is an issue not only of poor science, but also of ethics and social justice. By sharing our experience of carrying out research projects using 'novel' methods, we emphasise the importance of building trust and working in culturally sensitive ways in order to be inclusive in our research practices.

[1] We are sociologists working on the NIHR-CLAHRC-BBC (National Institute for Health Research Collaborations for Leadership in Applied Health Research and Care for Birmingham and Black Country). The aim of the CLAHRC is to carry out and implement high quality applied health research and increase the capacity of NHS institutions to engage with and apply findings to improve patient outcomes.

1D - Challenges of case finding

1D.1

Women's Evaluation of Abuse and Violence Care in General Practice (WEAVE): one year follow up in a cluster randomised controlled trial

Kelsey Hegarty[2], Lorna O'Doherty[2], Jane Gunn[2], Angela Taft[4], Stephanie Brown[5], Patty Chondros[2], Jodie Valpied[2], Jill Astbury[6], Ann Taket[3], Lisa Gold[3], Gene Feder[1]
[1]University of Bristol, Bristol, UK, [2]University of Melbourne, Melbourne, Australia, [3]Deakin University, Geelong, Victoria, Australia, [4]Latrobe University, Melbourne, Australia, [5]Murdoch Childrens Research Unit, Parkville, Victoria, Australia, [6]Monash University, Clayton, Victoria, Australia

The problem One quarter of women in the UK have experienced physical, sexual, or emotional violence from a partner or ex-partner. Intimate partner violence (IPV) causes acute and chronic health damage to

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survivors, posing a public health and clinical challenge. There is little evidence on effective responses to women disclosing IPV within general practice. Our objective was to determine the effectiveness of IPV screening plus a brief counselling intervention by trained general practitioners (GPs) for abused women in primary care.

The approach *Design, setting and participants* Cluster randomised controlled trial in 55 general practices in Victoria, Australia. We screened 19879 women aged 16-50 years who had a general practice consultation in the past year, identifying potential participants who feared their partner or ex-partner. *Intervention* GPs (and their screen positive female patients) were randomly assigned to usual care or the intervention consisting of (i) GP Healthy Relationship training: distance education and 2 individual interactive sessions; and (ii) invitations to women for 3-6 sessions of women-centered counselling: safety planning, motivational interviewing, non-directive problem-solving techniques. *Main Outcome Measures* Primary outcomes were quality of life (WHOQOL-Bref), safety planning and behaviours, and mental health (SF-12 score); secondary outcomes were, depression, anxiety (HADS) and comfort to discuss fear and inquiry by doctors about safety. Assessment was by a postal survey at 6 and 12 months after start of the intervention.

Findings 5742/19879 women returned the screening survey. 731 (12.7%) were afraid of a partner; 386 were eligible and 272 consented to participation in the trial. Retention was 70.1% (96/137) of the intervention arm and 74.1% (100/135) of the comparison arm at 12 months. There were some imbalances at baseline between the two arms of the trial. Intention-to-treat adjusted analysis showed intervention compared with comparison arm women were more likely to have a safety plan 45.3% vs 27.8% (OR 2.3 (95% c.i. 1.2 to 4.4)), with little evidence of effect on WHOQOL-Bref, mental health SF-12 scores, or safety behaviours. Secondary outcome analyses showed a greater improvement in HADS mean depression score in the intervention arm -1.6 (95% c.i. -2.6 to -0.6)) at 12 months; and in GPs inquiring about safety of women 32.3% vs 12.5% (OR 3.6 (95% c.i. 1.7 to 7.4)) and children 37.2% vs 18.0%. (OR 5.2 (95% c.i. 1.9 to 14.5)) at 6 months; with little evidence of effect on the HADS anxiety score or comfort to discuss fear of partner at 12 months. There was no evidence of harm from the intervention.

Consequences Postal screening and inviting abused women for brief counselling by trained GPs improves safety planning and reduces depression, the first trial evidence internationally that GPs can improve outcomes for survivors of IPV. Lack of impact on other outcomes suggests that the intervention may need further development before implementation into practice.

1D.2

Prevalence and Case finding for Depression in Chronic Diseases: Defining the scale of the problem.

Bhautesh Jani, David Purves, Sarah Barry, Gary McLean, Jonathan Cavanagh, Frances Mair
University of Glasgow, Glasgow, UK

The Problem - Life time prevalence of depression is estimated between 8 to 12%. There is evidence to suggest that it is up to two to three times more common in patients with chronic diseases. However, most of the evidence on prevalence has come from data collected in a research setting or from a small sample. Guideline bodies recommend routine screening for depression, for patients with chronic diseases. In UK, GPs are incentivised to carry out depression screening for patients with chronic diseases. There are few studies examining the results from such a case finding exercise in routine practice, in a large community based population. Moreover, there is a lack of evidence investigating the effects of various demographic factors on depression in chronic diseases.

The Approach - We analyzed the data from a large community based sample of 150000 patients to study the results of prevalence and case-finding for depression, identified by routine assessment in patients with three common chronic diseases; Coronary Heart Disease (CHD), Diabetes, Stroke. GP Practices in Greater Glasgow area carry out an annual health assessment including depression screening, for patients with these three chronic diseases. The data collected as a result of these assessments are recorded on a health board database, which we analyzed for the year 2008-09. Hospital Anxiety and Depression Score (HADS) was used as a screening test for the new case-finding for depression. Patients were recorded as ‘under treatment' for depression, if they were noted to be either on anti-depressant drugs or undergoing psychotherapy; and were exempt from depression screening.

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Findings - There were a higher percentage of patients currently 'under treatment' for depression for Stroke 14.7% (3837/26060) compared to 13.9% (8646/62275) for Diabetes and 13.2% (8317/62990) for CHD. Prevalence was higher in males, younger age groups, most deprived. Of the remaining patients, those who had HADS screening results recorded, a higher percentage of new cases (HADS≥8) were found for Stroke 22.1% (1044/4715) compared to 19.7% for Coronary Heart Disease (2388/12138) and 18.8% for Diabetes (2181/11599). However, on increasing the cut-off for HADS≥11, the number of new cases found was reduced by more than half.

Consequences - Stroke patients appear to be at slightly higher risk of developing depression. The study results contribute towards defining the public health burden, in terms of prevalence, case finding and health care utilisation, posed by depression co morbid with three common chronic diseases. The findings will be of equal relevance to policy makers and practitioners, involved in organising depression screening and management, in patients with chronic diseases.

We are currently studying the health outcomes for these patients by reviewing the results of their annual health assessments at 4 years of follow-up, which we will be able to present at the conference.

1D.3

NHS Tees NAEDI- Cancer Awareness and Early Diagnosis Project

Ingrid Ablett-Spence, Eleni Sofianopoulou, Greg Rubin
Durham University, Durham, UK

The Problem: More than one in three people in the United Kingdom will develop cancer across the course of their lives with one in four dying as a result. The UK has poor cancer survival rates when compared to other western countries. Analysis of the EUROCARE studies suggest that approximately 11,000 premature deaths per annum could avoided if survival rates in England matched the best in Europe.

Population surveys across NHS Tees using the Cancer Awareness Measure survey have shown low levels of knowledge relating to signs and symptoms of cancer, with 25% of respondents being unable to name any cancer symptom.

The Approach: An awareness campaign in NHS Tees aimed to increase awareness of cancer symptoms among people invited for an NHS Health Check for cardiovascular disease by including the CR-UK Signs and Symptoms Checklist with the invitation to the Health Check and by specifically enquiring about symptoms of possible cancer at the time of attendance.

Findings: 6,520 patients who had >20% risk of developing CVD were invited for Health Checks during the period of the campaign. Of these 4,251 attended. 11% of attending patients had a relevant symptom, with 6% of symptomatic patents being referred to a GP. 80% referred to a GP required no further action, the remaining 20% were referred for further investigation; 54% for fast track cancer referral, 19% for chest x-ray, 19% for endoscopy and 8% for non obstetric ultrasound. Cancer was found in 4 patients who were referred for further investigation.

During the period of the campaign urgent referrals for suspected cancer and referrals for colonoscopy increased significantly, though the increase could not be explained solely by the direct effect of the campaign.

In focus groups with Primary Care Practitioners, we found that case finding was considered as congruent with and an important part of their role, as well as being accepted by patients. They also considered important the targeting of subsets of the population considered to be at increased risk.

Consequences: NHS Tees have continued to fund the intervention and are considering an extension of this case finding approach to other at risk groups.

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1E - A new look at mental health

1E.1

The use of an idiographic mental health outcome measure (PSYCHLOPS) to explore differences in mental health in patients with cardiovascular disease.

Mark Ashworth, Rebecca Lawton, Paul Seed, Peter Schofield, Maria Kordowicz
King's College, London, UK

The Problem: The NIHR-funded UPBEAT-UK programme includes a 4 year cohort study investigating the relationship between coronary heart disease (CHD) and depression in a primary care population.

'PSYCHLOPS' (Psychological Outcome Profiles) is a validated user-generated outcome measure which has been designed to elicit responses from patients identifying two problems that trouble them most and one thing they find difficult to do as a result of their problems. These responses may include items not captured by other outcome measures . We used PSYCHLOPS to identify issues most troubling to primary care CHD patients and understand how these relate to traditional measures of depression.

The Approach: Participants (n=803) on the CHD registers of 16 South London practices were interviewed using 8 standardised measures of depression and functional capacity plus PSYCHLOPS. On PSYCHLOPS, patients record up to two problems and one thing they find difficult to do as a result of their problems (in three freetext boxes). Content analysis on PSYCHLOPS responses was used to derive response categories. Regression analysis was used to compare scores for each PSYCHLOPS response category with those of the 8 standardised instruments.

Findings: PSYCHLOPS responses: 7 non-exclusive response categories were identified: Physical symptoms - cardiac (eg chest pain, breathlessness) (8.2%); Physical symptoms - non-cardiac (29.1%); Psychological symptoms (11.3%); Functional impairment (37.7%); External causes (eg job loss, family problems) (42.6%); Other (eg 'how to carry on', 'old age') (13.0%); No Problems (patients who did not report any problems or functional impairment) (21.3%). Those patients who did not report a problem on PSYCHLOPS had significantly lower psychological distress as measured by HADS, GHQ, REALM, CISR and less functional impairment as measured by EQ1 and SF12. For example, the HADS-Depression scores were 1.76 points higher (95% CI 0.91 to 2.61) in patients who reported 'physical symptoms - cardiac'; 1.13 (0.59, 1.67) for 'physical symptoms - non-cardiac'; 1.86 (1.14, 2.57) for 'psychological symptoms'; 0.79 (0.28, 1.30) for 'functional impairment'; 0.62 (0.15, 1.09) for 'external causes'; 1.90 (1.23, 2.58) for 'other problems' (compared to patients without that particular problem).

Consequences: PSYCHLOPS has identified a subgroup of just over a fifth of CHD patients who report having 'No Problems'. The mean HADS scores of patients reporting physical cardiac or psychological symptoms were substantially higher than those reporting 'no problems' whereas those reporting physical non-cardiac symptoms or functional impairment had raised scores but not to the same extent. The physical symptoms most strongly associated with depression were continuing cardiac physical symptoms. Further research is needed to determine if continuing cardiac problems cause more psychological distress, or whether cardiac symptoms are a feature of depression in these patients.

1E.2

Clinical effectiveness of CBT as an adjunct to pharmacotherapy for treatment resistant depression in primary care

Nicola Wiles[1], Laura Thomas[1], Nicola Ridgway[2], Anna Abel[3], David Kessler[1], Sandra Hollinghurst[1], Katrina Turner[1], Anne Garland[4], Bill Jerrom[5], Jill Morrison[2], Chris Williams[2], John Campbell[6], Willem Kuyken[3], Tim Peters[1], Glyn Lewis[1]
[1]University of Bristol, Bristol, UK, [2]University of Glasgow, Glasgow, UK, [3]University of Exeter, Exeter, UK, [4]Institute of Mental Health, Nottingham, UK, [5]Callington Road Hospital, Bristol, UK, [6]Peninsula Medical School, Exeter, UK

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The Problem: Only one-third of patients with depression respond fully to treatment with antidepressants. NICE guidance recommends reviewing treatment options if there has been little or no response to antidepressants after 6 weeks, but there is no consensus as to the best 'next step'. There is some evidence that treating depression with combined pharmacological and psychological treatment is effective, but this evidence is not specific to those who have not responded to antidepressants, the group for whom cognitive behavioural therapy (CBT) is often reserved. The aim of the COBALT trial was to determine the effectiveness of CBT (in addition to pharmacotherapy) in reducing depressive symptoms and improving quality of life over 12 months (compared to usual care alone) in primary care patients with treatment resistant depression.
The approach: In this HTA-funded multi-centre (Bristol, Exeter and Glasgow) pragmatic randomised controlled trial, eligible patients were those: (i) aged 18-75 years; (ii) who were currently taking antidepressants (≥6 weeks at an adequate dose); (iii) who scored ≥ 14 on the Beck Depression Inventory (BDI); (iv) who had adhered to their medication; and (v) who met ICD-10 depression criteria. Those who gave written informed consent were randomised (using an automated telephone randomisation service) to one of two treatment groups: usual care (that included antidepressants; n = 235) or usual care plus 12-18 sessions of CBT (n = 234). The primary outcome was 'response' defined as at least a 50% reduction in depressive symptoms (assessed using the BDI) at 6 months compared to baseline. Secondary outcomes measured at 6 and 12 months included quality of life and antidepressant use. Analysis was by intention-to-treat.
Findings: 90% of participants were followed up at 6-months (intervention: n = 222; usual care: n = 219) and 84% at 12-months (n = 198 in each group). 46.1% of the intervention group (n=95) met criteria for 'response' at 6 months compared to 21.6% (n = 46) of participants in the usual care group (odds ratio (OR): 3.26 (95%CI: 2.10, 5.06) p<0.001). Those randomised to receive the intervention were more likely to experience 'remission' (BDI score<10) at 6 months (OR: 2.30 (95%CI: 1.39, 3.81) p=0.001). Using data from 6 and 12 months in a repeated measures analyses, the corresponding ORs for 'response' and 'remission' were: 2.89 (2.03, 4.10) p <0.001 and 2.74 (1.82, 4.13) p<0.001.
Consequences: Amongst patients who have not responded to antidepressants, CBT given in addition to pharmacotherapy is effective in reducing depressive symptoms and these effects are maintained over 12 months. It will be important to evaluate the effectiveness of this intervention over the long-term as it may produce a more sustainable improvement than other treatments.

1E.3

'It's like painting over dirt': advice to GPs from people who have taken St John's wort for depression, stress or worries

Marie Pirotta, Meg Carter, Kirsty Forsdike, Jane Gunn
University of Melbourne, Melbourne, Victoria, Australia

The problem: Many of our general practice patients use complementary and alternative medicines (CAM) to promote health and ameliorate illness. This use of CAM sometimes reflects dissatisfaction with orthodox medical care.

We were interested to explore how people, who use St John's wort (SJW) for depression, stress or worries, navigate between conventional and complementary health care. As part of this study, we specifically asked: 'What advice would you give to a GP ... who wanted to support someone in your position?'

The approach: As we wanted to explore people's opinions and experiences, we used qualitative methods, guided by a grounded theory approach. Forty one people, recruited for diversity in experience with using SJW and other therapies, were recruited through a wide range of sources. One researcher undertook all the in-depth interviews at mutually convenient venues. All interviews were recorded, transcribed verbatim and organised in NVIVO. Recruiting stopped when we reached data saturation.

Findings: Our sample who has tried SJW for symptoms of depression had strong opinions about GPs. Commonly expressed views included that GPs take time to listen respectfully to their patients, and should consider the person's journey that lead up to the consultation. They did not want GPs to automatically prescribe medications when symptoms of depression, stress or worries were expressed, which was described as being 'like painting over dirt', i.e. not addressing the underlying issues. They commented that doctors' training in emergency departments prepared them for the 'quick fix' rather than to care for people with chronic conditions. However, they did want their GP to be knowledgeable about and offer resources and

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tools that could be alternative strategies to anti-depressant medicines. Participants wanted GPs to take into account and understand the patient's own strategies for mental health care, be open-minded and not to subscribe to a 'one size fits all' philosophy in treating symptoms of mental distress. GPs were advised to be aware that their profession has its own cultural 'truths' (such as evidence-based medicine), with which their patients may not concur. Some participants had misconceptions about GPs' relationships with their professional bodies or with pharmaceutical companies; for example, that these bodies did not allow GPs to discuss CAM with patients. Many people were sympathetic to GPs and cited structural impediments to GPs doing a better job, such as remuneration systems and time pressures.

Consequences: Our findings from this group of people who had tried SJW for symptoms of depression reinforce the need to educate our students and registrars to consider the whole person in front of them in the consultation in their broader context, respect their treatment choices and address the underlying issues rather than reaching for the prescription pad and 'painting over the dirt'.

1F - Broadening applications of CBT

1F.1

Managing mood through technology: patient experience of computerised CBT for depression

Sarah Knowles[1], Helen Lester[2], Karina Lovell[1], Peter Bower[1], Simon Gilbody[3]
[1]University of Manchester, Manchester, UK, [2]University of Birmingham, Birmingham, UK, [3]University of York, York, UK

The Problem - Computerised cognitive behaviour therapy (cCBT) is a rapidly advancing field that has been recommended within NICE clinical guidelines for depression to increase access to psychological therapy, but there is limited evidence available on the acceptability of cCBT to patients. No studies of patient experience of unsupported cCBT have been reported in the UK.

The approach - We report a qualitative study of patient experience of computerised therapy (MoodGYM or Beating the Blues), conducted alongside REEACT, the largest randomised controlled trial of cCBT worldwide. 36 patients diagnosed with depression were recruited from 4 geographical areas of England. Semi structured interviews were carried out by SK, audiotaped and fully transcribed. Concurrent thematic analysis was undertaken, supported by HL, PB and KL.

Findings - Low adherence was commonly reported, with patients finding the programmes too demanding or unable to motivate themselves to persist with sessions. Participant experience was on a continuum, with some patients unable to accept psychological therapy without interpersonal contact while others appreciated the enhanced anonymity and flexibility. Patients who fell between these extremes recognised the potential benefits offered by cCBT but struggled with challenges posed by illness severity, lack of support and limited personalisation of programme content. Patients reported that GPs rarely provided follow up and monitoring of programme use in routine care.

Consequences - Unsupported cCBT is unacceptable to some patients and preferred by a minority. cCBT could be offered within a menu of options in stepped care if matched appropriately to individual patients or could be complemented with minimal support to appeal to a wider group of patients. Future iterations of computerised therapy should be guided by user experience to maintain acceptability while increasing access. If computerised therapy is to become a routine part of primary care treatment for depression, identifying patients most likely to benefit and incorporating follow up or monitoring protocols to support engagement will be key.

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1F.2

***"Accept it" or "Fight it"?*: Mindfulness Based Cognitive Therapy for COPD and asthma patients who have anxiety and depression: qualitative findings from a pilot study.**

Alice Malpass, Debbie Sharp, David Kessler
University of Bristol, Bristol, UK

The Problem - There are clear clinical differences between asthma and COPD patients. However, in terms of mental health and health related quality of life, the similarities outweigh the differences. Rates for depression and anxiety are higher for both asthma and COPD patients. Respiratory patients can experience anxiety and depression in relation to their breathlessness; may avoid activity as it exacerbates their breathlessness and associated anxiety; may experience limitations in activity and a consequent 'loss of role' and associated ruminative thinking. Conventional CBT approaches often use exposure based strategies which encourage patients to experience fearful stimuli. This may be more difficult where the anxiety arises from a real physical dysfunction.

The Approach - Mindfulness Based Cognitive Therapy (MBCT) has many similarities to CBT, for example, it teaches 'thoughts are not facts'. However, MBCT is distinct from CBT in its use of an accepting mode of response. We hypothesised the accepting mode of response would be of use to respiratory patients whose ruminative thinking patterns and symptoms of anxiety are often associated with a real physical illness which is unlikely to improve.

The findings reported today form part of a larger mixed methods pilot study to see if it was feasible and acceptable to recruit COPD and asthma patients to an 8 week course of MBCT. 10 COPD and 10 asthma patients were recruited via primary care database search or via a pulmonary nurse at the Bristol Pulmonary Rehabilitation Clinic. Recruited patients attended an 8 week course of MBCT in 2011 and were followed up at 4 months after baseline. Qualitative interviews were face-to-face and lasted between 50 and 90 minutes. All interviews were digitally recorded and transcribed verbatim. Analysis used the framework approach, which involves developing a thematic framework before charting and mapping the data.

The Findings There were no major difficulties to recruitment and the intervention was acceptable to most of the participants. Qualitative findings show patients have experienced a shift in attitude towards their breathlessness, physical limitations and ruminative thoughts. Greater acceptance was expressed by some patients as a reduced sense of shame and embarrassment, which had previously been a barrier to mixing with people or leaving the house. Patients learnt to detect early warning signs of breathlessness and anxiety and put into practice for the first time advice provided by their pulmonary rehabilitation clinicians. Patients described being able to look at their thoughts differently, using the mindfulness practices to gain a greater sense of control by staying present with difficulty rather than avoiding it or being overwhlemed by it.

The Consequences - It was acceptable and feasible to recruit COPD and asthma patients to an 8 week course in MBCT. Though based on a small sample, findings are encouraging and will inform the study design of a RCT of MBCT for this group of patients.

1F.3

Management of Irritable Bowel Syndrome in Primary Care: Feasibility Randomised Controlled Trial of Mebeverine, Methylcellulose, Placebo and a Patient Self-Management cognitive behavioural therapy website. (MIBS Trial).

Hazel Everitt[1], Rona Moss-Morris[2], Alice Sibelli[3], Laura Tapp[1], Nicholas Coleman[4], Lucy Yardley[1], Peter Smith[1], Paul Little[1]
[1]Univerity of Southampton, Southampton, UK,[2]Kings College London, London, UK,[3]UCL, London, UK,[4]Southampton University Hospital Trust, Southampton, UK

The Problem - IBS affects 10-22% of the UK population, with NHS costs over £200 million a year. Abdominal pain, bloating and altered bowel habit affect quality of life, social functioning and time off work. Current GP treatment relies on a positive diagnosis, reassurance, lifestyle advice and drug therapies, but many suffer ongoing symptoms.

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A Cochrane review has highlighted the lack of research evidence for IBS drugs. Neither GPs, nor patients have good evidence to inform prescribing decisions. However, IBS drugs are widely used: NHS costs 2005 of nearly £10 million for mebeverine and over £8 million for fibre-based bulking agents.

Cognitive behavioural therapy (CBT) and self-management can be helpful in IBS and CBT is recommended by NICE for patients with refractory symptoms, but poor availability in the NHS restricts its use. We developed a web-based CBT self-management programme (Regul8) in partnership with patients based on a previously trialled paper-based manual.

The aim of this study was to undertake a feasibility factorial RCT to assess the effectiveness of commonly prescribed medications and Regul8 for IBS in UK general practice.

The approach - Patients aged 16 to 60 years with IBS symptoms fulfilling Rome III criteria were recruited via GP practices and randomised to over-encapsulated mebeverine, methylcellulose or placebo tablets for 6 weeks and to 1 of 3 website groups: Regul8 with a nurse telephone session and email support, Regul8 with minimal email support, or no website, thus creating 9 groups. Outcome measures (IBS Symptom severity score, IBS QOL, Subjects Global Assessment of relief (SGA), Enablement and Hospital Anxiety and depression index (HADs)) were recorded at 6 and 12 weeks.

Findings - 135 patients were recruited from 26 GP practices. Mean IBS SSS score 241.9 (sd 87.7) and IBS-QOL 64 (sd 20) at baseline. 90% follow-up at 12 weeks. Mean IBS SSS decreased by 35 points from baseline to 12 weeks but there was no significant difference in IBS SSS, IBS-QOL score or HADs between the medication or website groups at 12 weeks. However, Enablement ($p=0.001$) and (SGA) score $X2(2)=15.93$, $p=0.03$ were significantly improved in the Regul8 groups compared to the non-website group.

Consequences - Improved enablement suggests patients with access to the website felt better able to cope with their symptoms than the non-website group. Improved SGA score in the Regul8 groups may indicate overall symptom improvement not captured on other measures in this study. The lack of significant change in IBS SSS and IBS-QOL may be due to the size of this exploratory trial but may also have been related to the limited amount of nurse support. We plan to increase the level of nurse support in a larger trial.

1F.4

Outcomes of a cluster-randomized controlled trial of a cognitive behavioural anger management intervention for people with intellectual disabilities

Kerenza Hood[1], Andrew Jahoda[2], John Rose[3], Julia Townson[1], David Gillespie[1], David Felce[1], Biza Stenfert Kroese[3], Nicola Rose[3], Aimee Stimpson[4], Pamela MacMahon[2], Jacqueline Nuttall[1], Jennifer Shead[3], Claire Lammie[2], Chris Woodgate[4], Paul Willner[1]
[1]Cardiff University, Cardiff, UK, [2]Glasgow University, Glasgow, UK, [3]Birmingham and Black Country Primary Care Trust, Birmingham, UK, [4]Abertawe Bro Morgannwg University Health Board, Swansea, UK

The Problem: Many people with intellectual disabilities find it hard to control their anger. This often leads to aggression, which can have serious consequences, such as exclusion from mainstream services and referral for specialist clinical input. In addition to this challenging behavior such as aggression has been shown to be associated with higher prescribing in primary care of anti-psychotics and has been suggested to be associated with poorer overall medical management (i.e. the challenging behaviour is seen not the individual).

The approach: We took an adapted cognitive behavioural therapy approach that had shown to be effective when delivered by clinical psychologists and adapted it to be delivered by lay therapists within a day service setting. The 12-week intervention took place in groups in day services for people with learning disabilities and was delivered by support staff in those services. A clinical psychologist trained these 'lay therapists' how to work with a detailed treatment manual, and gave fortnightly supervision. The trial consisted of 30 services of which 15 were randomised to deliver the intervention immediately and 15 to wait for 10 months. Service users (n=179) were assessed at baseline, end of intervention (16 weeks) and at 10 months for their levels of anger, coping skills and mental health. Key workers and home carers also reported on levels of anger and behaviour. Qualitative interviews were undertaken with a sample of service users, lay therapists and service managers.

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Findings: The intervention had only a small, and non-significant, effect on service users' self-reported anger although a significant effect was seen on the reported use of anger coping skills. Key workers' ratings of service users' anger alsochanged significantly (decreased), as did key workers' reports on use of anger coping skills (increased). Both staff and home carers reported decreases in challenging behaviour. In post-intervention interviews, service users, lay therapists and service managers all gave uniformly positive feedback about the groups and a number of constructive suggestions for improving the intervention.

Consequences: This trial has shown that it is possible to apply an adapted CBT approach to a group of adults with mild-moderate intellectual disability delivered by support staff inday services. It has shown that this group intervention can significantly increase the skills used by this group to manage their anger, although not reduce self-reported anger. Both key workers and home carers however reported lower levels of anger, suggesting that anger may have still been 'felt' but not 'acted' in a way which would have been observable to others. There was also a significant effect for challenging behaviour with lower levels in the intervention group.

1G - Developing person centred primary care practice

1G.1

Using qualitative methods for generating patient reported outcome measures and patient reported experience measures for pre-hospital care of stroke and heart attack

Fiona Togher[1], Zowie Davy[1], A Niroshan Siriwardena[1,2]
[1]*University of Lincoln, Lincoln, UK,* [2]*East Midlands Ambulance Service, Lincoln, UK*

The problem - Current health policy emphasises patient experience, together with effectiveness and safety, as key components of quality of care. As a consequence, Patient Reported Outcome Measures (PROMs) and Patient Reported Experience Measures (PREMs) are increasingly being seen as important, whether by providers, commissioners, regulators or service users themselves for assessing quality of care; by researchers for evaluating the outcomes of specific interventions; and also by clinicians for assessment and decision support.

Patients with suspected acute myocardial infarction (AMI) or stroke commonly present first to the ambulance service rather than general practice. Little is known about outcomes and experiences of pre-hospital care which are important for measuring the quality of services for patients with AMI or stroke.

There are few validated PROMs in use within prehospital care including for conditions such as AMI or stroke

The approach - Guidance around the development of PROMs suggests that items for inclusion within the questionnaires can be generated from stakeholders including service users. We decided to utilise a qualitative design to explore the experiences of patients and ambulance service clinicians for emergency care of stroke or heart attack in the pre-hospital setting.

Thirty four semi-structured interviews (22 patients, 12 clinicians) and one focus group (5 clinicians) were conducted using a predetermined interview schedule designed to elicit participants' views on clinical outcome and patient experience elements of prehospital care.

Data were analysed using a thematic network approach supported by Nvivo 8 software. A coding frame was developed based on the questions included within the interview schedule. This was then modified following thorough immersion in the text to produce the final themes. The thematic networks were discussed and refined by all authors. The analyses of clinician and patient data were untaken together as one data set to facilitate the comparison, connections and disjuncture of experiences.

Findings - Patients, regardless of their medical condition, often considered the same factors as essential to a good pre-hospital experience. They focused on both personal and technical skills of the clinician emphasising effective communication and the clinician-patient relationship. The most important themes that emerged from

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the patient perspective were; communication, holistic care and professionalism. The remaining themes of treatment of condition and transitions were more regularly discussed by clinicians.

Consequences - Within the evaluation and improvement of health care services the development of PROMs and PREMs will continue to be important and the methods used in this study within the context of prehospital care may be transferrable to other health care settings such as primary and acute care. Utilising a qualitative research design enabled us to obtain a more informed understanding of the outcomes and experiences that patients attach greatest importance to as well as understanding how these corresponded with the views of clinicians.

1G.2

Are NICE recommendations for primary care based on research conducted in, or generalisable to, a primary care setting?

Asmaa Abdelhamid[1], Helen Edwards[1], Robert Fleetcroft[1], Amanda Howe[1], Nadeem Qureshi[2], Fujian Song[1], Tim Stokes[3], Nicholas Steel[1]
[1]University of East Anglia, Norwich, UK, [2]University of Nottingham, Nottingham, UK, [3]National Institute for Health and Clinical Excellence (NICE), Manchester, UK

The problem: The National Institute for Health and Clinical Excellence (NICE) is the foremost provider of evidence based guidelines for England, Wales and Northern Ireland, with the aim of raising standards of care for patients. In primary care (PC), clinical guidelines are used both to guide patient care and to assess the quality of care provided, as NICE guidelines are used to develop future 'payment by performance' indicators in the Quality and Outcomes Framework. NICE guidelines comprise recommendations derived both from research and the consensus opinion of the guideline development group. Much research used to develop PC NICE guidelines was conducted on selected secondary care populations, and it is unclear what proportion of this evidence is relevant to PC. We aimed to objectively assess the relevance to PC of the evidence base underpinning recommendations intended for a primary care audience.

Approach: We used a two stage assessment to assess all 45 clinical guidelines published by NICE between January 2010 and December 2011 for inclusion. In the first stage, we excluded guidelines not intended for PC based on the scope. In the second stage, two PC clinicians independently reviewed guidelines to identify all recommendations which were specific or relevant to PC. Disagreements were resolved by consensus. We then identified the evidence base underpinning these recommendations, and each identified research paper was assessed for relevance to PC using 3 criteria: population, setting and country.

Findings: The scope of 32/45 guidelines included primary care, and so were included in the study. The first 11 of these guidelines contained 555 recommendations, of which 292 were assessed as specific or relevant to PC. The proportion of studies used to develop these 292 PC relevant recommendations that was rated, according to our pre-specified criteria, as highly or moderately relevant to a UK PC population ranged by guideline from 9% to 48% (mean 21%). Further results on the remaining 21 guidelines (total 32) will be presented in October 2012.

Consequences: Less than a quarter of the studies used to develop PC recommendations are relevant to PC. There may of course be no relevant evidence based in primary care, requiring guideline developers to extrapolate from less relevant studies, and this problem has been extensively discussed elsewhere. The important new finding of this research is that the evidence is often simply not assessed for relevance to its intended audience, in this case primary care. In some guidelines the link between recommendations and any evidence base is not clear. Emerging suggestions for guideline developers include greater clarity in attributing specific evidence to individual recommendations, and more transparency in describing the relevance of included studies to the intended population.

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1G.3

How might a medical humanities perspective contribute to supporting smoking cessation?

Jane Macnaughton
Durham University, Durham, UK

The problem - The smoking ban in enclosed public places has been successful in reducing hospital admissions for acute MI in Scotland and socially in creating a society in which smoking has become less acceptable as a habit. However, prevalence remains at around 20% of the population of the UK on average, with wide variations depending on geographical location, socio-economic group and gender. For example, in the North East of England, the gap between female and male smoking prevalence is widening (25% for women 17% for men). Primary care clinicians are on the front line and a recent NHS report has urged health professionals to discuss smoking at every contact with patients.

The Approach - It is clear, then, that public health approaches, while enjoying some success, are not reaching what might be regarded as a 'stubborn' minority of smokers. In attempting to understand this, recent qualitative research has taken on a phenomenological approach and is examining the experience of the individual smoker. Such research is beginning to take seriously themes like enjoyment and pleasure, how time of life and time of day affects smoking habits, and the relationship between embodiment and smoking. Such themes find resonance and wider framing within the context of the literary arts.

Findings - This paper will take such research as a starting point and will argue that research and policy in tobacco control is based on a narrow understanding of the human subject which may restrict or confine ideas about how best to develop approaches to supporting cessation for those who continue to smoke. Smoking may be regarded as a 'disease' or 'disorder' requiring particular kinds of 'treatment', or smokers themselves seen as inhabiting categories of 'current smoker' or 'ex-smoker'. The picture is much more complicated and fluid than this, with individuals adopting many smoking identities at once. This framing is described and contrasted with ethnographic research that focuses on a more nuanced view of the person. Findings from literary sources are presented along side this research to illustrate how this understanding can be enhanced and extended by a medical humanities view. The inclusion of literary material as 'evidence' is justified in the light of philosophical analysis that argues for the importance of paying attention to the existential in human experience, and of its role in presenting a more complete view of the human.

Consequences - In presenting these justifications I argue that understanding from the arts and humanities should not be ignored but that medical humanities scholars should work alongside public health researchers to develop approaches to smoking cessation that respect a more complete view of the human. A case study will be described in which embodied sensory experience is employed to encouraging young people to quit.

1G.4

Exempting dissenting patients from pay-for-performance schemes: a retrospective analysis of exception reporting in the UK Quality and Outcomes Framework

Tim Doran[1], Evan Kontopantelis[1], Cath Fullwood[1], Helen Lester[3], Jose Valderas[2], Stephen Campbell[1]
[1]University of Manchester, Manchester, UK,[2]University of Oxford, Oxford, UK,[3]University of Birmingham, Birmingham, UK

The problem: To protect patients, physicians may exempt ('exception report') inappropriate or dissenting patients from the UK's Quality and Outcomes Framework pay-for-performance scheme. Permitted reasons include logistical considerations (for example, recent diagnosis), clinical reasons (for example, contraindication to treatment), and patient informed dissent. Previous research has investigated overall rates of exception and not the reasons why practices exempt patients from the scheme. We focused on informed dissent, identified practice characteristics associated with informed dissent, and estimated financial gain from exception reporting.

The approach: We analysed data for 2008/9 extracted from the clinical computing systems of 8,229 English family practices. Our main outcome measures were: a) the *r*ates of exception reporting for 37 clinical quality

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indicators; b) associations of patient and practice factors with exclusion; and financial gain for practices relating to exception reporting.

Findings: The median rate of exception reporting was 2.7% (interquartile range: 1.9% - 3.9%) overall and 0.44% (interquartile range: 0.14% - 1.1%) for informed dissent, but there was wide variation in rates between practices and across indicators. Common reasons for exception reporting were logistical (40.6% of exceptions), clinical contraindication (18.7%) and patient informed dissent (30.1%). Higher rates of informed dissent were associated with: higher numbers of registered patients; higher levels of local area deprivation; and practice failure to secure maximum remuneration in the previous year. Exception reporting increased the cost of the scheme by £30,844,500 (£0.58 per patient), with two indicators accounting for a quarter of this additional cost.

Consequences: The provision to exception report enables practices to exempt dissenting patients without being financially penalised. Relatively few patients were excluded for informed dissent, however, suggesting that the incentivised activities were broadly acceptable to patients.

2A - Medical education in primary care

2A.1

Longitudinal assessment of the educational environment for medical students in different clinical settings: 18-week clinical placements in General Practice

Paul Finucane, Niamh O'Donovan, Deirdre McGrath, David Meagher, Walter Cullen, Stewart Walsh
Graduate Entry Medical School, Limerick, Ireland

The problem: In Ireland, educational reform coupled with a major expansion in medical education activity at undergraduate and postgraduate level, has contributed to medical schools developing clinical training sites beyond the traditional major urban centres, especially in primary care and general practice. Established in 2007, the UL Graduate-Entry Medical School (UL-GEMS) has developed a 'distributed model' for clinical training comprising one major urban hospital network, five smaller general hospitals and 92 general practices. All students are placed in one or other clinical sites (including general practice) for a semester of 18 consecutive weeks. We aim to describe and compare students' evaluations of the educational environment at the various types of clinical sites.

The approach: Using the Dundee Ready Environment Education Measure (DREEM), we conducted three consecutive end-of-semester evaluations across all clinical sites over an 18-month period. Each evaluation dealt with the 18-week clinical placement that the student had just experienced.

Findings: Over the three occasions, we administered a total of 324 questionnaires, to which we had a response rate of 74%. The mean 'DREEM' score across all sites over this time period was 141. The mean 'DREEM' score for students in General Practice (n = 82) was 147; for students in the major teaching hospital network (n = 85) the mean score was 139; for students in a smaller general hospital (n = 69) the mean score was 137. Mean scores at the various sites were relatively constant over time.

Consequences: Students rate the educational environment in smaller hospitals as similar to that of their major teaching hospital network. Students rate the educational environment in General Practice more highly than either type of hospital environment.

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2A.2

Embedding Consulting Through Interpreters within consultation skills teaching- a pragmatic and innovative approach

Aarti Bansal, Jennifer Swann
University of Sheffield, Sheffield, UK

THE PROBLEM - The population of the UK is becoming increasingly ethnically diverse: but whilst communication skills training is a core component of the undergraduate medical curriculum, learning how to consult through interpreters is not. This is in spite of evidence which shows that patients with limited English proficiency have poorer health outcomes, which are mitigated against by the use of professional interpreters. We believe that knowing how to consult through an interpreter is an essential skill for future clinicians, and have developed an innovative workshop which can be embedded within existing communication skills teaching.
THE APPROACH - At the University of Sheffield, final year medical students have three advanced consultation skills workshops during their Primary Care attachment. The teaching is based on the Cambridge-Calgary Model, and delivered to small groups of 6-8 students by a GP facilitator. The final session was converted to a 'Consulting Through Interpreters' workshop. Each group was assigned a pair of Interpreters, who, in addition to interpreting, had been trained to play the role of the patient. The Tutors had training on how to deliver the workshop, and three clinical scenarios were created for the task. Handbooks were provided for additional guidance.
The programme was piloted for a year and delivered to 240 students. An unexpected drawback was that securing the attendance of the Interpreters proved difficult, and we often had to adapt the sessions at short notice. Thus we discovered a wealth of linguistic ability in our students, many of whom had already had experience of interpreting, but without the benefit of training. The session has therefore been redesigned so that bilingual student volunteers are paired with the Interpreters. We believe this will prove more robust, and provide even more educational value as our bi-lingual students are learning how to interpret.
FINDINGS - The workshops were evaluated using anonymous questionnaires for the students and a focus group for the tutors.
The preliminary results are encouraging, with the majority of students reporting an increase in confidence in using interpreters, and many positive free text comments. The tutors felt this is essential training for clinicians, and reported that their new skills are proving directly applicable to their clinical work. Analysis of the results is ongoing.
CONSEQUENCES - We have shown that consulting through interpreters can be embedded into existing consultation skills teaching, with minimal time and cost implications.
We believe there is a need for this type of teaching both at undergraduate and post graduate level, as evidenced by the positive response from the students, and the immediate applicability of the skills in the clinical practice of the tutors.

2A.3

Engaging Medical Students with Diversity Teaching

Pete Leftwick, Sian Alexander-White, Megan Holding
University of Liverpool, Liverpool, UK

Problem and Opportunity - The 3rd year MBChB Course at The University of Liverpool was redesigned for the 2011/12 academic year. Prior to this change, tutorials in Diversity had been voluntary and thus only delivered to a small proportion of the student body. In addition there can be challenges in getting medical students to engage with topics such as diversity that they perceive have little direct relevance to their course assessments and/or their subsequent careers. Although GMC guidance is more focussed on ensuring those delivering teaching have received diversity training, as part of the course redesign the opportunity was taken to ensure that all students on the MBChB programme receive supported teaching in diversity, cultural awareness and health inclusion.

Approach - An innovative new course was designed using blended learning techniques with a mixture of didactic and interactive face-to-face sessions supported by a wide variety of on-line resources and tutor supported discussion boards. At the end of the course students were required to demonstrate their interaction with the course materials via the on-line record of their interactions with their peers and tutor, and to submit a

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reflective self-assessment document which their tutor would return with individual feedback. This completed document was also required to be entered in the students' 3rd year clinical logbook which must be submitted satisfactorily completed at the end of the academic year to allow the student to progress in the course.

Findings - Students were slow to interact with the discussion boards initially but with 'encouragement' they reviewed and responded well to the resources, with the 34 discussion boards having between 16-144 postings (average 62) over the 3 weeks of the course. Tutors regularly reviewed the students' postings on the discussion boards and responded at least every 48 hours and this proved to be a significant but manageable commitment. The Implicit Attitudes Test and 'Class Divided' resources caused significant debate amongst the students and the outcome of research into the effect of students reviewing either or both of these resources on the number and nature of contributions to the discussion boards is ongoing and will be presented at this conference, along with a qualitative analysis of the students' comments on both the discussion boards and in their reflective documents.

Conclusion - Students' self-assessment documents demonstrated a deep interaction with the subject with personally and professionally relevant reflections and an unexpected (by the students) but desired understanding of the relevance of the subject to their future clinical practice.

2A.4

An innovative long final year assistantship in general practice: description and initial evaluation.

Robert McKinley, Sheena Gibson, Peter Coventry, Vanessa Hooper
Keele, Keele, UK

The Problem: In August 2011 Keele School of Medicine introduced an innovative 15 week final year assistantship in general practice. This constitutes half of our final year placements; the other 15 weeks are made up of 5 weeks of critical care and two 5 week assistantships in medicine and surgery. For the GP assistantships, students are allocated either singly or in pairs to 75 practices over 5 counties. The intended learning outcomes of the assistantship are to contribute to students' preparation for professional practice by enabling them to consolidate their clinical skills by conducting a minimum of 375 consultations, develop their multidisciplinary team working skills and to develop change management and leadership skills. Students in-practice learning was supported in learning sets of 3-6 students facilitated by practice tutors and the development of change management and leadership skills though a service learning project in collaboration with a third sector organisation in which they were tasked to complete a piece of work of use to the organisation. This is an innovative approach to providing students with a meaningful assistantship experience and requires careful evaluation.

The approach: This initial report is based on the integrated evaluation of our final year conducted by the School's evaluation team which will eventually combine data from questionnaires administered via SurveyMonkey in the 4th week and at the end of each 15 week rotation and end of year focus groups.

Findings: The evaluation of the first rotation indicate that students in the GP assistantship succeeded in consulting with large numbers of patients: by the end of the fourth week 75% of students were conducting over 20 consultations a week; this had risen to 88% by the end of the placement. By the fourth week 88%, and at the end of the assistantship, 96% reported that they felt 'a useful member' of the practice team. Compared to the secondary care assistantships, in general practice students consulted with many more patents each week and were more likely to report that they felt part of the team. 88% of students reported that they had been helped to develop their 'general practice consultation skills' and 70% their 'general consultation' skills. Data from the year end evaluation will be available for the conference.

Consequences: This 15 week GP assistantship, which provides many of the learning opportunities of longitudinal integrated clerkships being developed in N America and Australia, was highly valued by students in terms of high levels of patient contact and being embedded in the clinical team and offered advantages to secondary care assistantships in these regards. Students perceive that the assistantship succeeded in its primary objective of consolidating clinical skills. We would encourage other GP groups to explore establishing similar GP assistantships.

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2A.5

Towards Vertical Integration in General Practice Education: A qualitative study in general practice

Andrew O'Regan, Aidan Culhane, Colum Dunne, Deirdre McGrath, David Meagher, Pat O'Dwyer, Walter Cullen
Graduate Entry Medical School, University of Limerick, Limerick, Ireland

The problem: Increased educational activity in general practice has been one of the key developments in medical education in the past 20 years and 'vertically integrating' educational outcomes and structures may enable this development. We aim to explore the experience of (and attitudes towards) 'vertical integration' in general practice education' among key stakeholders.

The approach: We conducted four focus groups in Ireland's Mid-west / South-west regions (where considerable expansion in general practice education, has occurred in the past five years). Focus groups involved GP Principals, GP Assistants, GP Registrars and medical students affiliated to three medical schools and two postgraduate GP training programmes. Data was transcribed and thematically analysed using Braun and Clarke's '5-step approach'.

Findings: Four key themes were identified:

i) Key features of 'vertical integrated GP education' include education structures / activity that support different learning outcomes / learners at different stages of development with the sharing of teacher / learner roles.

ii) Benefits include enhanced capacity, subjective gains for patients / practices and promoting inter-professional relationships.

iii) Challenges include initiation to the teaching role for GPs, especially for GPs in training.

iv) Enablers include clear educational outcomes / process, teaching skills development, feedback to all stakeholders and inter-agency collaboration.

Consequences: This study highlights the potential importance of vertical integration in supporting expanded general practice education and defines its key features, benefits and challenges in a healthcare setting during a time of considerable expansion in GP education and importantly, suggests key facilitating strategies.

2A.6

What are the views and learning needs of GP registrars in relation to developing teaching roles?

Harish Thampy[1], Steven Agius[1,2]
[1]*University of Manchester, Manchester, UK,* [2]*North Western Deanery, Manchester, UK*

The Problem: In all medical specialities, there is increasing emphasis on developing a teaching role. Indeed, it is recognised that this should be cultivated from the trainee stage. In keeping with this, the RCGP have incorporated teaching engagement into the GP training curriculum. However, whilst it is known that hospital registrars are frequently involved in the teaching of others, the same cannot be said of community-based GP registrars. This study explored the views and perceived learning needs of GP registrars with regards to developing a teaching role.

The Approach: 29 registrars were recruited to four focus groups in the Northwest Deanery. Using a modified grounded theory approach, focus groups were conducted using a semi-structured topic guide in an iterative fashion. All groups were audio-recorded and transcribed verbatim. An inductive thematic approach was used to analyse the data. Rigour was increased through peer-checking parts of the data by an experienced qualitative researcher. Any areas of difference generated further discussion and revision of the coding structure.

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Findings: Despite the RCGP curriculum statement, GP registrars themselves placed little value on teaching role development at this stage in their medical careers given a number of influencing factors. Four key themes emerged: 1) Priority setting in deciding learning needs: teaching was given a low priority and not seen as a learning need in its own right. Influencing factors included competing clinical needs, the lack of assessment of teaching ability and an altered sense of professional identity due to conflict being faced between the trainee's shared roles of clinician, learner and teacher of others. 2) Motivation towards teaching: perceived barriers to the practical implementation of teaching were outweighed by possible benefits. 3) Curricular Effects: an unawareness of the formal curriculum requirement for teaching development was compounded by influences from the informal and hidden curricula including unhelpful views from educational supervisors. 4) Learning as a Hierarchy: registrars assumed teaching only involved educating those junior to them and were unable to recognise a number of other peer-peer teaching activities they were involved in. As a result, there was little reflection on these unrecognised teaching episodes and therefore limited scope for skill development. The registrars' junior position within the practice hierarchy was also felt to be markedly different to the hospital registrar, again discouraging teaching involvement.

Consequences: This study demonstrates a number of complex interacting influences that may limit some GP registrars from fully developing a teaching role. This situation is particular concerning given the demand for community-based educators resultant from the increasing shift of medical education into the community setting. Further work is needed to assess interventions to address these influencing factors.

2B - Accessing appropriate health resources

2B.1

Responsiveness in primary care: what does it mean to patients?

Carolyn Tarrant[1], Emma Angell[1], Richard Baker[2], Mary Boulton[3], George Freeman[5], Patricia Wilkie[4], Peter Jackson[6]
[1]SAPPHIRE, Department of Health Sciences, University of Leicester, Leicester, UK, [2]Department of Health Sciences, University of Leicester, Leicester, UK, [3]Faculty of Health & Life Sciences, Oxford Brookes University, Oxford, UK, [4]National Association for Patient Participation, Surrey, UK, [5]St Georges, University of London, London, UK, [6]School of Management, University of Leicester, Leicester, UK

The Problem - Patient experience surveys in primary care show that certain patient groups (including patients from BME backgrounds and patients with disabilities) experience poorer access and poorer quality of care than other groups. Primary care providers are encouraged to be more responsive to the needs of their patient population in order to reduce these inequalities. Despite extensive guidance on how to become more responsive, little is known about what responsive primary care looks like to patients.

The approach - As part of a study to develop a patient-report measure of responsiveness in primary care, we conducted interviews with a diverse sample of patients from thirteen primary care organisations (PCOs) and several additional stakeholder organisations in the East Midlands. Framework analysis was used to organise the data, drawing on a set of themes identified from the policy literature on responsiveness. The constant comparison method was used to identify further themes.

Findings - We interviewed 58 patients including: 6 with learning difficulties, 19 with physical disabilities, 5 with hearing impairments, 4 with visual impairments, 14 carers, 7 from a BME background, 6 people who are homeless, and 4 travellers. Patients from some of these groups faced particular barriers in accessing primary care, and wanted the PCO make it easy for them to 'get through' in order to get a consultation. Patients generally accepted that PCOs could not give everyone the appointment they wanted, but wanted PCOS to have the flexibility to bend their systems and accommodate them when it really mattered. It was important to patients to feel that PCOs were aware of any particular needs or difficulties they might have in using the services (such as mobility problems or language problems), and would try to accommodate these needs. They also wanted to feel welcome, and to know they would not be discriminated against. Patients valued PCOs that were proactive in supporting and coordinating their care. Although responsiveness policy emphasises the importance of informing patients and involving them in service design and delivery, this was not something that mattered to most patients.

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Consequences - We identified a set of common themes across diverse patient groups, which describe the features of a responsive primary care service. For patients, responsiveness involved the primary care provider 'putting patients first', being prepared to be flexible and accommodating to meet patients' diverse needs, trying to made all patients feel welcome, and proactively supporting their care. These findings identify how service providers can improve patient experience, and provide the basis for developing a patient-report measure of responsiveness in primary care.

2B.2

Developing a preconception health assessment intervention in primary care using the MRC guidance for developing and evaluating complex interventions

Sarah Rodgers, Helena Tuomainen, Laura Cross-Bardell, Mandeep Bhoday, Nadeem Qureshi, Joe Kai
University of Nottingham, Nottingham, UK

The problem - There is considerable potential to improve preconception health care, particularly amongst poor black, South Asian and white groups in whom infant mortality is highest. Several national reports in the UK and Holland have underlined the need for risk assessment, education and health promotion to optimise the chance of a healthy pregnancy, mother, baby and family. In the US, detailed guidance on preconception care is available from the Centers for Disease Control and Prevention; however, in the UK, there are currently no national guidelines for preconception care nor evidence on models that might be implemented in practice.

The approach - We set out to develop a preconception health assessment (PHA) intervention for use in disadvantaged white, black and minority ethnic populations in primary care using the MRC guidance for developing complex interventions. We undertook a systematic review of the literature to identify preconception health interventions used in primary care. An on-line survey of GP practices and focus groups with a range of health care professionals were carried out to investigate current practice and policies and to examine possible future approaches to delivering PHA in primary care. Focus groups and telephone interviews were held with women from ethnically diverse and disadvantaged communities to explore attitudes, beliefs and knowledge about preconception health issues and its assessment.

Findings - There is good evidence for the effectiveness of several preconception interventions for example the use of folic acid supplementation and rubella and hepatitis vaccination. However more holistic approaches that address individuals' multiple risk factors 'in the real world' have not been evaluated and are rarely delivered in routine practice. During focus group discussions, health professionals noted that GP practices would need to see a tangible benefit for delivering PHA whether this be financial, improved health outcomes for patients or both. Women in all the focus groups noted a major hindrance to preconception assessment is that pregnancies tend to be unplanned. They felt women may not be receptive to, or engage with the notion of PHA unless this occurred in other contexts perceived as relevant for example in relation to contraception advice, cervical screening or pre-pregnancy-related issues such as difficulty conceiving.

Consequences - We have developed a preconception health assessment intervention for use in UK primary care. The intervention comprises opportunistic provision of a PHA form for self-completion with review by primary care health professional (GP/practice nurse/midwife) using a computerised PHA template and protocol to identify preconception risks and initiate relevant actions. The feasibility and acceptability of the intervention for patients and primary care practitioners, potential effects on preconception health awareness and care, and what may facilitate or hinder implementation in practice is now being assessed using both qualitative and quantitative methods in line with the MRC guidance.

2B.3

Do depressed men do groups? Key messages for GPs

Helen Cramer[1], Jeremy Horwood[1], Sarah Payne[1], Ricardo Araya[1], Helen Lester[2], Chris Salisbury[1]
[1]University of Bristol, Bristol, UK, [2]University of Birmingham, Birmingham, UK

The Problem - We wanted to know if men with depression would attend depression support groups. This question arose from a previous pilot study about the efficacy of group cognitive behavioural therapy for people with depression. It was assumed that a trial would work better with only female participants. The

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literature demonstrates that men are less likely to seek help for depression than women, less likely to be diagnosed with depression, but more likely to abuse drugs / alcohol and commit suicide. The literature suggests that it is harder for men to admit to depression because culturally dominant ideals of masculinity can be a barrier to help seeking. We wanted to know the types of depression groups available, the views and experiences of men who went to groups, the views of men who did not go to groups and what role GPs can play in supporting them.

The approach - We mapped the range and type of (free) mental health support groups available within one UK city. We observed in four different mental health groups. We interviewed 18 men with depression and /or anxiety, some of whom attended the groups that were observed. We interviewed 12 people who worked with depressed and anxious men, half of whom also admitted to being depressed or anxious themselves.

Findings - We found that there were a range of mental health groups available and that men did attend them. We found peer-led structured community groups, professionally run psycho-educational groups and unstructured informal support groups. The men especially liked the social aspects of groups, the accessibility and affordability, the camaraderie and having a role (e.g. as a facilitator of peer-led groups). The available groups were generally mixed gender and there was found to be a reluctance by most men to attend or set up men-only groups. Men who did not attend groups or talk to their GPs described clearly how masculine ideals prevented them from admitting depression to themselves or others and continued to delay their help seeking.

Consequences - GPs can be more aware of their own role in recognising and responding to depressed men and the likely internal and external barriers men face before accessing further support. GPs could signpost men to the available support including both depression groups and one-to-one support and help to explain the benefits and advantages of each. This research demonstrates how mental health groups can provide vital support to men and help combat the social isolation felt by men with depression and /or anxiety. It is important that GPs and GP practices provide information on the full range of mental health groups in their area to meet their individual patients' needs and requirements.

2B.4

Towards improving the co-ordination of care for people with progressive life-limiting illnesses: a UK mixed method study

Bruce Mason[1], Anne Donaldson[1,5], Eleni Epiphaniou[4], Veronica Nanton[2], Barbara Daveson[4], Richard Harding[4], Cathy Shipman[4], Irene Higginson[4], Dan Munday[2], Stephen Barclay[3], Kirsty Boyd[1,5], Jeremy Dale[2], Marilyn Kendall[1], Allison Worth[1], Scott Murray[0]
[1]University of Edinburgh, Edinburgh, UK, [2]Warwick University, Coventry, UK, [3]Cambridge University, Cambridge, UK, [4]King's College London, London, UK, [5]NHS Lothian, Edinburgh, UK

The Problem - Improving coordination of care is one of the core elements of the English, Scottish and many other national End of Life Care Strategies. Coordination is widely regarded as vital for good quality, reliable care in the last year of life, but is often absent as patients and carers encounter multiple care settings and professionals. Better coordination is assumed to lead to better patient outcomes, but there is little solid evidence for this nor understanding of what "co-ordination" means. Therefore we set out to understand the processes by which care is (or is not) coordinated in primary and secondary care for patients with advanced progressive illnesses who might be in their last year of life, and to identify best practice and optimum outcomes for patients and their families.

The approach - We conducted a mixed methods study combining a narrative review of the literature and current practice; workplace ethnographies of three UK generalist settings (a family practice, a hospital respiratory clinic and an emergency department); longitudinal serial interviews with 57 patients and associated carers over 12 months as they crossed many care transitions; a national Delphi survey with (n=50) leading professionals to prioritise our emerging findings and three regional workshops with leading professionals to design and prioritise new developments to better co-ordinate care.

Findings - We found that most general practitioners and hospital doctors did not consider identifying patients with non-malignant advanced diseases for a palliative care approach and hence for co-ordination. Dealing with the presenting complaint and workflow pressures left little time for a broader view. Holistic needs assessment and planning were rarely triggered. Coordination was hampered by multiple structural and

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professional barriers to communication and information sharing within and especially across institutions, such as at emergency hospital admission and discharge. The importance of informal carers in coordinating care was little recognised by professionals. Patients with non-malignant multi-morbidities relatively lacked services and awareness of additional support. Patients with single conditions often had keyworkers who mitigated these problems.

Consequences - Consultation with professionals and analysis of case study data has shown that more patients who are approaching the end of life should be identified by primary care and hospital staff, assessed holistically, and offered personalised and detailed practical advice and procedural information about their future care. Prompt and accurate communication among patients, family carers, primary and secondary care is needed. Local collaboration between health and social care and local specialist palliative care is vital. Care pathways for non-malignant conditions should be considered. Service redesigns for economy should consider possible effects on continuity of personal care and con-ordination.

2B.5

Identifying patients for generalist and specialist palliative care

Lilin Zheng[1], Anne Finucane[2], David Oxenham[2], Peter McLoughlin[3], Scott Murray[1]
[1]University of Edinburgh, Edinburgh, UK, [2]Marie Curie Hospice, Edinburgh, UK, [3]NHS Lothian, Edinburgh, UK

The problem - Patients with all types of advanced progressive diseases may benefit from a palliative care approach as they approach the end of life. However, specialist palliative care services traditionally treat cancer patients in their last weeks of life, and those with advanced non-malignant illnesses are rarely formally considered for a palliative care approach by their primary care team.

The approach - We thus carried out an analysis of all deaths in a 12 month period in a diverse sample of 10 Scottish GP practices to identify if and when patients had been placed on the practice palliative care register, and if and when they had been referred to specialist palliative care. We analysed the data according to the trajectory of physical decline which was most evident (acute (typically cancer), intermittent (typically organ failure), dwindling(typically frailty or dementia) or sudden and unexpected. We also interviewed 2 clinicians involved in palliative care at each practice to understand this behaviour.

Findings - Around 75% of patients with cancer, 17% of patients with chronic illness and 25% of those with frailty and/or dementia had been placed on the PCR before they died. Patients with cancer were identified for a palliative approach 7 weeks (median) prior to death compared to 1.3 weeks for those with chronic illness and 0.6 weeks for those with frailty and/or dementia. Sixty-three percent of patients with cancer were referred to specialist palliative care compared with 5% of those with chronic illness. The overall percentage and composition of patients placed on practice palliative care registers and referred to specialist palliative care varied considerably by practice.

Consequences - Most patients dying with cancer but only about 20% with non-malignant disease are identified for a palliative care approach. This letter group may not be receiving such a comprehensive assessment, anticipatory care planning and information transfer to out-of-hours services to their detriment. Some practices where clinicians are heavily involved in palliative care may not refer patients to specialist care very frequently.

It is suggested that a palliative care approach should commence at diagnosis of any life-threatening illness. In this study this approach was adopted relatively late, and by death only extended to around 40% of eligible patients. We can thus redraw the classic WHO diagram highlighting that further work is urgently needed to help primary care teams identify patients earlier and to including those will all life-threatening illnesses. Other work is reporting that most patients who are placed on palliative care registers in the UK die at home, while most patients who are not on the register die in hospital.

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2B.6

Diagnosing cancer in the bush: a mixed methods study of symptom appraisal and help-seeking in people with cancer from rural Western Australia.

Jon Emery[1,2], Fiona Walter[2,1], Vicky Gray[1], Denise Howting[1], Christobel Saunders[1], Max Bulsara[3], D'Arcy Holman[1]
[1]University of Western Australia, Perth, Australia, [2]University of Cambridge, Cambridge, UK, [3]University of Notre Dame, Perth, Australia

The Problem: Rural Australians are more likely to die within five years of a cancer diagnosis than people from metropolitan areas. Access to treatment is an important determinant of outcome, but later presentation and stage at diagnosis have also been observed in rural cancer patients. We aimed, using a mixed methods design, to compare and explore symptom appraisal and help-seeking in patients recently diagnosed with cancer in rural Western Australia (WA).

The approach: From March 2009 - April 2010 patients with breast, colorectal, prostate or lung cancer diagnosed within the last 4 months were recruited from Goldfields and Great Southern regions of Western Australia via rural cancer nurse coordinators and the WA Cancer Registry. The Model of Pathways to Treatment (Walter et al 2011) informed data collection and analysis. In-depth semi-structured interviews were conducted, including estimated dates of symptom onset and help-seeking decisions, facilitated by a calendar-landmarking technique. All interviews were transcribed and subjected to Framework analysis. Mean and median times for each key interval (total diagnostic, appraisal, and help-seeking intervals) were calculated from the interviews and medical records. A mixed methods matrix was then developed in which we identified individual cases with long or short intervals and examined how well the qualitative framework explained their diagnostic pathway.

Findings: 66 participants (24 breast, 20 colorectal, 14 prostate, 8 lung cancers; male 28; mean age 60.5) were interviewed. There was a significant overall difference in mean total diagnostic interval (p=0.046); for breast cancer this was significantly shorter than for colorectal or prostate cancer (mean difference (95% CI): 266.3 days (486.8-45.9) p=0.019; 277.0 days (521.9-32.1) p= 0.027 respectively). There was a highly significant difference in symptom appraisal intervals between tumour groups (geometric means (95% CI): breast 4.41 (1.14-17.14); colorectal 58.56 (15.75-217.72); lung 1.11 (0.17-7.11); prostate 21.09 (3.29-135.24); p=0.006).

Participants with longer (>50 days) symptom appraisal intervals all had alternative benign explanations for their symptoms, their symptoms were intermittent or perceived as milder, and many only presented when they developed an additional ‘severe' symptom such as pain. Optimism, stoicism, embarrassment and fear were also evident, especially with colorectal cancer. Participants with shorter symptom appraisal intervals (<10 days) had recognised a ‘red flag' symptom or trigger to seek help; many had discussed their symptom with someone close.

Consequences: This study provides a richer understanding of key factors underlying later presentation by rural Australians, including the nature and personal interpretation of symptoms, competing demands, emotions such as fear and embarrassment, and core rural Australian characteristics such as optimism, stoicism and machismo. Longer symptom appraisal was observed for colorectal and prostate cancer compared with breast and lung cancer. The findings will inform the development of targeted interventions to promote earlier presentation of symptoms suggestive of cancer.

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2C - The burden of chronic disease in the community

2C.1

Comparing Illness Burden and Treatment Burden in Heart Failure: a systematic review of qualitative studies

David Blane[1], Bhautesh Jani[1], Katie Gallacher[1], Debbie Morrison[1], Sara Macdonald[1], Fiona Smith[1], Patricia Erwin[2], Victor Montori[2], Carl May[3], Frances Mair[1], David Eton[0]
[1]University of Glasgow, Glasgow, UK, [2]Mayo Clinic, Minnesota, USA, [3]University of Southampton, Southampton, UK

The Problem: More people are living longer, with more chronic conditions, than ever before, presenting significant challenges to individuals, families, and health systems. The "work" that patients and their families have to carry out in order to manage chronic illness has, until recently, been relatively under-estimated and under-investigated. Normalization Process Theory (NPT) has been shown to be a useful theoretical framework for understanding this "work", which can be divided into "treatment" work (the self-care practices that patients must perform to manage their treatments and their interactions with healthcare providers) and "illness" work (the work of managing the illness itself), the latter first described by Corbin and Strauss. This systematic review compares and contrasts these concepts as described in the qualitative literature.

The Approach: A Systematic review of the qualitative literature relating to patients' experiences of heart failure was carried out using Distiller SR software. Databases searched were Scopus, CINAHL, Embase, Medline & PsycINFO. Searches were limited to English articles published from 2000 onwards. Grey literature/unpublished studies (dissertations/theses, conference proceedings or published abstracts, treatment guideline documents) were not included.

Studies seeking to understand the patient experience, through direct contact with patients or direct observation, using any form of qualitative method to describe patterns or themes raised by participants were included. Title, abstract and full paper screening was carried out by two researchers independently. Data extraction, quality appraisal and analysis were also done by two researchers, and disagreements were discussed with a third party. Data analysis for both systematic reviews was undertaken using a coding framework underpinned by NPT which helps conceptualise the "work" involved in living with a chronic illness.

Findings: The search strategy yielded 3665 papers, of which 2263 (61.75%) were excluded at title screening. A further 1152 of the remaining 1402 papers were excluded at abstract screening, leaving 250 full papers to screen. The data to date shows that individuals have to "work" to make coherent ideas about both their illness and treatment, in terms of symptoms and management. They have to engage with others to enact treatments but also to help them cope with the effects of the illness; they have to endure unpleasant symptoms but also have to cope with problems of discontinuity of care; and they have to adjust both treatments and activities as perceived necessary.

Consequences: There is considerable overlap between these concepts, but important differences too. Some aspects of treatment burden are likely to be more modifiable than illness burden in heart failure. Understanding these phenomena will inform the development of interventions to improve the experience of "living with" heart failure.

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2C.2

Double Trouble: The impact of multiple morbidity on (preference weighted) quality of life and health inequalities.

Kenny Lawson[1], Elisabeth Fenwick[1], Eleanor Grieve[1], Bruce Guthrie[2], Stewart Mercer[1], Graham Watt[1], Sally Wyke[1]
[1]University of Glasgow, Glasgow, UK,[2]University of Dundee, Dundee, UK

The Problem - The prevalence of long-standing illness and multiple morbidity is increasing, primarily as a result of increased life expectancies. Studies suggest that multiple morbidity has a higher prevalence at an earlier stage of life in deprived communities. As a result policymakers are increasingly concerned about the impacts and implications of multiple morbidity for health inequalities. Previous studies have described the physical and mental health impacts associated with multiple morbidity. In this study we expand on this work by investigating the impacts on patients' overall (preference-weighted) quality of life and how this varies across the population.

The approach - We used the Scottish Health Survey (SHeS) 2003, a cross-sectional representative survey of the general population, which included the SF-12 for 7,054 participants. We generated preference-weighted quality of life scores (health utilities) via the SF-6D; and for the whole sample, we estimate the utility impact of 15 long-standing illnesses individually. We then estimate the utility impact associated with experiencing multiple conditions simultaneously (two, three and four or more). Finally, using a definition of multiple morbidity as 2 or more conditions, we investigated its utility impact by age, gender and quintiles of socioeconomic deprivation (measured by the Scottish Index of Multiple Deprivation).

Findings - The average utility impact associated with one condition was -0.081, although this was considerably higher for mental health problems (-0.136), nervous system disorders (-0.094) and musculoskeletal problems (-0.092). When conditions occurred together the average impact rose from -0.151 for two conditions to -0.269 for four or more conditions. Utility impacts decline steadily with age, and the impact of multiple morbidity exhibits a clear socioeconomic gradient, with the most deprived quintile suffering a 33% greater drop in utility compared to the least deprived quintile. Furthermore, differences were most pronounced in younger age groups. For those aged 20-44 years in the most deprived group, multiple morbidity has, on average, almost double the impact on utility than compared to the most affluent. No significant gender differences were found.

Consequences - While it is known that more deprived groups have a higher prevalence of long-standing illness relative to the most affluent, this is the first study to estimate that the impact of multiple morbidity upon preference-weighted quality of life is also significantly greater in the most disadvantaged, particularly in younger age groups. These utility estimates can be used to conduct comprehensive burden of disease studies; prioritise groups for interventions designed to prevent, delay or lessen the impact of long-standing illness and multiple morbidity; and in economic evaluation to assess the cost effectiveness of interventions.

2C.3

A qualitative study examining the everday 'work' patients, living in socio-economically deprived areas of Scotland, do to manage multimorbidity

Rosaleen O'Brien[1], Sally Wyke[1], Bruce Guthrie[2], Graham Watt[1], Stewart Mercer[1]
[1]University of Glasgow, Glasgow, UK,[2]University of Dundee, Dundee, UK

The problem - Multimorbidity (MM), defined as 2 or more conditions, is common with patients in primary care, particularly in deprived areas. Primary health care teams are often in the best position to help people manage MM but there is little research evidence, based on patient experiences, about what kind of help is most likely to work and why. Practitioners working in socio-economically deprived areas of Scotland, who reported their struggles to support patients with complex problems within the current system of care, suggested that patients often use their personal, social and material resources simply negoitating their everyday 'chaotic' lives rather than managing their illnesses. There is a need to gain insight into the ways patients manage multimorbidity in the context of their everyday lives in order to design an effective system of support to enhance patient wellbeing.

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The approach - Individual semi-structured interviews were conducted with fourteen patients living in the top 15% most deprived areas in Glasgow. We analysed patient's accounts in relation to the "three lines of 'work'"* undertaken to manage their problems. This includes *illness work* e.g. taking medication, managing symptions, *biographical work* i.e. how the management of illness affects identity and everyday life work e.g. occupational work, household labour, caring, etc. We focus here on the problems patients described having to negotiate in their everyday lives and how this affected management of MM.

Findings- Some patients described their everyday life work as having 'stopped' or as difficult to keep going, to emphasize their struggles in the face of so many difficulties. Everyday tasks that were held on to were felt to be important in managing the emotional consequences of illness and retaining a sense of moral worthiness. Accepting greater support with everyday life tasks (e.g using disability aids) was often difficult because of the symbolic significance of aids and the subsequent threat to the continuity of personal identity.

Consequences- Patients' accounts provide insights into the struggles they face in managing MM in the context of deprivation and the reasons why some might be reticent to accept greater support. The data inform the design of the first interaction of a whole-system complex intervention that aims to enhance the wellbeing of patients with MM in deprived areas of Scotland.

*Corbin, J and Strauss, A. Managing chronic illness at hoe; three lines of work. Qualitative Sociology. Volume 8, Number 3, 224-247

2C.4

Treatment Burden typology in chronic diseases: Similarities and Differences in Stroke and Heart Failure

Bhautesh Jani[1], David Blane[1], Katie Gallacher[1], Deborah Morrison[1], Sara MacDonald[1], Fiona Smith[1], David Eton[2], Patricia Erwin[2], Victor Montori[2], Carl May[3], Frances Mair[1]
[1]Institute of Health and WellBeing, University of Glasgow, Glasgow, UK,[2]Mayo Clinic, Minnesota, USA, [3]Faculty of Health Sciences, University of Southampton, Southampton, UK

The Problem: Treatment burden is the 'work' involved for patients when managing their chronic illness. It describes the self-care practices that patients with chronic illness must perform to respond to the requirements of their healthcare providers, as well as the impact that these practices have on their functioning and well being. Increasing levels of treatment burden may lead to suboptimal patient adherence and negative outcomes. The treatment burden typology is not well defined.

Here we describe and compare the treatment burden identified for two common chronic diseases, stroke and heart failure (HF). We do this using the same methodology and framework.

The Approach: 1) Systematic review of the qualitative literature relating to patients' experiences of heart failure management. 2) Systematic review of the qualitative literature relating to patients' experiences of stroke management. Studies seeking to understand the patient experience, through direct contact with patients or direct observation, using any form of qualitative method to describe patterns or themes raised by participants were included.

An exhaustive search strategy was employed, consisting of a scoping search, database searches and reference, footnote and citation searching. Databases searched were Scopus, CINAHL, Embase, Medline and PsycINFO. Only articles in English and published from 2000 onwards were included. Grey literature/unpublished studies (dissertations/theses, conference proceedings or published abstracts, treatment guideline documents) were not included.

Papers were screened, data extracted, quality appraised and analysed by two individuals, with a third party for disagreements. Data analysis for both systematic reviews was undertaken using a coding framework underpinned by Normalization Process Theory.

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Findings: We were able to identify and describe components of treatment burden including logistical burdens: relational burdens; and sense making burdens. The common factors that patients of both diseases reported as increasing treatment burden included too many medications and appointments, barriers to accessing services, fragmented and poorly organized care, lack of continuity, and inadequate communication between health professionals.

The differences between the two diseases were mainly around: a) sense making work with stroke patients focusing particularly on goals for rehabilitation and heart failure patients trying to understand the implications of their condition; and b) organisational work involved in performing different kinds of self care tasks.

Consequences: Identifying and managing treatment burden will be an essential component in improving the management of chronic diseases. Defining a typology of treatment burden will be a key step. Our work suggests that treatment burden has generic features across diseases, but that there may be important differences in emphasis between different conditions. Identifying the similarities and differences of treatment burden in different chronic diseases will be very important as the prevalence of multiple morbidity increases.

2C.5

Multimorbidity and care for long-term conditions in the United Kingdom: baseline data from a large scale cohort study

Peter Bower[1], Jo Rick[1], Kelly Rowe[1], Martin Roland[2], David Reeves[1], Mark Hann[1], Gerry Richardson[3], Jo Protheroe[4]
[1]University of Manchester, Manchester, UK, [2]University of Cambridge, Cambridge, UK, [3]University of York, York, UK, [4]University of Keele, Keele, UK

The Problem - Multimorbidity (i.e. multiple long-term conditions) is prevalent in primary care, and patients with multimorbidity are potentially at higher risk of poor quality of care, including failures of diagnosis, prescribing, communication, and problems in the organisation and delivery of care. However, they may also have the greatest capacity to benefit from high quality care and effective self-management support. However, at present we know little about patient experience of care for long-term conditions in the UK, and how it varies with the number and type of conditions that patients report. We use data from a large prospective cohort of patients to explore the impact of multimorbidity on patient-reported quality of care and self-management.

The approach - We recruited 2439 patients with long-term conditions from clinical registers in 38 UK general practices. We measured two main dependent variables: patient experience of service delivery and organisation of care for long-term conditions (through the PACIC measure) and patient reports of self-management behaviour. Our main independent variable was multimorbidity, based on a count of self-reported long-term conditions, a measure of co-existing 'probable depression', and their combination. We assessed the relationship between multimorbidity measures and each dependent variable in a multivariate analysis, controlling for other patient factors.

Findings - Patient reports of service delivery and organisation of care for long-term conditions were unrelated to a count of self-reported conditions, co-existing 'probable depression', and their combination. The main predictors of high quality service delivery and organisation of care were age, female gender, self-reported vitality, health literacy and continuity of care. In contrast, multimorbidity was associated with self-management. Patients with more long-term conditions and higher levels of depression reported lower levels of self-management, when other measures of health status were excluded.

Consequences - Data from our cohort suggests that practices achieve the same level of patient-reported quality of care for long-term conditions in patients with single long-term conditions and those with multimorbidity, and that depression does not reduce perceived quality of care. However, multimorbidity (both in terms of number of conditions and co-existing depression) may have a more important impact on reported self-management. The results have implications for targeting quality improvement activities in primary care to reduce the impact of multimorbidity.

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2C.6

Delivering self-management support for long-term conditions in primary care: results of the WISE cluster randomised trial

Anne Kennedy[1], Anne Rogers[1], David Reeves[1], Vicki Lee[1], Tom Blakeman[1], Carolyn Chew-Graham[1], Martin Eden[1], Peter Bower[1], Caroline Gardner[1], Rebecca Morris[1], Caroline Sanders[1], Angela Swallow[1], Gerry Richardson[2], Jo Protheroe[3], Robert Bowen[1], Mark Hann[1], David Thompson[1]
[1]University of Manchester, Manchester, UK,[2]University of York, York, UK,[3]University of Keele, Keele, UK

The problem - With an ageing population, there is an increasing focus on how best to provide effective care for older patients, to improve health outcomes and reduce service usage and costs. Patient self-management, supported by health professionals, is seen as key to the solution, but there is little consensus among policy makers, clinicians and patients concerning the best way to provide support. In the UK and internationally, various approaches are being tested (such as 'expert patient' programmes, telehealth and telecare, and lay health trainers), but all have weaknesses in terms of effectiveness, cost, reach into the population, and acceptability to patients and professionals. Wagner's Chronic Care Model suggests that comprehensive care systems like UK primary care could be an excellent means for delivery of self-management support, by making it an integrated part of the consultation and routine patient care. However, it remains unclear whether the potential of primary care can be realised, in the face of competing priorities, and limitations in the levers for change that are available via education, financial incentives, and systems change.

The approach - We conducted a large scale evaluation of self-management support through a 'whole systems' model involving enhanced patient support, training for primary care teams and service re-organisation, integrated into routine primary care and supported by local health organisations. In one of the largest and most ambitious evaluations of a complex intervention in the United Kingdom, the model was delivered across general practices in the Northwest of England, and was evaluated using a large scale cluster randomised controlled trial.

Findings - We randomised 41 practices and measured outcomes on 5610 patients with three core long term conditions (diabetes n=2549, COPD n=1641 and IBS n=1420), following up 81% of patients at 6 months and 73% over 12 months. Patients completed a range of self reported measures, including shared decision making, self-management attitudes and behaviour, health status and quality of life, and care utilisation. The data are being analysed and a first presentation of the full results will be available at the SAPC 2012 conference.

Consequences - Health systems worldwide are looking for solutions to the personal and financial burden of long-term conditions, and influential models such as the Chronic Care Model highlight the importance of integrating self-management support into existing systems to maximise impact and efficiency. Our trial will provide a definitive test of the ability of primary care to deliver effective self-management support. The results may provide a model for future delivery in the UK and worldwide.

2D - Population impact of primary care practice

2D.1

Antibiotic Prescribing and Antibiotic Associated Diarrhoea in Care Homes for the Elderly: a prospective observational study

Kerenza Hood[1], David Gillespie[1], Arun Archajya[1], Emma Thomas-Jones[1], Jacqueline Nuttall[1], Donna Duncan[4], Meirion Evans[1], Aude Espinasse[1], Helen Stanton[1], Robin Howe[3], Anthony Bayer[1], Steve Allen[7], Anthony Johansen[5], Mandy Wootton[3], Ben Carter[6], David Cohen[2], Sam Groves[2], Fiona Wood[1], Chris Butler[1]
[1]Cardiff University, Cardiff, UK,[2]University of Glamorgan, Pontypridd, UK,[3]Public Health Wales, Cardiff, UK, [4]Abertawe Bro Morgannwg University Health Board, Swansea, UK,[5]Cardiff and Vale University Health Board, Cardiff, UK,[6]Bangor University, Bangor, UK,[7]Swansea University, Swansea, UK

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The Problem: Antibiotic usage for the elderly in care homes is considered to be high from point prevalence surveys, but little is known about why these antibiotics are prescribed, what antibiotics are prescribed and how long for. Antibiotic Associated Diarrhoea (AAD) is also a concern in the elderly, particular if they are frail and underweight.

The approach: We undertook an observational study in eleven care homes in South Wales, sampling to include residential, nursing and dual registered homes. All residents within a home were approached for consent to be followed up for up to 12 months. Over this time we would record if they were prescribed an antibiotic, the reason, what was prescribed and if they developed diarrhoea in the 8 weeks after starting the prescription. Diarrhoea was defined as having 3 or more loose stools (5-7 on the Bristol Stool Chart) in a 24 hour period. Our target was to recruit 270 residents. A planned interim analysis was taken half way through the follow-up period to see if there was justification to proceed to an intervention study. The final results will be available for the conference and what is presented in this abstract is based on the interim analysis.

Findings: We recruited 279 residents with a median age of 86 (IQR 82 to 90) and 75% were women. At the interim analysis point (median of 4 months follow-up), 219 prescriptions for antibiotics had been given to this group. The most frequent reasons for prescribing were upper respiratory tract infection (31%), urinary tract infection (26%), skin and soft tissue infection (18%) and lower respiratory tract infection (16%). The most frequently prescribed antibiotic was amoxicillin (32%), with the next most frequent being co-amoxiclav, flucloxacillin and trimethoprim (all 11%). Of the 219 prescriptions, 152 had analyzable follow-up data (69%). Of these a conservative assessment of having at least one episode of AAD was 34%.

Consequences: This study has shown high levels of prescribing in care homes for the frail elderly, with the most predominant reason being upper respiratory tract infections. This may suggest relatively risk adverse prescribing patterns by GPs due to the frailty of the residents. However, of the prescriptions given, the prevalence of AAD was also high, suggesting that this is not a risk free approach to management.

2D.2

Primary Care Antibiotics and Antimicrobial Resistance in hospital patients - pilot study

Ceire Costelloe, Alastair Hay
University of Bristol, Bristol, UK

The problem: There is growing evidence that primary care prescribed antibiotics lead to antibiotic resistance in bacteria causing minor infections or being carried by asymptomatic adults and children, but little research to date has investigated for links between primary care prescribed antibiotics and resistance among more serious infections requiring hospital care.

The approach: The aim was to investigate for a relationship between primary care prescribed antibiotics and antimicrobial resistance among symptomatic adults assessed in secondary care with infection. The study was a Pilot, controlled observational study set in a Foundation Trust Acute Hospital serving a population of around 300,000.
Recently admitted hospital patients in whom bacteria had been isolated from microbiological samples sent for the assessment of possible urinary tract infection (UTI) were eligible to take part.
Outcome measures included recruitment and retention rates, proportion of bacterial resistance, strength of association between resistance and primary care prescribed antibiotics in the previous 12 months.

Findings: One hundred and twenty-eight patients were recruited to the study over a period of 8 months. Sixty-four percent of patients records reported at least one antibiotic prescription in the 12 months prior to study entry, with a median course of 1 (range 0-18).
Results of an unadjusted regression analysis indicate that amongst patients who have been admitted to hospital with infection those who have had at least one course of antibiotic in the previous 12 months have 3.3 greater odds of having an infection that is resistant to at least one type of antibiotic (95% CI 1.07 to 10.12, p=0.038).

Consequences: The results from this pilot study indicate that recruitment is feasible and that there is evidence of an association between primary care antibiotic use and the development of antibiotic resistant

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infections in patients recently admitted to hospital. A fully powered study is warranted to more precisely clarify the relationship.

2D.3

Are children's day care providers excluding children with mild infections unnecessarily, and do their practices encourage inappropriate antibiotic use?

Leila Rooshenas, Fiona Wood, Christopher Butler, Lucy Brookes-Howell, Meirion Evans
Cardiff University, Cardiff, UK

The Problem- Judicial antibiotic prescribing and appropriate use of healthcare resources are important public health issues. Preschool-aged children that attend day care frequently consult general practice and receive antibiotics, despite experiencing mainly self-limiting and/or viral infections. North American surveys show that day care providers (DCPs) unnecessarily exclude children with mild infections from day care, and make exceptions to exclusion if a child is using antibiotics. This has led to suggestions that DCPs encourage parents to consult doctors and seek antibiotics for their children inappropriately. No study has explored this theory in depth.

The main aim of this study was to investigate whether DCPs' practices encourage parents to unnecessarily consult general practice and inappropriately seek antibiotic treatment. UK-based DCPs are required to have a written sickness exclusion policy. The contents of these policies have never been rigorously researched. The Health Protection Agency (HPA) has produced evidence-based exclusion guidance, but it is not known if written sickness exclusion policies abide by these guidelines. A secondary aim was therefore to describe typical day care sickness exclusion policies relative to evidence-based guidance.

The Approach - A postal questionnaire was used to gather descriptive data on the content of written sickness exclusion policies. 329 day care establishments within socio-demographically-varied areas of South East Wales were targeted. Data were coded and analysed in SPSS, and descriptive summaries produced. DCPs' management of infections in practice, and the consequences of this, were explored through semi-structured interviews with DCPs and parents. 24 DCPs were purposefully selected from questionnaire respondents to achieve a sample of maximum variation (based on concepts deemed important to the study). Parents using these DCPs' services were opportunistically recruited (n=28). Interviews were transcribed in full, and underwent thematic analysis.

Findings - 216 DCPs (66%) returned their questionnaire. 139 DCPs (64%) provided their sickness exclusion policy. Sickness exclusion policies were shown to be diverse in content and detail, and often failed to comply with evidence-based guidelines.
Interviews confirmed that DCPs' exclusion practices are not always evidence-based. All DCPs encouraged parents to consult GPs for self-limiting infections. Some parents felt that day care attendance increased their tendency to consult for symptoms they would usually manage themselves.
DCPs often inappropriately advised antibiotic treatment to parents, both verbally and within written policies. Some parents reported feeling that antibiotics were a requirement for re-admittance to day care, or expedited return to day care. These parents understood that antibiotics were unlikely to be beneficial, but still sought and received treatment in order to minimise or avoid exclusion periods.

Consequences - DCPs' inappropriate advice to parents, together with their non-evidence based exclusion practices/policies, contribute to unnecessary parental absence from work, poor use of constrained NHS resources, and the public health issues stemming from unnecessary antibiotic use.

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2D.4

Individual and practice factors in antimicrobial resistance and prescribing in *E.coli* associated urinary tract infection: a multilevel model.

Akke Vellinga[1,2], Sana Tansay[3], Belinda Hanahoe[3], Andrew W Murphy[2], Kathleen Bennett[4], Martin Cormican[1,3]
[1]NUI Galway, General Practice, Galway, Ireland,[2]NUI GAlway, Bacteriology, Galway, Ireland,[3]University Hospital, Medical Microbiology, Galway, Ireland,[4]Trinity Centre for Health Sciences, Pharmacology and Therapeutics, Dublin, Ireland

Problem - Antimicrobial agents are unique as treatment does not only affect the individual, it also affects the microbial population and thereby society. Therefore, when studying antimicrobial resistance both individual and group factors need to be considered.

Approach - To quantify both individual (patient) and group (practice) level factors associated with the probability of antimicrobial resistance of *E.coli* isolated from patients with suspected UTI, a multilevel statistical model was used.
All adult patients consulting with a suspected UTI in 22 general practices over a 9 month study period were requested to supply a urine sample. Patients were enrolled by means of an opt-out methodology. All urine samples with laboratory confirmed *E.coli* were included and antimicrobial susceptibility testing was performed. Data on antimicrobial exposure in the previous 12 months as well as other patient characteristics were recorded from the medical files in the general practice.

Findings - 633 patients with a laboratory confirmed *E.coli* UTI and a full record for all variables were included. Of the *E.coli* isolates, 36% were resistant to trimethoprim and 12% to ciprofloxacin. A multilevel logistic regression model (patients within practices) was fitted including individual and practice level variables. The odds that an *E.coli* was resistant increased with an increasing number of prescriptions over the previous year. For trimethoprim resistance the odds increased from 1.4 (0.8-2.2) for one previous trimethoprim prescription, to 4.7 (1.9-12.4) for two and 6.4 (2.0-25.4) for three or more prescriptions in the previous year. For ciprofloxacin resistance the odds ratios were 2.7 (1.2-5.6) for one and 6.5 (2.9-14.8) for two or more ciprofloxacin prescriptions in the previous year. The probability that *E.coli* isolated from a UTI was resistant showed important variation between practices and a difference of 17% for trimethoprim and 33% for ciprofloxacin was observed for an imaginary patient moving from a practice with low to a practice with high probability. This difference could not be explained by practice prescribing or practice resistance levels.

Consequence - Previous antimicrobial use will affect the risk that a patient with a UTI will be diagnosed with an *E.coli* resistant to this agent. This association was shown to be particularly important for ciprofloxacin, emphasising that this antimicrobial should be used very carefully. The finding that the practice the patient attends can also influence the chance that an *E.coli* was resistant highlights the importance of prudent antimicrobial use in the interest of the individual as well as the community.

2D.5

Seven steps for improving influenza vaccination rates in high risk groups: findings from a national cross sectional survey in UK general practice

A. Niroshan Siriwardena[1], Laura Dexter[2], M Dawn Teare[2], Matthew Dexter[3], Robert C Read[2]
[1]University of Lincoln, Lincolnshire, UK,[2]University of Sheffield, Yorkshire, UK,[3]Retford Health, Nottinghamshire, UK

The problem - Seasonal influenza vaccination rates in at-risk populations in the UK are below the national and international target of 75%. In 2010/11, 72.8% of people in England aged 65 years or more, received influenza (flu) vaccine, just below the target of 75%. However, the flu vaccination rate for at-risk groups aged under 65 years was just 50.4%. In pregnant women who were not otherwise at risk the vaccination rate was only 36.6%, despite increasing evidence showing the beneficial effects of protection against flu for both mothers and babies.

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Evidence-based guidance, to advise practices how to optimise all aspects of their flu vaccination campaigns and maximise their likelihood of protecting at-risk patients against flu and its serious sequelae, is greatly needed.

This study sought to identify which strategies and procedures were associated with higher rates of flu vaccine uptake.

The approach - An online questionnaire survey was administered to general practitioners (GPs), nursing staff and practice managers in 795 practices across England. We used logistic regression to analyse data for factors independently associated with higher practice flu vaccination rates in at-risk groups.

Findings - The survey was completed by 569 practice managers, 335 nursing staff and 107 GPs. We identified seven independent factors associated with higher flu vaccination rates. Having a lead staff member for planning the flu campaign and producing a written report of practice performance predicted an 8% higher vaccination rate for at-risk patients aged <65 years (OR 1.37; 95% CI 1.10 to 1.71). These strategies, plus sending a personal invitation to all eligible patients and only stopping vaccination when Quality and Outcomes framework (QOF) targets were reached, predicted a 7% higher vaccination rate (OR 1.45; 95% CI 1.10 to 1.92) in patients aged 65 years and over. Using a lead member of staff for identifying eligible patients, with either a modified manufacturer's or in-house search program for interrogating the practice computer system, independently predicted a 4% higher vaccination rate in patients aged 65 years and over (OR 1.22; 95% CI 1.06 to 1.41 / OR 1.20; 95% CI 1.03 to 1.40). The provision of flu vaccine by midwives was associated with a 4% higher vaccination rate in pregnant women (OR 1.19; 1.02 to 1.40).

Consequences - This study has demonstrated that simple practical changes at practice level can lead to significant improvements in vaccine uptake. Clear leadership, effective communication with patients, and methods used to identify and contact eligible patients were independently associated with significantly higher rates of flu vaccination. Financial targets appear to incentivise practices to work harder to maximise seasonal influenza vaccine uptake. These strategies could help primary care providers to substantially increase their seasonal flu vaccination rates to meet or exceed national targets.

2D.6

Influenza vaccination and pneumococcal vaccination and risk of stroke/TIA (IPVASTIA): matched case-control study using the General Practice Research Database

Zahid Asghar[1], Carol Coupland[2], A. Niroshan Siriwardena[1]
[1]University of Lincoln, Lincoln, UK,[2]University of Nottingham, Nottingham, UK

The problem - Stroke is an important cause of death and long term illness worldwide. About 150 thousand people suffer a new or recurrent stroke each year in the United Kingdom and five percent of the population are affected. Many of those who have a stroke survive but suffer substantial disability and considerable social and economic distress.

Strokes are more common in winter and after respiratory infections, such as influenza (‘flu) and pneumonia. This suggests the possibility that preventing respiratory infections might reduce the risk of stroke. There is insufficient and contradictory evidence for the effect of influenza and pneumococcal vaccination in preventing stroke/TIA. We aimed to investigate the association between influenza and pneumococcal vaccination with stroke/TIA.

The approach - We used a matched case-control design with data from the United Kingdom General Practice Research Database. Cases were aged at least 40 years at diagnosis of first stroke/TIA recorded between 01/09/2001 to 31/08/2009, matched for sex, practice, age and calendar time. Data were analysed using conditional logistic regression, adjusted for vaccine risk groups, cardiovascular risk factors, drug treatments, Charlson (comorbidity) index and frequency of GP attendance.

Findings - We included 92,343 patients: 46,120 cases and 46,223 controls in the analysis. Just over half (52.9%) had received an influenza vaccination within the previous year while 66.0% had received a pneumococcal vaccination within the past five years. The adjusted odds ratio (OR) for the association

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between influenza vaccinations and stroke/TIA within season was 0.80 (95% confidence interval [CI] 0.75 to 0.86, p<0.001), suggesting a 20% reduction in risk of stroke/TIA. After adjusting for influenza vaccination and other factors, there was a significant association between pneumococcal vaccination and reduced risk of stroke (OR 0.77, 95% CI 0.69 to 0.87, p<0.001) for patients aged under 65 years, and also for patients aged over 65 years (OR 0.89; 95% CI 0.83 to 0.95). Influenza vaccination given earlier within the vaccination season (September to mid-November) was associated with a greater reduction in risk of stroke/TIA (OR 0.76, 95% CI 0.70 to 0.83, p<0.001) compared to later vaccination given between mid-November and February (OR 0.84; 95% CI 0.78 to 0.91, p<0.001).

Consequences - Influenza vaccination within season is associated with a reduced risk of stroke. Early vaccination (September to mid-November) was associated with a greater reduction in risk of stroke/TIA compared to vaccination later in the season. Pneumococcal vaccination was also associated with reduced odds of stroke/TIA. Our findings suggest that influenza and pneumococcal vaccination may have additional benefits, over and above prevention of respiratory complications, in preventing stroke/TIA. Further experimental studies are needed to show whether earlier influenza vaccination and/or pneumococcal vaccination prevent stroke/TIA.

2E - Impact of primary care practice - prescribing

2E.1

How effective are Z-drug hypnotics for treatment of adult insomnia? Meta-analysis of data submitted to the Food and Drug Administration

A. Niroshan Siriwardena[1], Tania B. Huedo-Medina[2], Jo Middlemass[1], Markos Klonizakis[1], Irving Kirsch[3,4]
[1]University of Lincoln, Lincoln, Lincolnshire, UK, [2]University of Connecticut, Storrs, Connecticut, USA, [3]Harvard University, Boston, Massachusetts, USA, [4]University of Plymouth, Plymouth, Devon, UK

The problem: Z-drugs are the most commonly prescribed hypnotics worldwide. They are widely prescribed because general practitioners and patients believe that they are effective and superior to older hypnotics. Previous meta-analyses of Z-drugs suffer from publication or reporting bias and did not adequately examine study heterogeneity. We wanted to investigate the effectiveness of Z-drugs in adults using a data source that was less likely to be affected by publication bias.

The approach: We examined clinical trials of currently approved Z-drugs submitted to the Food and Drug Administration (FDA) since pharmaceutical companies are required to provide information on all sponsored trials, whether published or not, when applying for new drug approvals.

We included randomized double blind placebo controlled trials and excluded studies with a crossover design, those including healthy patients with normal sleep or single night studies with induced insomnia.

We analysed drug efficacy as change score from baseline to posttest for drug and placebo groups, and the difference of both change scores for available outcomes. Weighted raw and standardized mean differences with their confidence intervals (*CI*s) under random-effects assumptions were calculated for polysomnographic (PSG) and subjective outcomes: wake after sleep onset, sleep latency, number of awakenings, total sleep time, sleep efficiency, subjective sleep quality, and morning sleepiness score. We performed weighted regression moderator analysis to explain heterogeneity of drug effects.

Findings: We included 16 studies comprising 4973 subjects from different countries, varying drug dosages, treatment lengths and study years. Z-drugs showed significant but small improvements (reductions) only in PSG (d_+ = -0.36, 95% *CI* = -0.57 to -0.16) and subjective sleep latency (d_+ = -0.33, 95% *CI* = -0.62 to -0.041) compared with placebo. Analyses of weighted mean raw differences indicated that drugs decreased sleep latency by only 22 minutes (95% CI = -33 TO -11) with no evidence of change in other measures. Moderator analyses indicated that sleep latency was more likely to be reduced with larger drug doses, studies published earlier, including higher proportions of younger or women patients, and of longer treatment duration.

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Consequences: This study of FDA data shows that, despite being commonly prescribed, Z-drugs have limited benefit with small reductions in subjective and PSG sleep latency especially with larger dosages, but no improvement in other sleep measures compared to placebo. Placebo effects were moderate for sleep latency. Doctors and patients need to be aware of the relative benefits as well as harms of hypnotic drugs when deciding to use them in preference to psychological treatments.

2E.2

The rising tide of polypharmacy and potentially serious drug interactions 1995-2010: repeated cross-sectional analysis of dispensed prescribing in one region

Bruce Guthrie, Boikanyo Makubate
University of Dundee, Dundee, UK

The problem. Drugs prescribing has steadily risen driven by an aging population and increasing use of (multiple) drugs particularly for risk reduction in a number of conditions including diabetes, coronary heart disease, and osteoporosis. Concern has been expressed about polypharmacy, particularly in older people or those with frailty or limited life expectancy, but there is little data on the extent of polypharmacy or how it has changed.

The approach. Patient-level dispensed prescribing data was obtained for all residents of the Tayside region of Scotland aged≥20 years, and the number of drug classes dispensed in an 84 day period counted on 1/4/95 and 1/4/10. 568 drug classes were defined, based on British National Formulary (BNF) subsections expanded where necessary when multiple drugs in a subsection are commonly co-prescribed (eg antiplatelets). For every patient, the number of potentially serious interactions was calculated for both years using those marked as 'black dot'/significant in the 2010 BNF (excluding 'intended' interactions such as multiple antihypertensive drugs lowering blood pressure synergistically). Following previous research, polypharmacy was defined as the dispensing of ≥5 drugs, and excessive polypharmacy as ≥10.

Findings. Analysis included 302,613 adults in 1995 and 313,912 in 2010. Given the size of the dataset, all differences between years are statistically significant. 151,635 (51.1%) patients were dispensed any drug in 1995, compared to 182,823 (58.2%) in 2010, with the mean number of drugs for those dispensed rising from 3.28 (95%CI 3.27-3.30) to 4.42 (95%CI 4.40-4.42). 12.0% of patients were dispensed ≥5 drugs in 1995 vs 22.0% in 2010, and 1.9% ≥10 rising to 5.8%. Among patients aged 65 and over, the proportion dispensed ≥10 drugs rose from 5.7% to 16.4%, and the proportion with a 'black dot interaction increased from 9.7% to 21.6%. Although partly driven by increasing polypharmacy, the prevalence of potentially serious interactions also increased at every level of dispensed drug use (eg for all people dispensed 5-9 drugs, from 18.9% to 25.0%, and ≥10 drugs from 41.6% to 53.6%).

Consequences. Polypharmacy has dramatically increased in the last 15 years, particularly in older people, but potentially serious interactions have risen even faster reflecting the increasing use of drugs with multiple interactions like warfarin and antipsychotics. Most of the interactions measured can be mitigated by altering dose or monitoring, but can carry significant risk if not mitigated. Polypharmacy is often appropriate, but drug effects are increasingly difficult to predict, guideline evidence may not be directly applicable, and multiple drugs for prevention are often inappropriate in the physically frail and those with limited life expectancy. We need better guidelines that account for multimorbidity and more robust approaches to reducing drug load in patients who are less likely to benefit and more likely to be harmed.

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2E.3

Investigating the prevalence and causes of prescribing errors in general practice: The PRACtICe Study.

Anthony Avery[1], Maisoon Ghaleb[2], Nick Barber[3], Bryony Franklin[4], Sarah Armstrong[5], Sarah Slight[1], Soraya Dhillon[2], Anette Freyer[6], Rachel Howard[7], Brian Serumaga[1], Olanrewaju Talabi[1]
[1]Division of Primary Care, University of Nottingham, Nottingham, UK, [2]School of Pharmacy, University of Hertfordshire, Herts, UK, [3]School of Pharmacy, University of London, London, UK, [4]Centre for Medication Safety & Service Quality, Imperial College Healthcare NHS Trust, London, UK, [5]NIHR RDS - East Midlands, University of Nottingham, Nottingham, UK, [6]Acute Medicine, Queens Medical Centre NHS Trust, Nottingham, UK, [7]School of Pharmacy, University of Reading, Reading, UK

The problem: Prescribing errors are known to be an important cause of morbidity and mortality in primary care and yet there have been few large-scale studies investigating the prevalence of these errors. Funded by the General Medical Council, we undertook a study to determine the prevalence of prescribing and monitoring errors in general practices and to explore the factors associated with these errors.

The approach: Design: Observation study involving retrospective review of a 2% random sample of patients' healthcare records over a 12 month period. Data were collected by four pharmacists who were specially trained to identify potential errors.

Setting: Fifteen English general practices.

Exposures: Characteristics of general practices, patients, or prescriptions.

Main outcome measures: Presence of prescribing errors or monitoring errors (defined as failure to undertake blood tests within recommended time limits + 50%)

Statistical analysis: Descriptive analyses were conducted in Stata, Version 11.2, as were modelling analyses of the factors associated with error using mixed effects logistic regression techniques.

Findings: The records of 1,777 patients were examined. Collectively, the pharmacists reviewed 6,048 unique prescription items. There were 247 prescribing errors and 55 monitoring errors.

The percentage prevalence of prescriptions with prescribing or monitoring errors was 4.9% (95% confidence intervals 4.4%-5.4%). The most common types of prescribing error were 'incomplete information on the prescription' (74; 30.0%); 'dose/strength errors' (44; 17.8%) and incorrect timing of doses (26; 10.5%).

The following factors were associated with increased risk of prescribing or monitoring errors: age less than 15 years (odds ratio 1.87 (95%CI 1.19-2.94, P=0.006) or greater than 75 years (odds ratio 1.95 (95%CI 1.19-3.19, P=0.008); number of unique medication items prescribed(odds ratio 1.16, 95%CI 1.12-1.19, P<0.001, for each additional medicines prescribed) , and being prescribed preparations in several therapeutic areas including cardiovascular, infections, immunosuppression, and musculoskeletal.

The following factors were associated with reduced risk of prescribing or monitoring errors: Practices with a list size of > 10,000 had reduced risk of error (odds ratio: 0.56 (95%CI 0.31-0.99, P=0.047)), and female gender (odds ratio: 0.66, 95%CI 0.48-0.92, P=0 .013).

The following factors were not associated with differences in risk of error: the type of GP (principal, salaried GP, locum, GP in training); computer system used; dispensing practices, or whether prescriptions were issued as acute or repeat items.

Consequences: Prescribing or monitoring errors are reasonably common in general practice. Having identified the most common types of error and the factors associated with these, it will now be possible to design strategies aimed at tackling the most important prescribing safety problems.

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2E.4

Exposure to bisphosphonates and risk of gastrointestinal cancers: series of nested case-control studies using QResearch data

Yana Vinogradova, Carol Coupland, Julia Hippisley-Cox
University of Nottingham, Nottingham, UK

Problem: As an established treatment for osteoporosis bisphosphonates have been widely prescribed and have a long-term effect. Although anti-tumour properties of bisphosphonates were discovered in preclinical studies there is still a possibility that their adverse effects on the gastrointestinal tract might increase cancer risk. The study investigated the association between bisphosphonate use, estimated from prescription information, and risk of common gastrointestinal cancers.

Approach: A series of nested case-control studies were conducted using 660 UK general practices registered with the QResearch primary care database. Cases were patients 30 years and older, diagnosed with primary cancers between 1996 and 2011, each matched with up to five controls by age, sex, practice and calendar year. Odds ratios for incident gastrointestinal cancers (colorectal, oesophageal, gastric) associated with bisphosphonate exposure were obtained adjusted for smoking status, socio-economic status, ethnicity, cancer-specific co-morbidities and use of other medications.

Findings: 20556 colorectal, 5438 oesophageal and 3235 cases of gastric cancer were identified. Overall bisphosphonate use was not associated with increased risk for any of the cancers. Adjusted odds ratios (95% confidence intervals) were: 1.02 (0.93 to 1.13) for colorectal cancer; 0.93 (0.76 to 1.13) for oesophageal; 1.09 (0.85 to 1.41) for gastric. Additional analyses demonstrated no difference between types of bisphosphonates for colorectal and oesophageal cancers. For gastric cancer, alendronate use was associated with a borderline increased risk (1.45, 1.09 to 1.93, p=0.01), but only use for less than a year had a statistically significant association (1.90, 1.33 to 2.70, P<0.001). None of the associations differed by duration of bisphosphonate use.

Consequences: In these large population-based case-control studies, exposure to bisphosphonates was not associated with an increased risk of common gastrointestinal cancers except for an increased risk of gastric cancer in short-term alendronate users. These findings need to be confirmed using other data sources.

2E.5

The impact of the 2004 and 2009 regulatory warnings on antipsychotic prescribing to older people with dementia: segmented regression time series analysis of general practice clinical data 2001-2011.

Bruce Guthrie[1], Stella Clark[2]
[1]*Population Health Sciences, University of Dundee, Dundee, UK,* [2]*NHS Fife, Fife, UK*

The problem. Antipsychotic drugs cause stroke and death in older people with dementia. In 2004, the Medicines and Healthcare products Regulatory Agency (MHRA) warned of the risk of risperidone and olanazapine via a letter sent to all healthcare professionals that contained clear advice about required action. The MHRA issued a further warning in 2009 in relation to all antipsychotics, but dissemination was narrow and lacked clear guidance on required action. Later in 2009, NHS England set a clear target for reducing antipsychotic use in older people with dementia. However, NHS Scotland set no central targets, creating an opportunity to examine the impact on prescribing of different kinds of regulatory warning.

The approach. Data was extracted from 87 Scottish practices with 3,478 people with dementia in quarter 1 2011. A quarterly time series from Q1 2001 to Q1 2011 was created, and segmented regression analysis used to examine changes in oral antipsychotic prescribing to older people with dementia in relation to the two MHRA warnings, with lag terms and seasonal terms fitted where necessary to account for autocorrelation and seasonal effects. This method estimates three variables. First, the trend before the warning. Second, the immediate effect of the warning (the change from the quarter before to the quarter after). Third, the change in trend after the warning. Other models examined changes in prescribing of other psychotropic drugs (data is not shown bfor space reasons, but will be presented).

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Findings. Before the 2004 warning, antipsychotic prescribing was rising by 0.61% (95%CI 0.50 to 0.71) per quarter (from 15.8% in Q1 2001 to 22.3% in Q1 2004). The immediate effect of the warning was a -6.00% (-6.93 to -5.06) drop in prescribing, with a subsequent change of -0.55% per quarter (-0.66 to -0.43) to a flat trend. Before the 2009 warning, the trend was flat, with no immediate impact of the warning (step change -0.38%, -1.49 to 0.74), but a significant change in trend of -0.45% per quarter (-0.65 to -0.25) to a steadily falling trend (from 18.4% in Q1 2009 to 13.5% in Q1 2011. Use of hypnotics/anxiolytics and antidepressants was common and rose continually before and after the 2004 warning, but there was no evidence of any change in trend. Use of other psychotropics fell significantly after the 2009 warning.

Consequences. The widely disseminated and clearly framed 2004 MHRA warning prompted a large and immediate in practice, whereas the lower key 2009 warning did not (although rates of antipsychotic prescribing are now steadily falling, and there was no evidence of substitution with other psychotropic drugs). Research is needed to identify the best way to create and disseminate regulatory warnings to ensure that prescribing is rapidly reviewed and if necessary changed.

2E.6

What do research participants really want to know?

Helen Kirkby[1], Melanie Calvert[1], Heather Draper[2]
[1]MRC Midland Hub for Trials Methodology Research, The University of Birmingham, Birmingham, UK, [2]Medicine, Ethics, Society and History, The University of Birmingham, Birmingham, UK

The Problem: Participant consent is a pre-requisite to health research but there is little empirical evidence about what information potential participants want to know before deciding to participate in research. This study aimed to: 1) assess the feasibility of electronic information provision; 2) determine if an IIS could improve consent rates; 3) determine what potential participants want to know about low risk interventional research.

The approach: A feasibility study comparing electronic information provision to standard paper format and a RCT comparing a PDF copy of a standard participant information sheet (PIS) with an Interactive Information Sheet (IIS), embedded within a low risk interventional study. The IIS used the standard NRES PIS layout but with four levels of increasingly detailed information available for each FAQ. Participants chose the level of detail for each FAQ and the information accessed was recorded. Participant understanding and satisfaction were assessed by questionnaire.

Findings: 290/1160 (25%) participants provided an email address. 44 were randomised to IIS, 42 to PDF, 870 received the paper PIS and 106 received no PIS. Consent rate was not improved by IIS provision alone and the highest consent rate was in the 'No PIS' group (n=63/106; 59.3%). Exploratory analyses suggested consent rate could be increased by using electronic compared to postal recruitment (99/192 [51.6%] and 271/870 [31.1%] respectively, p=0.0001). A high proportion of participants randomised to IIS chose not to access any information (18/44; 40.9%). The most commonly accessed information concerned those that affected participants directly; risks, benefits, what would happen if they took part and expenses. Understanding and satisfaction were unaffected by study group and participants were generally happy with the level of information they received.

Consequences: Electronic information provision may improve consent rates to research. The RCT suggests that the current system of information provision may only satisfy 1/10th of study participants, undersupply 1/10th and oversupply 4/5ths. These results are striking since they suggest the majority of participants wanted to know very little information and leads to questions about the information we should provide to future potential research participants.

The results suggested that what people say they do does not reflect what they actually do since participants frequently accessed less information than they said they did. This means that future research to determine the informational needs of potential participants should not focus on what information participants say they want as this may not accurately reflect what they actually need when faced with a participation decision.

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The IIS allows participants to tailor the information provided to suit their individual needs and this study has shown that recruitment was not affected by providing electronic information. An IIS could be incorporated into studies where electronic information provision is feasible.

2F - Doing things differently

2F.1

Alternatives to hospital care for acutely unwell patients presenting in general practice : activity and impact of an Emergency Multidisciplinary Unit (EMU)

Daniel Lasserson[1], Deb Thompson[2], Amulya Misra[3], Ku Shah[3], Jonathan Crawshaw[2], James Price[1,3]
[1]University of Oxford, Oxford, UK,[2]Oxford Health NHS Foundation Trust, Oxford, UK,[3]Oxford University Hospitals NHS Foundation Trust, Oxford, UK

The problem - The high cost of unscheduled medical care is becoming an important problem for emerging GP clinical commissioning consortia and evidence is required of service innovations which can appropriately triage and treat acutely unwell patients who present to primary care. Trials which randomise patients to alternative care pathways are subject to selection bias and population based interventions may offer greater generalisabilty. We analysed the activity and impact of a population-based service innovation in acute care.

The approach - The urgent care pathway was re-designed for a population of 100,000 patients registered at eight general practices in Oxfordshire. An ambulatory care alternative to hospital admission for acutely unwell patients was offered to GPs and provided by a multidisciplinary team (GPs, physicians, physiotherapists, occupational therapists, nurses and social workers) at a dedicated unit. Patients were assessed the same day as referral. Available investigations included point of care blood testing and X-ray. A full range of intra-venous therapies could be administered. Activity was audited from clinical records and performance data (November 2010 to April 2011). Impact on hospital usage was measured with excess bed days (hospital bed usage for patients who are medically fit for discharge but current functional level does not match pre-admission living environment) and were calculated for the intervention population and the Oxfordshire primary care population without access to the EMU. Potential cost savings were estimated by the distribution of payment by results (PbR) tariffs for an age matched hospital cohort and applied to the EMU patients who would have required admission to deliver their treatment/assessments.

Findings - There were 302 referred patients, mean age 79.2 (SD 15.4) years, with care provided over 576 EMU attendances. Median time to assessment after GP referral was 61 minutes. 70% of all attendances were used to care for 42% of patients and those requiring multiple attendances for their care were older than those whose care was delivered at one attendance (82.8 vs 76.4 yrs, $p< 0.001$). Bed based care after initial treatment was not required in the majority of attendances (67%). Hospital excess bed day usage fell in the intervention population compared with the population accessing hospital care alone (34% reduction vs 0% reduction). For EMU patients requiring intravenous therapy and intensive assessments, monthly PbR costs of £73,458 were estimated for delivering such care via hospital admission.

Consequences - GPs utilise alternative care pathways and appropriately select unwell patients for ambulatory care, the majority of whom are elderly and a proportion require multiple attendances for care. Therefore ‘admission avoidance' schemes should be seen as providers of ongoing interventions rather than single attendance services. Multidisciplinary comprehensive assessment and treatment without using bed based care reduces use of acute hospital resources.

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2F.2

Implementing Collaborative Care for depression management in UK primary care; a qualitative study

Nia Coupe[1], Emma Anderson[2], Paul Sykes[1], David Richards[3], Linda Gask[1], Carolyn Chew-Graham[1]
[1]University of Manchester, [2]University of Bristol, [3]University of Exeter, UK

The problem - Collaborative Care (CC) is a framework which facilitates the delivery of an intervention by a mental health professional in collaboration with more senior health professionals (supervisors and GPs), and has a growing body of evidence supporting its use for the management of depression in Primary Care. However, there remains limited evidence on how to successfully implement this collaborative approach into primary care, particularly within the UK health system, since the majority of CC trials have taken place in the USA.

The approach - The MRC/NIHR-EME funded Collaborative Care for Depression Trial (CADET) is a cluster randomised controlled trial (RCT) of the effectiveness of Collaborative Care (CC) for the management of depression in the UK. The CADET study recruited 581 participants across three UK sites. Those participants allocated to the intervention arm received Behavioural Activation (BA) and medication management (MM) delivered by a case manager. A nested qualitative study within the trial explored perspectives of the 6 case managers (CMs), the 5 supervisors (who were trial research team members) and 15 general practitioners (GPs) from participating practices. Interviews were transcribed verbatim and data was initially analysed using thematic analysis using constant comparison, followed by a secondary theory-driven analysis exploring the Normalisation Process Theory concepts of coherence, cognitive participation, collective action and reflexive monitoring with respect to the implementation of CC.

Findings - There was, understandably, coherence in the accounts of CMs and supervisors due to training and academic involvement respectively. This understanding, enhanced by a web-based supervisory system, resulted in a good level of cognitive participation and collective action from the CMs and supervisors in terms of delivering and supervising the intervention. The intervention was perceived as effective and acceptable, although problems were identified by CMs and supervisors around delivering the trial intervention in line with protocol for those with comorbid mental health and complex social problems. The majority of GPs interviewed had a limited understanding of the trial intervention or of the CC framework, resulting in low cognitive participation and collective action in terms of collaboration with the CMs. Supervisors discussed instances of liaison with GPs around risk and medication. All participants were able to reflect on the CC framework and discuss ways in which liaison might have been facilitated.

Consequences - The need for a flexible approach to the delivery of BA was emphasised by CMs and supervisors, particularly for patients with complex needs, including physical comorbidity. The limited liaison reported between GPs and CMs suggests that more work is needed to facilitate collaboration around individual patients, in particular; shared place of working, shared IT systems, facilitating opportunities for informal meeting and building in formal collaboration into the CC framework.

2F.3

Who should get low intensity interventions for depression? Results of the TARDIS collaborative meta-analysis

Peter Bower[1], Evan Kontopantelis[1], Simon Gilbody[2], Tony Kendrick[2], Dean McMillan[2], David Richards[3], Alex Sutton[4]
[1]University of Manchester, Manchester, UK, [2]University of York, York, UK, [3]University of Exeter, Exeter, UK, [4]University of Leicester, Leicester, UK

The problem - 'Low-intensity' interventions such as guided self help and CCBT are the main form of care for many thousands of depressed patients. At present, initial severity of depression is the key variable determining who gets 'low-' and 'high-intensity' interventions, with 'low intensity' interventions seen as inappropriate for patients with more severe problems. However, there is little empirical evidence to support this, and published analyses are sparse and hamstrung by limited power. We describe an collaborative individual patient data meta-analysis to explore the degree to which depression severity moderates the effect

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of ‘low-intensity' interventions in depression, to make a substantive contribution to decision-making about ‘what works for whom' in depression.

The approach - Individual patient data meta-analysis of published studies, with analysis of individual patient data from multiple studies using standardised imputation of missing data, a mixed model and accounting for clustering of patients within studies (‘one-step analysis').

Findings - We identified 30 relevant comparisons through systematic searching and gained access to 16 datasets with 2470 randomised patients. There were differences between available and unavailable datasets in the types of patients, types of interventions, quality and outcomes. Assessment of baseline means highlighted that many patients in trials of ‘low intensity' interventions had significant depressive symptoms at baseline. The overall standardised estimate of the effects of ‘low-intensity' interventions was -0.41 (95% CI -0.51 to -0.32). We also found a small but significant negative interaction between baseline severity and treatment effect (co-efficient -0.1, 95% CI -0.19 to -0.00), indicating that patients with more severe problems showed greater levels of benefit, although the clinical significance of these additional benefits was unclear. Further analyses will explore the stability of this outcome in different quality studies and those using different types of ‘low-intensity' interventions.

Consequences - We were unable to access all relevant datasets and the available data differed in important ways from the broader literature. However, the results have implications for clinical decision-making about the delivery of ‘low intensity' depression care in stepped care systems, suggesting that it is legitimate to include ‘low intensity' interventions in the first step of a stepped care system and encourage the majority of patients to use them as the initial treatment option, even when initial severity of depression is relatively high. The analysis highlighted the potential benefits of active sharing of trials datasets in exploring questions about ‘what works for whom' and supporting more personalised delivery of care.

2F.4

Dangerous Idea: Good Enough Could Be Superb

Kurt Stange
Case Western Reserve University, Cleveland, Ohio, USA

The idea: Most scientific research uses a reductionistic approach. Therefore, most evidence-based guidelines and the associated pay-for-performance schemes attempt to optimize care for one disease at a time.
What if, rather than trying to perfect care for each disease, we tried to do ‘good enough,' using the freed-up resources to prioritize and personalized and integrate care for the whole person?
What if we focused our inquiry (basic research, system re-design, and care team decisions) on important combinations of acute and chronic illnesses, preventive prospects, and life/community optimization opportunities?

Why it matters: Currently, we churn and box-tick and medicalize, driving up costs, treating the parts of people and systems and communities, while the whole gets worse.
An approach that periodically raises our gaze from the parts to the whole stands a chance of focusing our energy where it will do the most good.

Next steps: We are beginning to do research in multimorbidity. We need to expand this to generate basic and applied knowledge in other care opportunities that include acute illness and problems of living, mental health, prevention, and family and community health promotion. We need to model the emergent potential of people and communities as complex living systems, not just as sums of diseases.
We need to look at the relationship between what our current reductionist science tells us about what is quality, and what patients and population scientists tell us about what optimizes the lived experience of people and communities. We need to bring the best of both perspectives together.
In caring for patients, we need to raise our gaze periodically from the disease to the person in context.
In designing systems, we need to make evidence available that empowers clinicians, patients and practice and community partners to focus on what is most important at that moment in time, marrying information from epidemiology, systems science, and the patient's lived perspective.

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Risks? The risk is that we will go too far in the other direction of always looking at the big picture, forgetting what Ian McWhinney called ‘an acquaintance with the particulars.'
Another risk is that we will be overwhelmed by the complexity of it all, and will retreat back to the blindered, head-in-the-sand security of just focusing on the parts and ignoring the whole.
Personally, I'll take the risks.

2F.5

The ENGAGER study: Can we engage and retain prisoners with common mental health problems in treatment and research?

Richard Byng[1], Cath Quinn[1], Deborah Shenton[1], Sarah Davidson[2], Claire Hill[3], Ian Porter[1]
[1]University of Plymouth, Devon, UK, [2]University of Manchester, Manchester, UK, [3]SW CLRN, Devon, UK

The Problem - Offenders express high levels common mental health problems (anxiety, depression) but do not accept medical labels for the difficulties they are experiencing. They under-access community based services, such as IAPT (Improving Access to Psychological Therapies), and few such services currently exist in prisons. Community IAPT services are challenging to access for those with chaotic lifestyles and their acceptance criteria may actively exclude those with co-morbid substance abuse issues. Prison enforces stability and routine on offenders, which may present an intervention opportunity, while also posing the challenge of maintaining engagement on release.

The Approach - Objective: To produce an effective model for engagement and retention of prisoners, and potentially other vulnerable groups, in treatment and research.

A four-stage iterative model development:

- 1) Identified barriers and facilitators for engagement and retention of offenders in treatment and research from i) focused literature review, ii) 3 focus groups and iii) 3 best-practice case studies, to produce a model of what should work
- 2) Model implemented at two sites (NW & SW). Prisoners recruited 8-2 weeks before release. Those with identified common mental health problems, willing to accept help and be followed up in the community, attended a second research interview 3-8 weeks after release.
- 3) Evaluation of the implementation. Inductive thematic analysis of reflective interviews with researchers, purposively sampled research interviews and field notes to identify critical barriers and facilitators.
- 4) Revision of model based on the evaluation.

Findings - The study succeeded in: i) engaging prisoners to agree to be interviewed [169/201, 84%*], ii) identifying those with common mental health problems and having them agree to be followed up [114, 67%*], iii) retaining participants by their attendance at a post-release interview [est. 54%*]. (*Final figures to be confirmed April 2012).

Key mechanisms included: 1:1, face to face, initial approach; easy-read materials; non-stigmatising language; flexible interview format; permission for multiple contact points; strong relationships with community services; and persistence!

Of primary importance was an emphasis on including participants as part of the problem process, for example in suggesting ways in which they could be located and communicated with after release. The evaluation also concluded that to involve offenders in treatment a greater emphasis would need to be placed on maximising their motivation and capabilities.

Consequences - The study developed ways to overcome individual and structural barriers to involving offenders in treatment and research. The potential application of the model to other ‘hard to reach' groups should be considered.

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The next stage is to build on this model to develop and deliver a trial for an intervention for prisoners with common mental health problems, bridging the prison/community gap (Engager 2).

2F.6

Generation Scotland: Scottish Family Health Study (GS:SFHS). The study, its participants, and their potential for genetic research on health and illness.

Blair H Smith[1], Archie Campbell[3], Pamela Linksted[3], Shona Kerr[3], Cathy Jackson[5], Bridie Fitzpatrick[4], Lynne Hocking[2], Anna Dominiczak[4], David Porteous[3], Andrew Morris[1]
[1]University of Dundee, Dundee, UK, [2]University of Aberdeen, Aberdeen, UK, [3]University of Edinburgh, Edinburgh, UK, [4]University of Glasgow, Glasgow, UK, [5]University of St Andrews, St Andrews, UK

The problem - The common illnesses treated in primary care all have complex aetiologies, and an inherited component. The genetic contribution is generally unkown, but its discovery could inform understanding of the aetiology, treatment, prevention and development of biomarkers. Family studies are powerful means of making genetic discoveries, and their basis in the general population allows concomitant study of environmental factors.

The approach - Generation Scotland (GS, www.generationscotland.org) is a collaboration between the Scottish University medical schools and the NHS, funded by the Chief Scientist Office of the Scottish Government. Quality-assured biological samples and linked information form a solid basis to explore the interplay between genes, environment and lifestyle factors in health risk (and protection). GS has since 2006 recruited over 30,000 participants to three cohorts. For the largest of these, the Scottish Family Health Study (GS:SFHS), volunteers and their first- and second-degree relatives were recruited through collaborating general practices. Participants attended dedicated study clinics and provided detailed health and lifestyle information. The high fidelity phenotyping in GS:SFHS included cardiovascular, metabolic, musculoskeletal, pain, cognitive and mental health measurements including many quantitative traits. Biological materials (whole blood, DNA, urine and serum) were collected and stored. Participants provided “broad” consent for medical research using their data and samples, linkage of their data to routine NHS data, and re-contact for further research.

Findings - Over 24,000 volunteers in ~7,000 family groups were recruited (mean family size 3.9, largest 36). Ages ranged from 18 to 99, and 59% were female. Broadly representative of the Scottish population, the sample includes a wide range of socio-demographic and clinical features. For example, 21% were obese (BMI >30); validated lifetime prevalence of major depression was 12.9% (6.3% recurrent); 32% had current chronic pain (2.7% had severe chronic pain); 3.9% had heart disease; and 3.3% had diabetes. The distribution of scores on cognitive function tests was approximately as expected in general population study.

Consequences - By targeting families, GS:SFHS enhances the statistical power to measure heritability and discover and validate causal genetic variants. The already rich dataset can be linked with NHS Scotland electronic health records, converting this from a cross-sectional to longitudinal study. GS has successfully implemented an access process with high governance standards, including NRES Research Tissue Bank approval for all relevant research, for researchers to submit collaboration proposals. More than 90 collaborations are underway or completed, including epidemiological studies in pain, cognitive function and mental health, genetic replication studies of lung function and COPD, hypothesis-driven and genome-wide association studies, through to identification of participants with genotypes or phenotypes of interest for re-contact and further study, including induced pluripotent stem cell line derivation. There are many opportunities for more studies using the GS resource with direct relevance to primary care.

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2G - Quality in person centred care

2G.1

Improving quality of care or redefining 'care'? computer templates in chronic disease management: ethnographic case study

Deborah Swinglehurst[1], Trisha Greenhalgh[1], Celia Roberts[2]
[1]*Queen Mary, University of London, London, UK,* [2]*King's College London, London, UK*

Problem - Challenging population dynamics have brought chronic disease management into the policy spotlight. The electronic patient record (EPR) is often identified as key to a high performing chronic care system, facilitating the 'three Rs' of registration, recall and regular review. Computer templates are widely used to promote a systematic evidence-based approach. In this study we investigated how chronic disease management is actually accomplished in practice. In particular, we explored the tension between personalising care and meeting institutional requirements, focussing on the use of computer templates.

Approach - We conducted an ethnographic case study over 8 months in 2 UK general practices (187 hours in total). We combined observational field notes, video-recording and screen capture with micro-analysis of talk, body language and data entry. 12 chronic disease management consultations were video-recorded, with parallel screen capture of the EPR. This dataset was supplemented with detailed observation of a further 26 chronic disease consultations and organisation-wide administrative practices. Consultations were transcribed using conversation analysis conventions, with notes on gaze, bodily conduct and the EPR screen. Our analytic framework evolved through repeated rounds of viewing video, annotating ethnographic notes, multimodal transcription, and fine-grained micro-analysis, to identify themes. Data were interpreted using discourse analysis approaches

Findings - Consultations centred explicitly or implicitly on evidence-based protocols inscribed in templates and linked to the surveillance and reward systems of the Quality and Outcomes Framework. This systematic incentivised approach sharpens the tension between different ways of framing the patient - the patient as 'individual' and the patient as 'one of a population'. Consultations often had the characteristics of bureaucratic institutional encounters, with clinicians asking a series of computer-prompted questions and conducting pre-defined tasks which sometimes lacked coherence for the patient. In extreme cases, the template became the 'patient' as the work of the consultation was primarily oriented to ensuring data fields were complete. Some clinicians minimised the distance between 'individual' and 'institutional' framings of the patient, by responding creatively to prompts within a dialogue constructed around the patient's narrative. Templates shaped four inter-related phenomena: the definition of chronic disease; care delivery; patienthood and professional habitus.

Consequences - Templates - designed to assure standards of 'quality' care - contribute to the bureaucratisation of care and may serve to marginalise those aspects of quality care which they do not readily facilitate. These include the patient's opportunity to construct their narrative and the ease with which the clinician may be interactionally 'involved' with the patient. Requirements for data risk privileging 'institution-centred' care over patient-centred care. Delivering patient-centred care requires flexible, creative use of templates, involving additional interaction work which may demand longer consultations. Templates do not simply document chronic disease management, but fundamentally change the nature of this work.

2G.2

Starting and staying on preventative medication for cardiovascular disease: a qualitative synthesis

Nicola Gale, George Bramley, Tom Marshall
University of Birmingham, Birmingham, UK

The Problem - Cardiovascular disease (CVD) is the biggest cause of death in the UK, but there are now effective medications that prevent CVD. However, GPs do not always prescribe preventative medication, even when the patient is at high risk of CVD. If GPs do recommend it, patients do not always agree to take

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medication, or they do not adhere. The failure of evidence to move unproblematically into practice was termed in the Cooksey report the 'second translational gap'. Qualitative research exploring the perceptions, values and experiences of healthcare professionals (HCPs) and patients in relation to medication for CVD prevention can help uncover the facilitators and barriers to successful interventions.

The approach - A narrative synthesis of the health research literature over the last 20 years to identify qualitative studies that addressed either 'starting' or 'staying' on preventative medication for CVD. All studies were assessed for methodological quality and theoretical insight. Key themes were summarized descriptively. We interrogated the literature interpretively for credible and trustworthy conceptual insights that might inform future practice and policy.

Findings - The literature has covered both healthcare professionals' (HCP) perspectives and patient perspectives on medication taking for prevention of CVD. Key themes from HCP perspectives included: wide variety of prescribing practices related to conflicting values between being responsive to the individual patient and practising in an evidence-based way; different settings (such as general practice or dedicated clinics) influenced prescribing practices, which was closely tied into the nature and quality of the relationship between the HCP and patient. Key themes from patient perspectives included: at a social/societal level, both starting and staying on medication is mediated through the family and community context; at a psychological level, barriers were poor understanding of the role of preventative medication, or failure to integrate medication taking at a routine level in daily lives (due to lack of acceptance of illness as part of the patient's identity, or other more mundane factors); at a physical level, decreased mental or sensory alertness or feeling unwell can hinder medication taking.

Consequences - Neither the 'shared decision making' nor the 'paternalistic' models of care adequately address the complexity of starting and staying on preventative medication for CVD, because there are a number of important contextual factors at play.

· Introduction of any new interventions should attempt to remove organisational barriers to success (such as financial incentives).

· In consultations, HCPs should ascertain patient preferences; understand the wider social influences on patients' health practices, and present risk information in an accessible way.

· Traditional health education interventions do not reach all groups in society and contribute to health inequalities. Health education/promotion interventions should be culturally and linguistically tailored, and interactive.

2G.3

The problem with guidelines - towards a pragmatic improvement in evidence based practice

Amanda Howe, Nick Steel, Asmaa Abdelhamid
University of East Anglia, norwich, UK

The problem - The UK National Institute for Health and Clinical Excellence (NICE) has been lauded internationally for its rigorous approach to summarising evidence into guidance for clinical practice, yet practitioners are often critical voices. There is professional fatigue with the numbers of guidelines which need application to each patient, and concerns about whether these fragment care or make it too mechanistic. There is a need for greater clarity in attributing guideline recommendations to evidence, and greater transparency in describing relevance of included studies to the intended population - in this case in U.K. primary care.

The approach - This abstract reports from an ongoing NIHR-funded project which aims to assess the relevance to PC patients of the evidence base underpinning guideline recommendations. It describes and classifies the problems with the interpretation of guidelines from a primary care perspective, and discusses how guideline producers might be able to improve the relevance of guidelines to primary care.

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Findings - Clinical guidelines published by NICE in 2010 and 2011 were assessed for relevance to primary care, and on average only 21% of the studies used to develop recommendations for primary care patients were rated as relevant to a PC population. Why does this matter? One reason is that proportionally more primary care patients have less severe disease than in secondary care, and asthma care and heart failure illustrate this. For example, whilst most (69%) primary care patients have mild to moderate heart failure, the evidence for these patients does not support the treatment recommendations in the current NICE guideline, which are derived from studies of patients with more severe illness. How does this situation arise? Many challenges faced by both guideline developers and users are addressed by an existing tool, AGREE II, which is widely accepted for quality appraisal of guidelines. We suggest that the wider use of this tool may highlight problems with guidelines pre-publication.

Consequences - Primary care staff are generalists who work in an uncertain diagnostic context with patients with multiple health and information needs. The credibility and applicability of guidelines is crucial to their motivation to practise evidence based medicine, and their expectations are that recommendations will be based on relevant evidence. We suggest that greater transparency, both about the evidence base (or lack of it) that underpins guideline recommendations, and about the primary care relevance of the recommendations and evidence, is likely to facilitate uptake.

2G.4

High Quality Care For Patients With End Stage Heart Failure (ESHF) – Barriers and Facilitators

Susan Browne[1], Carl May[2], Una Macleod[3], Frances Mair[1]
[1]University of Glasgow, Glasgow, UK,[2]Southampton University, Southampton, UK,[3]Hull York Medical School, Hull, UK

The Problem - Patients with End Stage Heart Failure (ESHF) have been reported to lack knowledge and understanding of their condition and feel relatively unsupported. This is despite the publication of a vast array of clinical guidelines aimed at improving their management.

This study aims to investigate barriers and facilitators to good care from the perspectives of patients, carers and professionals.

The approach - Semi-structured interviews with 30 ESHF patients and 20 carers.

Face to face interviews and focus groups with 63 health professionals (HPs) from General Practice, Cardiology, Heart Failure Liaison Nurse (HFLN) Service, Palliative Care, Accident and Emergency, District and Marie Curie Nursing, the Ambulance Service and Medicine for the Elderly.

Qualitative data analysed using framework approach informed by Normalisation Process Theory (NPT)

Findings - Patients and carers reported communication difficulties in relation to diagnosis, prognosis and the use of devices such as Implantable Cardio-defibrillators (ICDs).

Those with ESHF have to endure:

A) polypharmacy and it's effects

B) Attendance at multiple clinic appointments, posing difficulties from both logistical and physical perspectives.

C) Lack of continuity of care and poor communication both between professionals and between professionals and patients.

GPs were seen as lacking expertise. HFLNs and a palliative care clinic make a difference, because of the continuity and improved communication they provide.

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Patients reported difficulty adhering to treatment regimens as one precipitant of admissions. The experiences of acute admissions were extremely unsatisfactory. Participants were unable to identify suitable emergency care plans.

HPs - While HPs were cognisant of the problems faced by those with ESHF, most were unclear about who should have overall responsibility for ESHF patients. This means that no HP group is currently assuming overall management responsibility.

HPs have limited options in caring for patients experiencing exacerbations of symptoms out of hours. Accident and Emergency was universally seen as inappropriate, undignified and an unsafe environment for ESHF patients.

HPs are unable to access patient information out of hours and are usually unaware of ESHF patients' preferences for care.

Communication between HPs was seen as sub optimal and this contributed to polypharmacy and to patients being readmitted and undergoing unnecessary investigations and invasive treatments.

Specialist professionals lack knowledge of palliative care approaches while generalists lack knowledge about HF care particularly in relation to the use of newer devices such as ICDs.

Consequences - Uncoordinated care, multiple appointments and polypharmacy are major problems and there is clear potential for rationalisation of therapeutic regimens and systems for follow up.

Those with ESHF need clear pathways/plans regarding what to do in an emergency and need access to services to help them action such plans.

Reconfiguration of services and reallocation of resources are needed to improve care for ESHF patients.

2G.5

"They are just very old and frail things are going to go wrong": A qualitative analysis of the challenges to delivering health care in UK care homes

Isabella Robbins, Jane Dyas, Adam Gordon, John Gladman, Pip Logan
University of Nottingham, Nottingham, UK

The Problem - There have been changes in the population residing in care homes, a shift from local authority provided homes to corporate businesses and changes in the policy/provision of health care to the elderly in hospitals. As a consequence there are difficulties in meeting the health care needs of residents in care homes. We wanted to understand the current provision better in order that the residents' health care can be optimised; in particular to prevent unnecessary hospital admissions.

The Approach - To understand what is happening on a day to day basis in the provision of NHS health care to care home residents we interviewed a range of care home staff and primary care health professionals. Furthermore we wanted to go beyond this description to explain why difficulties were occurring; and why any models of provision that worked well were effective. The 33 interviews were semi-structured and focussed on a vignette, lasting up to one hour. Analysis comprised initial coding by two researchers throughout the data collection process. Theoretical sampling was used as part of the iterative process; as explanations were developed using an interpretive approach, contradictory and confirming evidence was sought within the data. Data was managed using NVIVO 8

Findings - Care home staff and primary care practitioners were both working to do their best for people who live in care homes. There was a time pressure on GPs visiting care homes. The provision was predominantly responsive to calls from the home rather that part of proactive planned care. Care home staff were managing and making decisions about medical health care, sometimes beyond what they considered to be their responsibility; including end of life decision making. Out of hours care was an unresolved issue with

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emergency A&E admission a regular occurrence. GPs expectations were often mismatched with those of the care home staff and societal expectations.

Consequences - Explanations included fear of litigation, a high level of care home regulation, the attitude of NHS professionals to care home staff underpinned by their beliefs of the profit motive. The kinship relationship between residents and care home staff influenced them to want quicker responses. The tension created by care homes sitting in isolation outside the NHS means that the planning of services such as "out of hours" do not meet residents needs.

Health care provision in care homes is rarely satisfactory from either the primary care or the care home perspective. Delays in medical management by primary care may result in avoidable worsening conditions and unnecessary hospital admissions. The underlying reason is not because the people involved don't care rather the NHS systems don't match the context in which care homes function, nor are they driven by the residents' needs.

2G.6

Enhancing the wellbeing of patients with multimorbidity living in areas of high socio-economic deprivation: the use of qualitative research to optimise a primary care-based complex intervention The CARE Plus Feasibility Randomised Controlled Trial (Phase 2)

Rosaleen O'Brien[1], Sally Wyke[1], Bruce Guthrie[2], Graham Watt[1], Stewart Mercer[1]
[1]University of Glasgow, Glasgow, UK,[2]University of Dundee, Dundee, UK

The problem - Primary care professionals working in deprived areas of Scotland have described the "endless struggles" they face in supporting self-management of patients with multimorbidity within the existing system of care. However, there is a paucity of evidence on the kinds of interventions that might help both practitioners and patients in comparable settings. We conducted exploratory qualitative research (Year 1) to inform the design of the first iteration of a 'whole system' complex intervention that aims to provide greater support to multimorbid patients living int he top 15% most deprived areas of Scotland. This baseline study suggested that four guiding principles for **CARE** Plus consultations might be beneficial: 1) establish and maintain relationships with patients (**Connect**), 2) focus on the "whole person" in assessing problems (**Assess**), 3) more time to enable practitioners to **Respond** to problems and 4) use approaches and tools to **Empower** patients.

The approach - This scoping study (Year 2) was designed to 1) optimise an intervention in terms of delivery, implementation, system changes, training and delivery of support and 2) examine the feasibility of data collection in intervention practices and with patients. A participatory approach was used to examine how the intervention was implemented and adapted by two primary care teams (involving GPs and Practice Nurses). Qualitative research methods were used to prompt practitioners to regularly reflect on the feasibility of the intervention through 1) writing about their consultations in a booklet we provided 2) attending regular focus groups attended by their colleagues within the practice and the research team to discuss experiences and emerging issues. Patient experiences were also explored through semi-structured individual interviews.

Findings - Practitioners described the investment of time and investment in relationships that had been needed to participate in the study and support the holistic management of patients with complex problems. There were some immediate rewards identified e.g. patients who had long struggled to manage reported improvements in their wellbeing. There was speculation that there may also be further delayed rewards in the long term, related to having gained a greater understanding of particular patients' circumstances. Patients spoke movingly of the meaning that extra time held for them. This was used to make connections (e.g. between social problems and difficulties in managing medical problems), gain insight into their problems (e.g. knowledge of conditions), and set goals to enhance their wellbeing. However, there was some suggestion that setting realistic goals might be difficult for those who were acutely aware of having multiple problems to address.

Consequences - The second iteration of the intervention has been designed, and data collection protocol refined, and is currently being tested in a feasibility Randomised Controlled Trial that began in September 2011.

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3A - What does quality primary care look like?

3A.1

Using a new measure to identify practices with high QOF scores but low public health impact.

Mark Ashworth[1], Peter Schofield[1], Maria Kordowicz[1], Paul Seed[1], Bob Fleetcroft[2]
[1]King's College London, London, UK, [2]University of East Anglia, Norwich, UK

The Problem - The Quality and Outcomes Framework (QOF) offers financial rewards which may not be well aligned to the task of reducing mortality from preventable disease. We have devised a new measure, the 'Public Health Impact' (PHI) score, derived from 20 QOF indicators which have the strongest evidence base for mortality reduction, and calculated by converting indicator achievement levels into estimates of mortality reduction. These indicators include, for example, influenza vaccination, blood pressure, cholesterol and HbA1c control, the use of anti-thrombotic drugs in cardiovascular disease and ACEIs in heart failure. We have estimated that the achievement levels reported in the 2009/10 QOF would translate into a saving of 259.2 lives per 100,000 registered population, per annum. Given the financial rewards of QOF, we wanted to explore the characteristics of practices which may have maximised QOF income without maximising the potential to reduce mortality.

The approach - We obtained QOF data and practice characteristics covering all practices in England (n = 8066). Using our previous methodology, we calculated PHI scores for each practice, based on the reported levels of QOF indicator achievement. We then classified each practice according to whether their QOF and PHI scores were above or below the median level, thus identifying a cohort of practices with high QOF but low PHI scores (n = 1418). Their characteristics were explored using correlations and logistic regression analysis.

Findings - The PHI score correlated weakly with the QOF score: Pearson's r = 0.28, P < 0.001. 'High QOF, low PHI' scoring practices were more likely to have higher proportions of patients aged ≥65 years (Odds Ratio, OR, 55.2) and be located in less deprived areas (OR, 0.42 for the highest quintile of deprivation); these practices were also more likely to be training practices (OR 1.74) and have smaller list sizes (OR, 0.86); all Odds Ratios, P<0.001. The gender and average age of the GPs, the list size per full time equivalent GP and the ethnicity profile of the local population were not significant predictors.

Consequences - The notably weak correlation between QOF points' scores and PHI scores implies that for many practices the financial rewards of the QOF may not be closely aligned with the potential public health impact of the practice's activities.

Some aspects of primary care are less effectively achieved in deprived areas. In contrast, practices less likely to maximise their potential to reduce mortality from chronic diseases were smaller practices and training practices located in more affluent areas with higher proportions of elderly patients. Given the relative failure of these practices to maximise public health impact in spite of maximising their QOF income, we consider that incentives need to be realigned so that they place a greater emphasis on rewarding outcomes.

3A.2

How does continuing professional development (CPD) translate into doctor's clinical practice and what impact does it have on patients and on the service?: a UK-wide cross–sectional, multi-speciality qualitative study

Caroline Anne Mitchell[1], Amanda Hunn[2], Nigel Mathers[1]
[1]University of Sheffield, Sheffield, UK, [2]Capita Health, London, UK

Problem - How does continuing professional development (CPD) translate into doctor's clinical practice and what impact does it have on patients and on the service?: a UK-wide cross–sectional, multi-speciality qualitative study

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Key words: impact, continuing professional development, multi-speciality

Context - Significant resources are provided for medical CPD within NHS trusts and via deanery programmes for doctors in training. CPD is a central element of the annual peer appraisal programme across medical specialities, in place since 2003, and is also key to the proposed revalidation processes for doctors.

Lord Patel's report 'Recommendations and options for the future regulation of education and training' (2010) recommended that the GMC should review its 2004 CPD guidance and re-examine how it's regulatory role in CPD should be exercised'.

This abstract focuses on two questions: can you identify examples of good or innovative practice in CPD?; can you identify barriers and facilitators to CPD which may have contributed to changes to an individual's practice and/or changes to the way care is provided either by a team or individual?

Approach - Two stage qualitative approach ('realistic evaluation' cf Pawson and Tilley):

Phase 1:

We designed a purposive (stratified) random sampling framework in order to maximize diversity and credibility of the sample and identify examples of good practice where impact might be demonstrated, across specialties and settings (private and NHS; primary, secondary, community/ mental health trusts). Semi-structured telephone interviews were undertaken with medical, HR and CPD leads in trusts, Royal colleges and Deaneries across the UK.

Phase 2:

Multi-site case studies (30): in-depth interviews and focus groups with doctors, trainers, and patients supplemented by secondary data as available eg audit.

Findings - Early findings suggest a dichotomy in terms of how CPD is organised between primary and secondary care and also, between the private and public sector.

Primary care has a strong tradition of centrally organising CPD to meet strategic needs at PCT/ practice level with a historical emphasis on 'earning' CPD funding. CPD is integrated into the appraisal process of general practitioners with an emphasis on demonstrating impact.

In contrast, there is a lack of strategic overview and individual / organisational accountability of CPD in acute care. CPD tends to not be centrally organised other than mandatory training and integration of CPD with the appraisal process is inconsistent. Whilst excellent CPD activity may take place in secondary care, the lack of a strategic overview contributed to a lack of awareness of how learning has been implemented. The full study will report to the GMC in July this year and will include a discussion of both the facilitators and barriers to implementing CPD.

3A.3

What are 'poor performing' general practices really like? Findings from three qualitative case-studies.

Maria Kordowicz
King's College, London, UK

The Problem: Defining poor GP performance through the target-driven lens of the Quality and Outcomes Framework (QOF) has its limitations. General practices which consistently underperform on QOF may be disengaged with top-down quality improvement initiatives - their organisational qualities remaining largely unknown. I set out to capture the qualitative characteristics of 'poor performers' which lie beyond QOF targets.

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The Approach: I spent time embedding myself in the daily life of five practices across England, which scored in the lowest 10% of national QOF scores over the five year period since QOF's inception. As a participant observer, I conducted interviews with the practices' teams, kept field-notes and analysed practice documents. The data were then analysed to identify key themes pertaining to how the practices function and their perceptions of QOF and organised into case studies. Findings from three of these case studies (two single-handers, one group practice) will be presented.

Findings: Contrary to the label of 'poor performer', two out of the three practices showed effective and cohesive working. The remaining practice was studied during and post closure, resulting from Primary Care Trust remedial action. There was a dominant theme of organisational values common to all three practices. Values included a sense of patient-centredness which greatly influenced the practices' perceptions of, and engagement with, QOF. Despite their low QOF scores, all three practices based their identity on providing quality patient care.

Consequences: This is the first time QOF poor performers have been studied in depth by bringing together rich multi-source qualitative data. This study is important in recognising the values of 'poor-performing' general practices and the multi-faceted nature of quality patient care, and thus in highlighting the limitations of 'one size fits all' quality improvement initiatives such as QOF. It is suggested that in order to be effective, performance management must appeal more directly to the values driving general practitioners and their teams.

3A.4

Are Health Checks for Adults with Learning Disability leading to improved outcomes?: Analysis of General Practice data.

Umesh Chauhan, Evangelos Kontopantelis, Tim Doran
University of Manchester, Manchester, UK

The problem - Financial incentives have been the cornerstone of improving quality and driving change in clinical practice in primary care in the UK over the last 10 years with the introduction of the Quality Outcomes Framework (QOF) and through additional incentives such as the directly enhances services (DES). The learning disability DES was introduced in England in 2008. However, uptake has remained below 50% and little is known about the effect of health checks in improving care.

The approach - Anonymised clinical data were extracted for all patients with learning disability (LD) from 166 practices in 6 Primary Care Trusts for two time periods (Aril 2009 to March 2010 and April 2010 to March 2011). Data was available for 4,032 patients, 3,661 of which contributed data in both time points. Multi-level linear or logistic regressions were used for binary and continuous outcomes respectively to estimate the effect of health check, while controlling for key variables (such as age, gender, practice list size, LD register size, Super Output Area Index of Multiple Deprivation and presence of one or more QOF comorbidity and time).

Two informational domains were created ('LD specific' and 'QOF targets') and for each domain the relevant available variables were aggregated into scores, on a 0-100 scale. The 'LD specific' domain contained information that related to data on Health Action Plan, visual, hearing, behaviour, bowel function and self-neglect assessment. The 'QOF targets' domain aggregated information measures which related to QOF targets: blood pressure, smoking status, ethnicity, body mass index, medication review and influenza vaccination.

Findings - The number of health checks carried out increased over time (from 30.5% to 41.7%). Increasing age, being female, and the presence of cormorbidity were associated with a higher probability of receiving a health check. On average, recorded information for patients who underwent a health check was 18.9% higher in the 'LD specific' domain (95% CI: 18.3, 19.5, $p<0.001$) and 20.7% higher in the 'QOF specific' domain (95% CI: 19.9, 21.9, $p<0.001$) compared to information recorded for those who did not have a health check.

Having one or more QOF comorbidity was strongly associated with QOF specific data being recorded, on average 16.4% higher compared to patients with no QOF conditions (95% CI: 13.4, 19.5, $P<0.001$) but not for the LD specific domain ($p=0.37$).

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Consequences - Health Checks were associated with significant coding activity for QOF incentivised processes and more so than coding for LD specific processes which would suggest there may be resistance to undertaking certain aspects of the health check. New approaches to delivering care for people with LD needs to be developed in order to improve uptake and quality of health checks.

3A.5

Boundary Spanning for Inter-organisational Learning for Integrated Care – The Case of Local Health Communities

Laura Nasir
King's College London, London, UK

The Problem - There is a need for collaboration and coordination between practices at the levels of routine care, intermediate care, and specialist care. Patients with long term conditions will require services across all three levels of care and practitioners can be overwhelmed by trying to join up all that is needed. A lack of integration risks inefficient and costly missteps and can exacerbate disease. Local Health Communities (LHCs) may offer a solution. Quality improvement has been linked to the success of interdisciplinary collaboration within organizations, but research has been less clear about how integrating solutions across sectoral boundaries can be enabled, and examined, in primary care.

The Approach - Drawing upon a review of the empirical literature related to boundary spanning in health care systems, an analysis of LHCs was completed. The examination was further informed by considering research findings from observational data collected by an embedded clinical researcher in English health care settings in a study of potential boundary spanning solutions. Results from this longitudinal nested case study were reviewed, in light of a LHC proposal, including consideration of the type of data collection methods that can effectively measure integration for both individual and population level improvements in patient care for dementia, anxiety and depression, and diabetes.

Findings - Boundary spanning across different levels of care can be facilitated, and examined, for effectiveness using interviews, surveys, diaries, and assessment of local data sets. Research regarding boundary spanning has demonstrated that information exchange facilitated through shared experiences, and empowered by redesigning systematic processes has a greater chance of success. Supervisors and practice managers can serve as either barriers or enablers, depending on the perceived incentives to demonstrate effectiveness. Staff and practitioners can be motivated to participate in integrating initiatives particularly when they have a role in designing measurements of results that recognize both professional development and the effective movement of patients between different services.

Consequences - LHCs, if locally adapted with well facilitated connections, have the potential to be effectively implemented for spanning boundaries between different levels of care. Interventions which are directed at improving introductions and information-sharing between different healthcare sectors should be considered. Attention to collecting the most effective forms of data needs to be mentored, in order to catalyze critical and iterative quality improvement efforts. Patient level outcomes can, and should be, identified and measured in accordance to local need as understood by staff, practitioners, and patients. Local Health Communities may improve integration of services with ongoing and routinised efforts to learn adaptive responses, tailor data collection, and embed reflection on practice.

3A.6

Care and systems experience of harder to reach patients with diabetes: A collaborative study with regional Government

Jane Gunn, Vicki Palmer, John Furler
University of Melbourne, Melbourne, Victoria, Australia

The problem - Reaching those patients with a chronic condition like diabetes made more complex by social disadvantage is an intractable problem for both clinicians and those who fund and design primary care services. The problem of patients poorly served by the system is manifest as avoidable hospital admissions or presentations to emergency departments. For clinicians trying to work with patients in disadvantaged

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settings, adherence to guidelines is more complex where services may not be available or appropriate and patients may have other priorities. Understanding how care is experienced by harder to reach patients and by providers working in such settings is a first step to developing innovative system responses.

The approach - This work is a collaboration between regional Government with responsibility for planning, funding and integrating primary care services locally and an academic Department of General Practice. We are using previously developed case narrative methods to identify index patients from disadvantaged backgrounds (eg homeless, Aboriginal or Torres Strait Islander, refugee, experiencing mental illness) and undertake sequential interviews with the patients and with their providers and one carer. We are also conducting a series of systems based workshops with providers and managers of local diabetes programs and services, drawing on the patient stories. Finally we are scoping the capacity of routinely collected data to provide meaningful information about diabetes care and services locally and how they are meeting the needs of disadvantaged patients.

Findings - We have identified a disconnection between health and social care. This makes meeting the needs of patients with complex social world challenges difficult as patents placed low priority on their health in the face of high social need. Health literacy was a key issue in linking this group of patients to services: providers see this as a key barrier while patients experience health education programs as repetitive and not specific or tailored to their evolving needs. Disparate and poorly integrated data sets meant identifying relevant timely data and using it in a meaningful way to identify service gaps was a difficult task for diabetes program developers and managers.

Consequences - Linking patient stories with systems thinking can help providers and planners to identify leverage points for change in responding to a complex problem. The study suggests that "wrapping" services and information around patients to deliver appropriate care and education in a timely manner will help reach those currently poorly served by the care system. Integrating data about health and linked social indicators and developing close collaboration in health and social service provision can begin to address this.

3B - Synthesising the evidence insights on the process

3B.1

Decision making in consultations for RTI in children: a systematic review and meta-ethnographic synthesis of the qualitative data

Christie Cabral, Jeremy Horwood, Alastair Hay, Patricia Lucas
University of Bristol, Bristol, UK

The problem: Respiratory Tract Infections (RTIs) in children remain a common reason for parents to consult primary care. Clinical uncertainty about diagnosis and management and a lack of consensus about treatment contributes to the problem of over-prescription of antibiotics and antibiotics resistance. Parent expectation and pressure for antibiotics has been perceived as contributing to over-prescription but has been shown to be overestimated by clinicians. This study, which is part of the TARGET programme, sought to review and synthesise current knowledge about the decision making process in parent-clinician interactions in primary care consultations for minor illness.

The approach: A search of medical, social and economic databases and of relevant journals was conducted. Inclusion criteria were: qualitative studies which made direct observations of consultations; populations which included parents consulting for minor childhood illness; in PHC settings in OECD high income countries. Titles were screened, studies which met inclusion criteria identified and data was extracted by two researchers independently. Quality was assessed using criteria proposed by Popay et al (1998). Primary and second order data were synthesised using a meta-ethnographic approach. Primary data were also re-analysed thematically considering alternate interpretations than those presented by authors.

Findings: 6812 records were identified and 6776 were excluded by screening of titles and abstracts. From the remaining 36 records, 27 separate studies were identified, 7 of which met the inclusion criteria. Four studies were focussed on prescribing antibiotics for children with RTIs, one was focussed on shared decision making

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in prescribing of antibiotics in consultations, one was focussed on how clinicians communicated prognosis and one on how nurses on a help-line negotiated giving advice within their remit. Sample sizes ranged from 2 to 360 consultations. The re-analysis of the primary data showed that most of the reported parent's communication within the interaction constituted expressions of concern in relation to symptoms or their child's health or well-being and statements by parents which were interpreted as pressure for antibiotics by clinicians were frequently ambiguous. The clinicians' communication was focussed on the diagnosis /treatment decision and they tended to ignore concerns raised by parents if they were not relevant to these. Clinicians often made statements in support of a non-antibiotic treatment decision, even when antibiotics had not been raised by the parent. Parents and clinicians were often talking at cross purposes, as when parents emphasised the seriousness of symptoms to justify consultation while clinicians minimised the seriousness of symptoms in support of a non-antibiotic decision. These processes contributed to an over-estimation of parent pressure for antibiotics.

Consequences: A deeper understanding of the parent's perspectives would support the clinician to avoid over-estimation of parental expectation of antibiotics. Future research should investigate how all parties in these consultations view their respective contributions.

3B.2

The overspill of domestic violence: a systematic literature review of the impact on the survivor's social network

Alison Gregory, Gene Feder, Emma Williamson
University of Bristol, Bristol, UK

The Problem: Domestic violence (threatening behaviour, violence or abuse - psychological, physical, sexual, financial or emotional - between adults who are or have been intimate partners or family members) is experienced by 25% of women in the UK during their lifetime and has far-reaching health consequences for survivors. Research indicates that most women who experience domestic violence will discuss their situation with relatives or friends and, whilst not all input is helpful, that social support has the potential to buffer against effects on physical health, mental health and quality of life, and protect against future abuse. There is, however, absence of discussion in the literature about consequences for the health and wellbeing of this supportive network. We do not know what the physical, emotional and psychological toll is on the adult friends and family of women experiencing domestic violence.

The approach: A systematic literature review was undertaken to investigate the impact that domestic violence has on the people in the survivor's network. Twelve databases were searched for eligible studies, with particular attention paid to the inclusion of databases that would access grey literature, including: conference abstracts, proposals, reports and dissertations. This was supplemented by hand-searches, contacting experts in the domestic violence field, and searches of bibliographies and citations of retrieved articles. A framework analysis and meta-synthesis were conducted on the identified studies.

Findings: Of the articles found by the searches, 24 had data relating to the topic area, although no single paper addressed the question directly. The primary studies employed wide ranging qualitative and quantitative research designs, among diverse populations in several countries. As anticipated, the data regarding the specific impact on friends and family members was predominantly incidental, resulting in frequent omission of commentary by authors or author commentary without the relevant first-order data. The framework analysis and meta-synthesis highlighted 5 themes: physical health implications, negative impact on psychological wellbeing, beneficial impact on psychological wellbeing, direct risk of injury or harm (from a perpetrator), and practical impact. The subthemes and knock-on implications of these effects will be described in the presentation.

Consequences: There is a gap in the domestic violence and health research literature on the impact of this violence on adult friends and relatives of survivors. The primary studies in this review indicate that these people may be experiencing substantial impact, including vicarious trauma and the risk of direct physical harm from perpetrators. These impacts are largely unrecognised, and therefore this social network remains unsupported. A surprising finding perhaps is that some family and friends experience benefit, in terms of affirmation and heightened self-awareness, from engagement with survivors.

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New research to explore this issue is needed to inform policy on supporting the social network of women experiencing domestic violence.

3B.3

Device guided breathing exercises in the control of human blood pressure: systematic review and meta-analysis

Kamal Ram Mahtani, David Nunan, Carl J Heneghan
Department of Primary Health Care SciencesUniversity of Oxford, Oxford, UK

The problem - High blood pressure is one of the leading risk factors associated with increased risks of stroke and heart disease. While the mainstay of treatment is drug therapy, much interest has also focused on non-pharmacological ways of lowering blood pressure. Several trials have examined the effect of device-guided breathing exercises on lowering blood pressure. These work by encouraging the patient to slow their breathing for 10-15 minutes a day. The theory behind the effect on blood pressure lies in the effect this has on autonomic control through baroreflex sensitivity, which is thought to be the most crucial parameter for long-term BP control. The Resperate device is the predominant unit marketed in the national press and on television for such a purpose. More recently (February 2012) it has been added to the NHS drug tariff list, making it available on prescription to patients with hypertension. However to date no systematic review has been carried out of published randomised controlled trials to evaluate its benefit.

The approach: We searched Medline (1950 to 2010), Embase (1980 to 2010), the Cochrane Library including the Cochrane Central register of Controlled Trials (CENTRAL), AMED (1985 to 2010), CINAHL (1980 to 2010) and the Current Controlled Trials registry (as of October 2010). Primary outcomes included the mean change in systolic and diastolic blood pressure. Secondary outcomes included change in heart rate, quality of life, compliance with the device and any side effects of the device.

Findings: We included eight trials of the Resperate device, consisting of 494 adult patients. Use of this device resulted in significantly reduced systolic BP of 3.67mmHg (95% CI [-5.99, -1.39] p=0.002) and decreased diastolic BP of 2.51mmHg (95% CI [-4.15, -0.87] p=0.003). However, sensitivity analysis was carried out excluding the five trials sponsored by or involving the manufacturers of the device which revealed no overall effect on blood pressure using the device. The maximum trial duration was nine weeks and no overall effect was seen on heart rate or quality of life using the device.

Consequences: The Resperate device has recently been approved for the NHS drug tariff as a treatment for hypertension on prescription. However, this study represents the first systematic review and meta-analysis of its effectiveness. Although we found a significant lowering of both systolic and diastolic BP, the effect was fairly small. In addition the trials were generally of short duration with little evidence for any long term benefit. We also had concerns over the quality of some of the published trials. We concluded that although Resperate may show some effect in lowering blood pressure, longer, independent, high-quality trials are needed before this device can be validated.

3B.4

Assessing the uptake of the Liverpool Care Pathway for dying patients: a systematic review

Rachel Stocker, Helen Close
Durham University, School of Medicine and Health, Queen's Campus, Stockton-on-Tees, UK

THE PROBLEM - Improving the care of the dying is regarded as a major national priority and current guidelines stipulate the need to provide ‘whole person' palliative care. Despite this, many dying patients and their carers report low levels of comfort and satisfaction with care, regardless of primary diagnosis. Reasons include poor co-ordination of care, variability in communication, and crisis-driven interventions.

Integrated care pathways offer an alternative model by supporting care co-ordination and open communication with patients and carers. One such pathway is the Liverpool Care Pathway (LCP), cited by the National Institute for Clinical Excellence (NICE) as an example of good practice, and Primary Care Trusts

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are increasingly encouraging its uptake. Use of the LCP entails assessment of eligibility criteria which requires skills, knowledge and clinical judgement about its timing. This can be problematic, particularly for non-cancer groups, and little is known about its actual uptake in primary or secondary care, the characteristics of assessed patients, and reasons for inclusion or exclusion from the LCP.

THE APPROACH - A comprehensive systematic review was conducted. Five databases were searched using "Liverpool Care Pathway" as a search term, with manual checks of bibliographies, without language restrictions, for papers published between Jan 1990 and Oct 2011 including both primary research (of any design) and audit providing information on the uptake of the LCP. Two independent reviewers (RS and HC) assessed abstracts for inclusion.

FINDINGS - The search identified 96 papers of which 16 met inclusion criteria; 5 were retrospective cohort studies and 11 were audits. Three international studies were identified, the remainder being UK, and one unknown. A total of 1102 patients were placed on the LCP, in a variety of clinical settings including primary care (n=1), secondary care (n=9), residential care homes (n=3) and hospices (n=6). In total, 64.5% of dying patients identified in the studies were not placed on the LCP. Patients age ranged from 21-103 years. Gender mix was approximately equal, and diagnoses included malignancies, dementia, burn injuries, and renal failure.

CONSEQUENCES - Although the Liverpool Care Pathway is widely known in primary and secondary care, it is not utilised for up to two thirds of dying patients. The proportion of patients who meet the eligibility criteria and the reasons surrounding low uptake remain unclear due to low quality reporting. Reasons include lack of knowledge and awareness, high staff turnover, and concerns about the appropriateness and applicability of the pathway for diagnostic groups in which the terminal phase is unpredictable, such as heart failure. Research is urgently required to further quantify the variable and sometimes low use of the LCP, and to investigate whether alternative approaches should be developed for heart failure and other non-cancer groups.

3B.5

Demystifying participation rates: A systematic review of participation and retention in studies of pulmonary rehabilitation and COPD self-management programmes.

Ratna Sohanpal, Stefan Priebe, Stephanie Taylor
Barts and The London School of Medicine and Dentistry, Queen Mary University of London, London, UK

Background & Aim: Despite evidence of benefit, and patient demand for self-management, relatively few patients with chronic obstructive pulmonary disease (COPD) are able to access pulmonary rehabilitation or self-management support programmes. One reason may be a lack of implementation of these interventions in routine care following the poor patient participation and retention often reported in studies of these interventions. We conducted a systematic review to understand reasons behind poor participation and retention in studies of pulmonary rehabilitation or self-management support for COPD. One aim of the review was to determine participation and dropout rates for the studies themselves, and for the interventions within the studies.

Format and content: We identified controlled clinical trials from eight electronic databases, UK Clinical Trial Register, Cochrane library, and reference lists of identified studies. The included studies evaluated structured self-management (SM), pulmonary rehabilitation (PR) and health education (HE) programmes for adults with COPD. Patient participation data was extracted by using the Consolidated Standards of Reporting Trials (CONSORT) checklist and flow diagram. Patient *'participation rates'* (study participation rate (SPR), study dropout rate (SDR) and intervention dropout rate (IDR)) calculations, from participation data, were based on patient participation definitions and extension of the CONSORT statement.

Results: Fifty six quantitative studies were included in the review, 51 randomised controlled trials, three quasi-experimental and two before-after studies. Studies evaluated PR programmes (n=31), SM programmes (n=21) and HE programmes (n=4). Reports of participant flow were generally incomplete; *'numbers of potential participants identified'* were only available for 16%, and *'numbers assessed for eligibility'* for only 39%. Although *'numbers eligible'* was better reported (77%), we were unable to calculate SPR for 23% of studies. The calculated *'participation rates'* for studies (n=43) were higher than previous reports, only 19% of

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studies had less than 50% SPR and just over one third (34%) had a SPR of 100%; SDR and IDR were less than or equal to 30% for around 93% of studies.

'Take away': Our findings contradict previous reports of poor participation and retention in studies of PR or SM support for COPD. The differences arose because some studies adopted different participation definitions; some reported participation without stating definitions clearly, obscuring whether proportions referred to the study or the intervention; and lower participation rates tended to be reported in older studies. Clear, uniform definitions of the various aspects of patient participation in studies may help promote the implementation of effective interventions.

It is essential for studies to record and report patient participant flow to help health care professionals interpret the study results and to help them decide if the results can be applied to their patients.

3B.6

Health and cost-related outcomes of pharmacy-based Minor Ailment Schemes: A systematic review.

Vibhu Paudyal[1], Margaret C Watson[1], Christine M Bond[1], David J Wright[2], Jennifer Cleland[1], Richard Holland[2], Terry Porteous[1], Tracey Sach[2]
[1]University of Aberdeen, Aberdeen, UK, [2]University of East Anglia, Norwich, UK

The problem - Minor ailments are common or self-limiting or uncomplicated conditions which can be diagnosed and managed without medical intervention. It has been estimated that 18% of general practitioner (GP) consultations and 8% of Accident and Emergency (A&E) consultations are suitable for management in a pharmacy. Pharmacy-based Minor Ailment Schemes have been introduced throughout the UK to reduce the burden of minor ailments on these high cost settings. The aim of this research was to conduct a systematic review of evidence of health and cost-related outcomes of these schemes.

The approach - Standard systematic review methods were used. Electronic databases were searched using appropriate keywords, MeSH and Boolean operators including MEDLINE, EMBASE, CINAHL and International Pharmaceutical Abstracts (IPA) from 2001 onwards. Searches of conference abstracts were undertaken. Health authorities in all of the four UK countries were contacted to identify relevant reports. Duplicate screening and selection of titles, data extraction and quality assessment of included papers was undertaken. The results were reported to comply with PRISMA statement.

Findings - Of 3,308 titles identified, 31 evaluations were included. All papers originated from the UK. Only one randomised controlled trial (RCT) was identified. The remainder were primarily reports of service evaluations. In general, the quality of the evaluations and reporting was poor and the risk of bias could not be assessed.

The use of outcomes such as the rate of patient re-consultation (n=12) and routine referrals (n=12) were more frequently reported than the resolution of the index minor ailment (n=4). Quality of life was not reported. A 10-fold variation was observed for patient re-consultation rates with GPs (i.e. of 2.4% to 23.4%) for the ailment following contact with the Minor Ailment Scheme. The proportion of patients reporting resolution of minor ailments ranged from 68% to 94%.

No study included a full economic evaluation. The mean cost of Scheme consultation ranged from £1.44 (price year 1999/2000) to £15.90 (price year 2005). The large variation was partly due to the methods of cost identification, measurement and valuation with only pharmacy related costs tending to be included.

Indicators such as the number of consultations for minor ailments (n=6) as well as the number (n=10) and cost (n=5) of medicines supplied for minor ailments before and after the introduction of the schemes were used to evaluate the impact of the schemes on general practices. Results varied widely across the evaluations and lacked control group comparators.

Consequences - There is little robust evidence regarding either the effectiveness or cost effectiveness associated with pharmacy-based Minor Ailment Schemes. Further evaluation is needed regarding the impact

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of these schemes on the management of minor ailments in high cost settings, ailment resolution and their cost implications.

3C - Personal experiences – can they change practice?

3C.1

Perceptions of risk and understanding of developing type 2 diabetes in people of South Asian origin.

Laura Cross-Bardell, Mandeep Bhoday, Helena Tuomainen, Sarah Rodgers, Nadeem Qureshi, Joe Kai
The University of Nottingham, Nottingham, UK

The Problem - People of South Asian origin (India, Pakistan, Bangladesh, and Sri Lanka) are 4-6 times more likely to develop Type 2 Diabetes Mellitus (T2DM) than people of European origin in the UK. As with all populations, this group is at risk of T2DM due to obesity, limited physical activity, a positive family history and for women, having had gestational diabetes during pregnancy. However South Asians also appear to have a genetic predisposition to insulin resistance and central obesity contributing to their greater risk. Little is known about this group's awareness, perceptions or understanding of their increased risk of developing T2DM.

The Approach - We undertook a qualitative study with a purposeful sample of people of South Asian origin identified at risk of developing T2DM (those with positive family history, BMI over 23, or previous gestational diabetes). Participants were recruited from general practices in a socially disadvantaged locality. Semi structured interviews with 14 individuals, and discussions with 8 family groups were conducted and audio recorded with respondents' permission. Interviews were carried out in English, Urdu or Punjabi according to participant preference. Data were transcribed verbatim and analysed using a framework approach.

Findings - Data were generated with 34 participants including 23 women and 11 men, aged 19-67, BMI range 17.2 to 41, of mainly Pakistani or Indian origin, and Muslim, Hindu and Sikh backgrounds. Most participants were not formally educated beyond A Level or equivalent.

Many respondents had some awareness, and were relatively informed about lifestyle factors associated with development of T2DM. Direct experience of the high prevalence of diabetes amongst their family and friends was commonplace and this was routinely linked in respondents' accounts to lifestyle, especially dietary habits, and for some, to limited exercise. Aside from framing risk in this way, none within our sample made links between risk of diabetes and potential biological predisposition to the condition being of South Asian origin.

Participants had widely differing perceptions and understanding of their individual risk, for example, with some regarding their current family history of the condition in a first degree relative as likely to contribute, and others perceiving the same as having no impact on their own risk.

Consequences - South Asian participants in this study lacked a full picture of their risk of developing T2DM and so many underestimated this. These findings are concerning given that health promotion efforts in this field have grown in the past decade, and the urgent need for diabetes prevention in such high risk, and often disadvantaged, communities. Improving recognition of both biological propensity and familial predisposition, at individual and community levels, in addition to better understanding of remedial risk factors, may offer potential to enhance uptake and impact of lifestyle interventions.

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3C.2

A constant companion: people's experience of uncertainty after cancer

Susan Browne[1], Una Macleod[2], Sue Ziebland[3]
[1]*University of Glasgow, Glasgow, UK,* [2]*Hull York Medical School, Hull, UK,* [3]*University of Oxford, Oxford, UK*

The problem: Colorectal cancer is the third most common cancer in the UK. Diagnosis and treatment (usually surgery with or without adjuvant treatment) bring a range of well-documented problems with ongoing impact on a person's physical, psychological, and social wellbeing. The purpose of this study was to explore the impact of diagnosis and treatment on patients' experiences, and to explore how health professionals, especially GPs, could best impact.

The approach: Semi-structured interviews were conducted with 24 colorectal cancer patients within three months of diagnosis; 19 patients were re-interviewed twelve months later. Patients were recruited from three hospitals in Glasgow. Participants were eligible for inclusion if they had had a definitive diagnosis of colorectal cancer, and had commenced their initial treatment (normally surgery or, in non-resectable cases, palliative radiotherapy or chemotherapy). Interviews were audio-taped and the transcripts coded using a systematic qualitative analysis method. Interviews explored perceptions of the psychological and social impacts of cancer, co-existing morbidities, and treatment and care accessed and received. Some key themes like 'patient experience of care' and 'patient need' were identified prior to analysis, based on the aims of the study, but the theme of 'uncertainty', present at all junctures of participants' narratives emerged during analysis.

The findings: Participants described their experiences using the language of uncertainty. This ranged from uncertainty regarding diagnosis and management, through the diagnostic process, to uncertainty about the impact of treatment. Physical impacts of treatment frequently included bowel disturbance, pain, and sexual problems; but there was uncertainty regarding whether these effects were temporary or permanent. Psychological problems too such as anxiety and fear of recurrence were exacerbated by uncertainty. Many social aspects of life were influenced by the diagnosis of colorectal cancer. Finances and employment (especially for younger participants) became uncertain, as did the ability to socialise and travel, and the capacity to fulfil caring and domestic responsibilities.

These data have been analysed with respect to the literature on illness uncertainty, and will be presented taking account of the role that GPs and other health professionals could play in reducing aspects of uncertainty related to the illness experience.

The consequences: Since uncertainty plays such a significant role in patients' experience, health professionals ought to consider how they can best mitigate this. It can be achieved on an individual level for patients during clinical encounters, and more generally by the routine offer of advice regarding bowel function, diet, financial implications and psychological support.

3C.3

Assessing primary care patients' involvement in the decision to undergo diagnostic tests for symptoms suggestive of cancer

Jon Banks[1], Fiona Walter[2], Nicky Hall[3], Katie Mills[2], Katrina Turner[1]
[1]*University of Bristol, Bristol, UK,* [2]*University of Cambridge, Cambridge, UK,* [3]*Durham University, Durham, UK*

The problem - Referring for diagnostic testing for cancer from primary care is challenging for GPs as symptoms associated with cancer are often caused by benign, self-limiting conditions. In making this decision, GPs have to consider a range of factors including the risk of cancer balanced against the cost and inconvenience of testing. In addition, the decision to refer should incorporate the views and wishes of the patient. This will require the GP to communicate details of why they are considering referral for diagnostic testing, what the testing process will involve and what the test will and will not show. This presentation will examine the extent to which patients who have undergone diagnostic tests felt involved in the referral decision and their views on the referral process.

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The approach - In depth interviews were undertaken with 44 patients who had recently been referred for diagnostic testing for symptoms suggestive of lung, colorectal or pancreatic cancer. Patients were recruited via referral letters from primary care in the North East and East Anglia region of the UK. Interviews were fully transcribed and anonymised. Data were analysed thematically.

Results - Patients' accounts indicated that in many cases the issue of cancer did not feature in the primary care consultation that led to the referral for diagnostic testing even though there was evidence to suggest that GP and patient both thought it was a possibility. Most referrals appeared to have been GP driven but patients did not tend to view this negatively; some patients attended with unexplained symptoms and felt a referral was the next step, and others felt confident that the GP was best placed to make the referral decision. However, patients' accounts highlighted a lack of shared understanding between GP and patient about the reasons for referral. Many patients understand the test would be a generic 'exploration' to see 'what's going on' rather than a test for cancer. Limited details about the testing process appeared to be communicated to patients at the primary care consultation and many patients relied on other sources of information such as previous medical experiences to prepare them for diagnostic testing.

Consequences - Although most patients reported they were happy with how they had been referred, our data indicate poor levels of shared understanding during the primary care consultation. NICE guidelines advise that GPs should ensure that patients are aware of the reasons for referral, the details of the diagnostic tests to be performed, and the possible test outcomes. This would contribute to a greater level of shared understanding between GP and patient and allow patients to be fully involved in the decision making process, and to discuss early on their concerns about the test or possibility of cancer being diagnosed.

3C.4

Listening 'Behind the Scenes': Enhancing GPs' Understandings of the Experiences of Carers of Young People with First Episode Psychosis

Anna Lavis[1], Linda McCarthy[1,2], Max Birchwood[1], Helen Lester[1]
[1]*University of Birmingham, Birmingham, UK,* [2]*Birmingham and Solihull Mental Health NHS Foundation Trust, Birmingham, UK*

The Problem - Although there is both academic and anecdotal recognition amongst General Practitioners of 'carer distress', the many day-to-day experiences and continual small changes involved in caring for a relative undergoing an episode of psychosis remain under-explored; these are arguably not widely heard in the current literature or within primary care consultations. Underpinned by anthropological methodology in both design and analysis, this research offers a 'behind the scenes' perspective that takes account of what may be neither heard by GPs nor frequently voiced by carers; it thereby seeks to enhance understandings of carers' experiences.

The Approach - The research presented draws on in-depth semi-structured interviews with over 60 carers of young people with first episode psychosis. Alongside interviews with service users, these constitute the qualitative component of SUPEREDEN, which comprises the largest longitudinal cohort of young people with first episode psychosis in the world. Thematic and narrative analyses have engaged with, and elucidated, the intricacies of carers' accounts of their daily lives.

Findings - Powerful, emotional and often intimate interview narratives reveal that carers experience many small but cumulative changes to their family life and own sense of identity, as well as a range of emotions related to their relative's illness. Worries about a relative's mental health may revolve around tiny details such as alterations to how the person sits or what they eat; carers report feeling powerless, both knowing these to be important indicators of how their relative is, but also feeling them to be too intangible to report to GPs or other mental health professionals. Moreover, the data suggest that central to carers' experiences is an ongoing process of adjustment within which emotions such as shock, grief and loss are not only engendered by a relative's illness onset or diagnosis. Rather, they continually ebb and flow through daily life, reoccurring when a relative's illness worsens and, sometimes, when it improves and the person takes on new challenges that widen parameters of fear. These affective experiences may not be discussed with GPs even by carers who recount making appointments for physical illness or even 'stress.'

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Consequences - This research has found that many experiences, issues and emotions key to, and engendered by, caring for a relative with first episode psychosis are not shared with GPs. This is the case even within families in which there may be substantial contact with primary care in relation to a member's mental illness. This presentation therefore suggests that it is important to widen understandings of what carers go through day-by-day; such experiences are arguably fundamental to carers' emotional and physical health and to their own healthcare needs in general practice.

3C.5

"Anything that would actually work, I'll try it": patients' beliefs about low back pain treatments

Alex Dima[1], George Lewith[1], Paul Little[1], Rona Moss-Morris[3], Nadine Foster[2], Felicity Bishop[1]
[1]University of Southampton, Southampton, UK, [2]Keele University, Keele, UK, [3]Institute of Psychiatry, King's College London, London, UK

The Problem - Low back pain (LBP) is a common and costly condition with no single cure. Many different treatments are available and recommended in clinical guidelines, including conventional (medication, exercise) and complementary (manual therapy, acupuncture) therapies. It is important to understand patients' perceptions of these treatments in order to maximise their clinical effectiveness, e.g. to inform interventions to improve uptake and adherence. Existing quantitative measures are insufficient to capture beliefs about the range of LBP treatments available. We therefore used qualitative methods to explore patients' views about LBP treatments.

The Approach - We conducted 13 focus groups with a maximum variation sample of 75 adults with LBP (48 women, aged 29-85 years, pain duration 0.5-54 years). The question route focused on eliciting patients' beliefs about those treatments for LBP that are recommended in clinical guidelines. We undertook inductive thematic analysis to identify dimensions underlying patients' beliefs.

Findings - Patients considered a clear diagnosis essential to selecting appropriate treatments. When experiencing uncertainty regarding diagnosis, patients sought professional and lay advice and information to help them assess potential treatments on four dimensions: credibility (is it legitimate?), effectiveness (can it work?), risks (might it cause damage?), and suitability to their individual case (is it right for me?).

Consequences - Viewed through the theoretical framework of the common-sense model, patients were iteratively refining illness and treatment perceptions based on personal and vicarious treatment experiences. Addressing these issues in clinical practice may improve shared decision-making; in particular, patients would value clearer explanations of diagnosis and clinical management strategies for LBP.

3C.6

Facilitating more comprehensive preconception care in general practice: what do women from higher risk communities think?

Helena Tuomainen, Mandeep Bhoday, Laura Cross-Bardell, Sarah Rodgers, Nadeem Qureshi, Joe Kai
University of Nottingham, Nottingham, UK

The problem - Preconception health care involves health promotion to reduce risk factors that might affect future maternal, child and family health. Currently this tends to be done opportunistically by GPs and other health providers (e.g. advice on using folic acid), but evidence on interventions for individuals' often multiple risks is needed. We aim to develop and assess the acceptability and feasibility of a more comprehensive preconception health assessment intervention in primary care. Initially, we have explored awareness, attitudes and information needs about preconception health among women from ethnically diverse and disadvantaged communities with poorest maternal and child health outcomes. We sought to identify challenges and opportunities for potential implementation of preconception health care in family practice.

The approach - We recruited and purposefully sampled from 'naturally occurring' groups of women in community and faith-based settings in socially disadvantaged localities of three PCTs to participate in a qualitative study. Forty-one women, aged 18-45, of white, Pakistani, Indian, Caribbean, African and other

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mixed ethnic origin took part in nine focus group discussions; and almost half (19) subsequently participated in semi-structured telephone interviews providing opportunity for further one to one exploration of themes. Data were analysed using constant comparison, with researchers coding independently and then jointly agreeing emerging themes.

Findings - Women highlighted that, in their experience, many pregnancies are unplanned and that women may typically only think about their health and lifestyle after conception. Women further spoke of the indistinct and sometimes secretive period between "planning" pregnancy and actual conception, affecting their ability and willingness to communicate plans to others. For many aspects of preconception health, women's awareness was moderate or poor, and did not match stated information needs. Some women were reluctant to see a GP because of lack of trust or availability of female doctors. However, women were generally positive about the prospect of identification and review of preconception health in GP settings, with targeted information and support, identifying contexts when this may be most appropriate, such as in relation to contraception or fertility, or after first pregnancy. Women without children or with only one child were more attracted to the idea. Some felt preconception health should also be advocated more widely and positively, involve men more where possible, and be promoted through a range of avenues, including schools.

Consequences - Women's attitudes suggest a holistic approach to preconception health care may be needed that uses differing windows of opportunity integrated as part of health care and education over time. Challenges, and also promising moments for engagement in primary care have been identified, underlining this may best occur where preconception health risk assumes heightened individual relevance for women.

3D - Developing new approaches to care

3D.1

Integrating online communities and social networks with computerised treatment for insomnia: a qualitative study of service user and primary health care professional perspectives

Zowie Davy[1], Jo Middlemass[1], Kate Cavanagh[2], Conor Linehan[1], Kevin Morgan[3], Shaun Lawson[1], A. Niroshan Siriwardena[1]
[1]University of Lincoln, Lincoln, UK, [2]University of Sussex, East Sussex, UK, [3]Loughborough University, Loughborough, UK

The problem - Insomnia is the most commonly reported psychological complaint in Britain. Although hypnotic drugs are widely used for treatment of insomnia, they are only licensed short term and adverse effects are common. Cognitive Behavioural Therapy for insomnia (CBT-I), which is effective and safe long term, is recommended first line but is not widely used nor available, in part because of the lack of trained providers. In response to this, Computerised Cognitive Behavioural Therapy (CCBT) has been advocated. Existing CCBT programmes can suffer from poor rates of uptake, adherence and completion. We aimed to investigate patients and practitioners' views on how CCBT for insomnia (CCBT-I) could be improved by incorporating features of modern technology including social networking functions.

The approach - We used a qualitative design and the theory of planned behaviour to underpin the study. Interviews and focus groups were held with adult service users and health professionals using a topic guide designed to elicit participants' beliefs, intentions and controlling factors that might facilitate or create barriers to the uptake and adherence to CCBT-I. We explored the data using thematic analysis supported by NVIVO.

Findings - We interviewed 23 health professionals and 28 patients. We identified multi-faceted issues focused on meta-themes of trust and functionality which were perceived to increase likelihood of successful uptake and adherence. Trust and confidence would be increased if CCBT-I was evidence-based and accredited; when referral was from a trusted professional within a supervised package of care; and when online support and follow-up were provided. Interaction with other users, by integrating CCBT-I with social networking, was perceived to provide mutual support but concerns from people with sleep problems included apprehension about online ‘strangers' and concerns from practitioners included information security. Asynchronous communication such as posting a note, commenting on a forum or adding to a thread was

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considered safer than engaging in real-time on-line communication. To improve functionality patients wanted mobile applications; access in short periods; self-assessment of insomnia and its causes; more personalised information on sleep; an interactive approach; and contact with other users to be moderated or overseen.

Consequences - Although previous qualitative studies have looked at CCBT uptake and adherence, none have looked at insomnia exclusively or explored the feasibility, advantages and drawbacks of online communication between participants. Improving uptake and adherence to online programmes for insomnia requires attention to design features which are focused on trust and functionality. Although computerised therapies for insomnia would allow more people to access treatment, some would not be suitable for online therapies because of lack of online access or poor computer literacy. The results of the study are being used the development of a novel platform for CCBT for insomnia and other health conditions.

3D.2

Predictors of psychiatric disorder in early infancy

Christine Puckering[1], Helen Marwick[2], Clare Allely[1], Alex McConnachie[1], Paul Johnson[1], Orla Doolin[1], David Purves[1], Jon Heron[3], Maureen Smillie[0], Jean Golding[3], Carina Gillberg[4], Christopher Gillberg[1], Philip Wilson[1]
[1]The University of Glasgow, Glasgow, UK, [2]The University of Strathclyde, Glasgow, UK, [3]The University of Bristol, Bristol, UK, [4]Göteborg University, Göteborg, Sweden

The Problem - Child health surveillance programmes across the UK are undergoing redesign, with a specific focus on early social development. Effective early intervention to prevent long term physical and mental health problems requires early identification of children at risk. There is good reason to think that patterns of parent-child interaction may predict disorders but large community-based prospective studies are needed to evaluate this possibility.

The Approach - We examined 180 videos of a parent-infant interaction when children were aged one year from The Avon Longitudinal Study of Parents and Children (ALSPAC) cohort. Sixty of the videos involved infants later diagnosed with a psychiatric disorder at seven years and 120 were randomly selected sex-matched controls. Psychopathologies within the case group were attention deficit hyperactivity disorder (ADHD), oppositional/conduct disorders, autism, and anxiety and depressive disorders. In a series of studies, we analysed these videos using a variety of techniques and measures to investigate whether there were any robust indicators or early features which were associated with later psychopathology.

Findings - We have identified a number of early features which are associated with later psychopathology:

- Low levels of positive parenting interactions predicted later development of oppositional/conduct disorders.
- Low levels of parental activity and speech predict ADHD, anxiety disorder and oppositional/conduct disorder.
- Low levels of "infant passivity" predict autism.

Other observations were not associated with later psychopathology:

- Two groups of clinical raters observed videos of caregiver-infant interactions and were asked to predict likely diagnosis. Neither group of raters could reliably identify any precursors of later development of psychopathology.
- No significant association between infant motor activity at age 1 year and ADHD at age 7 years was evident.

Consequences - Reliable early identification of neuro-psychiatric disorders in childhood in primary care may improve outcomes for all children an families affected by these conditions since early intervention generally produces better outcomes than late intervention. Our findings of key risk markers in parental behaviour which predict later diagnosis of a wide range of disorders could inform the development of an accessible observational screening tool and targeted intervention programmes.

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3D.3

Intermediate Care Clinics for Diabetes: Health Care Professional and Stakeholder views

Ainsley Hardy, Andrew Wilson, Natalie Armstrong
University of Leicester, Leicester, UK

The Problem: Configuring diabetes services so that all people with type 2 diabetes mellitus (T2DM) can benefit from good quality, target-driven individualised care is a major challenge for the NHS, especially given the increasing prevalence and burden on hospital diabetes services. With around two thirds of T2DM care being delivered within primary care, concerns have been raised about the variation in the quality of care between general practices. Intermediate care clinics for diabetes aim to support primary care and deliver high quality care nearer to the patient through multidisciplinary, locality-based teams. However, the optimum way of configuring and delivering intermediate care is not yet clear.

The Approach: As part of an RCT assessing the effectiveness and cost-effectiveness of intermediate care clinics for diabetes, we undertook qualitative work to explore the views and experiences of a range of healthcare professionals and stakeholders involved in either delivering intermediate care or referring patients to it. Individual, semi-structured interviews were conducted with 17 primary healthcare professionals who could refer their patients to intermediate care clinics as part of the RCT, and 15 intermediate healthcare staff and stakeholders who were involved in establishing and delivering the intermediate care clinics within the RCT. Interviews were conducted using a topic guide developed from a literature review and discussions within the project team. All interviews were audio-recorded and transcribed verbatim. Data analysis was based on the framework approach (Ritchie & Spencer, 1997).

Findings: Participants reported that intermediate care had two vital roles in supporting primary care: 1) up-skilling primary care staff so they were able to deliver more care themselves and consequently make fewer referrals to intermediate care in the future; and 2) temporarily taking over the medical care of some patients. The importance of joint-working was emphasized; for identifying patients who require intensive case management and for frequent communication with primary care teams to ensure the service is responding to local need and delivering good continuity of care. There was variation between general practices in terms of their level of diabetes experience and expertise, and this therefore impacted on the level of diabetes care they were able to provide. This variation meant that general practices differed in the extent to which they used intermediate care and how they could most appropriately work with it.

Consequences: This study identifies key features that those establishing intermediate care in the future should take into account. These include: educational workshops to build genuine capacity in primary care; good communication to ensure continuity of care, for example in the form of shared consultation notes and care plans; and drawing wherever possible on already established networks and relationships in order to build trust and confidence across the primary / intermediate care boundary.

3D.4

Cluster randomised trial of intermediate care clinics for diabetes (ICCD): clinical findings

Andrew Wilson[1], Ainsley Hardy[1], Neil Raymond[2], Ric Crossman[2], Ponnusamy Saravan[2], Paul O'Hare[2]
[1]*University of Leicester, Leicester, UK,* [2]*University of Warwick, Coventry, UK*

The problem: Community based intermediate care clinics for diabetes (ICCD) are an increasingly popular method of supporting primary care management of patients with type 2 diabetes, but there is little evidence of effectiveness or cost effectiveness, and there have been no randomised trials. We aimed to compare clinical outcome in patients with type 2 diabetes in practices with access to an ICCD service with those that do not.

The approach: Practices in three PCTs were randomised to usual care or access to the ICCD service. All their patients with type 2 diabetes were invited to take part. The primary outcome of 'combined control' was achievement of three targets from NICE guidelines at 18 month follow up: HbA1c (≤7.0%); blood pressure (<140/80mm Hg); cholesterol (<4 mmol/l).

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Findings: 49 practices were randomised, 24 to the intervention and 25 to the control arm; 1997 patients provided baseline and 1280 (61%) follow-up data. 21% of patients in the intervention group attended ICCD, on average three times. At follow up, combined control was achieved by 95 (14.3%) in the intervention arm and 62 (9.3%) in the control arm. After adjustment, the difference just failed to reach statistical significance (P = 0.059). The odds ratio (95% CI) for achieving control in the intervention group was 1.56 (0.98 to 2.49). The odds ratios for achievement of individual targets were: HbA1c 1.45 (1.07, 1.96); cholesterol 1.48; (1.08, 2.03); blood pressure 1.23 (0.88, 1.73). Mean values of these variables at follow up were slightly lower in the intervention than control group, but only cholesterol levels were statistically different between groups.

Consequences: Providing practices with access to an ICCD service led to an increase in the proportion of patients achieving recommended levels of control for all of the three main risk factors (blood pressure, cholesterol and HbA1c), although this just failed to reach statistical significance for the primary outcome. Despite potential biases due to selective recruitment and follow up, we conclude this is a clinically important difference. This clinical gain was seen despite a lower than expected number of referrals to ICCD in two of the three PCTs. Services using case management had higher referral rates, and this approach is likely to be needed to maximise their potential.

3D.5

'Holistic' care: formal and informal collaboration within the implementation of a collaborative care intervention in practice: a qualitative evaluation

Harish Thampy, Christopher Keyworth, Nia Coupe, Peter Coventry, Linda Gask, Sarah Knowles, Isabel Adeyemi, Carolyn Chew-Graham
University of Manchester, Manchester, UK

The Problem - Depression is an increasing cause of morbidity worldwide and patients with long term conditions (LTCs) are twice as likely to suffer from depressive disorders as healthy people, with subsequent poorer outcomes for both disorders. Depression has been found to exacerbate the burden of LTCs through poorer medication concordance, increased morbidity and increased use of health services. Collaborative care (CC), which draws upon the chronic care model, involves a multi-professional approach to care, structured management plans, scheduled follow-up and enhanced inter-professional communication. Whilst this model has been shown to improve the process and outcomes of care for people with depression and LTCs, its effectiveness outside of the United States remains relatively unclear with little evidence about its implementation into routine practice.

The Approach - This pilot study informs a randomised control trial examining the effectiveness of collaborative care in people with depression and LTCs in primary care. We aimed to assess the acceptability of the CC approach in 13 practices in NW England in managing depression in patients with three exemplar LTCs: diabetes, CHD and COPD. Qualitative interviews using a semi-structured topic guide were conducted with 6 psychological well-being practitioners (PWPs) and 12 Practice Nurses (PNs) who had attending training about the CC framework and started working with this model of care . Interviews were recorded and transcribed verbatim. Data was initially analysed thematically using constant comparative analysis, with the intention of a future secondary analysis using Normalisation Process Theory in order to inform future implementation of CC.

Findings - Collaborative care was described by all respondents as offering a more holistic approach to managing patients in whom mental health problems were linked to LTCs. The opportunity for the PNs to work with the PWPs was valued but dependent upon co-location of practitioners, which allowed increased opportunities for informal discussion and liaison. Co-location of PWPs at the GP practice was also viewed as convenient to patients, as well as reducing stigma of accessing services for mental health problems. PNs reported increased confidence in case-finding for comorbid depression in patents with LTCs due to a clearly defined route for onward referral. Potential barriers to the implementation of CC included perceived role boundaries between PWPs and PNs, limited opportunities for PWPs to work as part of the practice team and PNs' limited time to arrange joint consultations.

Consequences - The collaborative care framework may offer a more holistic approach to the care of people with depression and LTCs with reduction of mind/body dualism in the attitudes and practices of practitioners delivering care. However, co-location is seen as vital to facilitate the informal liaison that is perceived to be

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necessary for true collaboration. The implications of the findings for the commissioning agenda will be discussed.

3D.6

Nocturnal Leg Cramps and Prescriptions That Precede Them: A Sequence Symmetry Analysis

NAPCRG/SAPC Travel Award winner from NAPCRG annual conference 2011

Scott Garrison, Colin Dotmuth, Richard Morrow, Greg Carney
University of British Columbia, Richmond, BC, USA

Context: Anecdotal evidence suggests common medications facilitate nocturnal leg cramps, a highly prevalent age-associated condition.

Objective: To investigate whether initiation of diuretics, inhaled long-acting beta2-agonists (LABA) or statins increase treatment for leg cramps.

Design: Sequence symmetry analysis of drug dispensing data to determine if new quinine prescriptions (i.e. initiations of cramp treatment) increase following diuretic, LABA or statin starts.

Setting: Healthcare databases containing diagnostic and prescription drug information on the 4.2 million population of British Columbia, Canada. Patients: Adults ? 50 yrs receiving their first quinine prescription between Dec 1 2001 and Nov 30 2006.

Outcome Measures: Primary Outcomes: The adjusted sequence ratios (ASR) for the three primary drug classes. Secondary Outcomes: ASRs for the main diuretic subgroups (loop, thiazide-like, potassium-sparing) and main LABA subgroups (LABA alone, LABA-steroid combination). ASR = #quinine starts in the year following index-drug start / #quinine starts the year prior, adjusted for age and time trends in population prescribing.

Results: Primary outcome ASRs, with Bonferroni corrected 98.3% confidence intervals were: LABA 2.42 p <0.0001 [1.96-3.00], diuretic 1.47 p <0.0001 [1.30-1.67] and statin 1.16 p = 0.0039 [1.02-1.32]. Diuretic subgroups with 99.4% confidence intervals were: potassium-sparing 2.12 p <0.0001 [1.45-3.18], thiazide-like 1.48 p <0.0001 [1.23-1.77] and loop 1.20 p = 0.034 [0.93-1.54]. LABA subgroups with 99.17% confidence intervals were: LABA alone 2.17 p <0.0001 [1.41-3.38] and LABA-steroid 2.55 p <0.0001 [1.92-3.39]. Cramp treatment is highly seasonal, with substantially more starts in summer months.

Conclusions: Cramp treatment was significantly more likely in the year following LABA, diuretic or statin starts but LABAs and potassium-sparing diuretics had stronger associations to cramp treatment than did statins. A moderate and significant association also existed for thiazide-like diuretics but not loop diuretics. Clinicians might want to re-evaluate the dosing, or need, for these medications in sufferers of frequent nocturnal leg cramps.

3E - Changing the way doctors practice

3E.1

Desire versus need: a comparative study of offers and requests for sickness certification in primary care consultations for mental and physical health problems

Hannah Wheat, Rebecca Barnes, Richard Byng
Peninsula Medical School, Plymouth University, Plymouth, UK

The problem. The problem of sickness absence continues to be associated with substantial costs to society and to individuals. Past research has reported how many GPs perceive the process of negotiation around

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sickness certification to be difficult, particularly when patients present with mental health-related problems. GPs worry about risking their relationship with patients, whereas patients risk the possibility of being perceived as malingering. This can sometimes be consequential for inappropriate outcomes. Most past research has focused on retrospective interview accounts of GP behaviours, overlooking the significance of the patient role in the process. Even though the importance of negotiation for medical services between patients and GPs has been recognised e.g. prescribing, close attention to the process itself is seldom reported.

The approach. Building on a previous study, we performed a qualitative reanalysis of a sample of audio-recordings of 'live' consultations involving GP offers and patient requests for sickness certification (n=49). The sample was taken from an existing dataset of 506 audio-recorded consultations, involving 13 GPs from five diverse family practices across two different London boroughs. Using conversation analysis we transcribed these sequences in detail and compared requests and offers for mental health versus physical health-related problems. Attention was paid to the location of the sequences, the reason for incapacity (mental health-related, physical health-related or mixed), the design of the offer or request, whether the offer or request was for a first or repeat certificate, what happened immediately in response, and whether the certificate was issued or not.

Findings. We found that GP offers in the mental health-related consultations, were designed mostly using the format '*Do you want*' (8/12), compared to, '*Do you need*' (12/19) in the physical health-related consultations. Patient requests in the mental health-related consultations (3/12) were made only for repeat certificates. In the physical health-related consultations the format of requests for all certificates indexed high patient entitlement (8/11). Mixed consultations largely featured patient requests (6/7). Where these were for medically unexplained symptoms, some GP resistance to granting was observed.

Consequences. Our findings mean that GP offers for sickness certification index patients' desires in mental health-related consultations, yet their needs in physical health-related consultations. Moreover that entitlement to request sickness certification appears to be lower for patients experiencing stress, anxiety or depression, compared to those experiencing injury, infection or illness. These findings raise the issue of continuing social stigma around the presentation of, and delivery of care for, mental health difficulties. Guidance and training for GPs should raise awareness of, and recognise the potential consequences of, these patterns. This should help GPs to respectfully support time off as a therapeutic intervention, as well as encouraging timely returns to work where appropriate, regardless of the origin of patient difficulties.

3E.2

Doctors' attitudes towards intimate examinations: a qualitative study using constructivist grounded theory

Paul Hine, Helen Smith
Division of Public Health and Primary Care, Brighton and Sussex Medical School, Brighton, UK

Doctors' attitudes towards intimate examinations: a qualitative study using constructivist grounded theory

The Problem - There exists considerable heterogeneity of practice in when and how doctors perform intimate examinations (IEs) and offer chaperones, particularly between primary and secondary care. Doctors frame the clinical benefits of IEs on expert opinion, as little objective evidence is available. Doctors hold widely differing beliefs about the value of IEs in particular clinical situations.

Within this context, such examinations may not take place with appropriate frequency, leading to delayed diagnosis, or conversely may take place when not indicated. Inappropriate decisions around or approaches to intimate examinations may have dire medicolegal consequences, as highlighted in recent high profile scandals.

Surprisingly, there is a paucity of inductive enquiry into doctors' emotional attitudes to IEs, which likely influence practice.

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The objectives of this study were therefore to ask:

- How do doctors make decisions to perform IEs?
- How do doctors make decisions to offer and to use chaperones?
- How do doctors negotiate the emotional aspects of IEs?

The approach - The study followed Charmaz's constructivist grounded theory approach, comprising in-depth qualitative interviews with 38 doctors of different grades, from within primary and secondary care. Analysis led to theoretical sampling, the recruitment of participants who could best inform developing theory. Analysis comprised a process of initial line-by-line coding, focused coding, categorisation, and memo writing.

Findings - Doctors' emotional attitudes to IEs coalesced around three key emotions they or a patient might feel: embarrassment, fear and anxiety, and vulnerability. Feelings of embarrassment and anxiety were reciprocal between doctor and patient. A doctor's vulnerability mirrored patient vulnerability. Participants' understandings of gender, sex, and power influence these emotional constructions.

These constructions also led doctors to attribute values to IEs that extended beyond 'responding to clinical indications', these included fear of 'missing something', following medical norms, and constituting part of a therapeutic relationship.

Doctors that had not resolved their own feelings of embarrassment, anxiety, and vulnerability may be less likely to perform IEs when indicated, to use chaperones appropriately, or to offer the best standard of patient care.

Consequences - This study provides a conceptual framework for training and CPD around intimate examinations in primary care. In particular, training should recognise the conflicting emotions doctors may experience in relation to intimate examinations. If training allows doctors to reflect upon and resolve these, this will help ensure IEs take place when indicated, chaperones are used appropriately, and the encounter is not unpleasant for either doctor or patient.

3E.3

The Health and Social Care Bill: the patient perspective

Tatum Matharu[1], Kerin Hannon[2], Helen Lester[1]
[1]*University of Birmingham, Birmingham, UK,* [2]*University of Manchester, Manchester, UK*

The problem: Arguably one of the most controversial set of health proposals in decades, the Health and Social Care Bill has faced significant hostility during its passage through Parliament, from politicians and health professionals. However, there has been relatively little attention paid to the perspective of patients. Lacking a defined and recognised voice that can be channelled into the system, a small percentage of the voting public has been forced onto its feet, engaging in protest activity that has had minimal impact. This research uncovers and explores the views of ordinary people, specifically long-term users of the National Health Service, presenting their understanding of the Bill 'on the ground'.

The approach: We undertook serial semi-structured interviews with 54 patients, who were purposively selected on age, gender and diagnosis, from QOF chronic disease registers in 15 practices across England. Participants were aged between 32-90 years (mean age 64), and 46% were male. They were initially interviewed during Spring 2011, following the publication of the original health White Paper. Two-thirds agreed to be interviewed a second time, in early 2012, to enable a longitudinal analysis of the patient perspective.

Findings: We found a measured resistance to proposed changes. Most patients praised their experiences of the NHS, though they felt powerless to voice this as well as their concerns. At time 1, significant concern was voiced regarding GPs' abilities to perform their new commissioning role and impact on patient advocacy roles, though this was moderated in the later interviews, in which patients welcomed GPs' local and medical knowledge into the commissioning process over excessively expensive managerial costs at PCT and SHA level. However, patients predicted that this layer of management would be replicated to a degree because

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GPs may lack the skills and certainly the time to commission when they should be focussed on their primary duty of patient care. Similarly, there was hesitant acceptance of the notion of 'any qualified provider' over the earlier version of 'any willing provider' but there was marked opposition to the raising of the hospital private patient cap. Interestingly, there were few worries voiced about proposed changes to the role of the Secretary of State (a major health professional concern). Overall, however there was significant concern about a creep towards privatisation.

Consequences: These interviewees gave thoughtful longitudinal accounts based on decades of NHS use. They were not fearful of change *per se* but were opposed to a perceived change simply for its own sake. They felt the current standard of health care was good but were willing to think about and accept changes to the NHS. Listening to the voices of ordinary patients may still be useful in implementation of the Health and Social Care Act.

3E.4

GPs, Risk Assessment Tools for cancer diagnosis and clinical acumen: a qualitative evaluation

Trish Green[1], Tanimola Martins[2], Willie Hamilton[2], Greg Rubin[3], Una Macleod[1]
[1]Hull York Medical School, University of Hull, Hull, UK,[2]Peninsula College of Medicine & Dentistry, Exeter, UK,[3]School of Medicine & Health, Durham University, Durham, UK

The problem: The UK has relatively poor cancer outcomes when compared with other European countries and diagnostic delay in primary care has been identified as part of the problem. Analysis of GP case records (the CAPER studies) identified symptoms predictive of cancer; and resulted in the development of Risk Assessment Tools (RATs) for colorectal and lung cancers. However little is known about the acceptability and utility of such tools to GPs for cancer diagnosis.

The approach: The RATs consist of three tables containing the risk for each symptom in isolation, for repeat presentation of the same symptom, and in combination with one other symptom. The tables were printed on mouse mats and A5 flipcharts and distributed to GP practices. Seven Cancer Networks in England recruited 165 practices, consisting of 614 GPs to take part in a six month pilot study in 2011. The purpose of these visual aids was to act as reminders for GPs to consider the likelihood of an individual patient aged 40 or over having either lung or colorectal cancer, given the symptom or combination of symptoms they presented with. In order to evaluate the acceptability and usefulness to GPs, 34 telephone interviews were undertaken with GPs and project managers to elicit first-hand experiences of the integration of the tool into clinical practice.

The findings: The RATs assisted GPs in their decision-making around potential cancer symptoms and selection of patients for cancer investigation, and helped to confirm a need for investigation as well as allowing reassurance when investigation was not needed. They were seen as helpful by users in assisting with the complex decisions around early cancer diagnosis, especially in cases of unusual presentations. However, the embedding of the RATs into GP practices depended not only on the proven or perceived efficacy of the tool, but also on the implementation process. We will underpin our discussion with reference to Normalization Process Theory in order to explore what it is that supports the successful, or otherwise, incorporation of complex interventions into clinical practice. Drawing on interview narratives, the paper will illustrate that although the tool prompted changes to GP practise, participants perceived it as 'additive'; in other words, the tool did not supersede GPs' intuition, 'gut instincts' or clinical judgement, but rather assisted them in their decision-making and enabled a 're-storying' of professional identity that was integral to GPs' incorporation of the RATs into daily practice.

The consequences: This study has demonstrated that implementation of a new decision aid is likely to be most successful if it is done in such a way as to re-assert the clinical acumen of GPs; this principle is of relevance for the development of other decision aids.

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3E.5

Gout and risk of incident Renal Disease: a retrospective cohort study in the UK General Practice Research Database

Matthew Roughley, Edward Roddy, John Belcher, Kelvin Jordan
Primary Care and Health Sciences, Keele University, Staffordshire, UK

The Problem: Gout is the most common inflammatory arthritis in men in the UK. Chronic Kidney Disease is also common and is associated with increased all-cause mortality and progression to end-stage renal failure. CKD is an independent risk factor for gout. There is also some evidence to suggest that gout may be a risk factor for CKD but no prospective studies exist. Potential causes of this relationship are; hyperuricaemia, chronic sub-clinical inflammation, confounding comorbidities such as hypertension, diabetes, and medications (e.g. non-steroidal anti-inflammatory drugs (NSAIDs), allopurinol). In primary care only one in five patients presenting with acute gout are screened for renal disease within one month. This study aimed to determine if gout is a risk factor for renal disease.

The approach: A retrospective cohort study was performed using data from the UK General Practice Research Database. Cases consisted of individuals (≥30years-of-age) with first-ever coded diagnosis of gout in 1996 (n=2264). Cases were each age, gender and practice matched to two controls. Participants had no pre-index musculoskeletal or renal disease. Primary outcome was first-ever renal diagnosis during follow-up (1996-2006), identified by recorded morbidity codes. Renal diagnoses occurring ≤6 months post-index were excluded to account for undiagnosed pre-existing renal disease. All sub-types of renal disease were included e.g. acute and chronic renal failure, nephrotic syndrome, glomerulonephritis. Risk of incident renal disease associated with gout at baseline was examined using Cox regression analysis for 5 and 10 year follow-up windows adjusting for pre-index comorbidities and medication e.g. hypertension, diabetes, diuretic and ACE-inhibitor use and post-index NSAID use. Additional analysis for chronic renal failure only was performed.

Findings: Mean baseline age was 60.7 years (SD 14.3), 83% were male and median time until event or censoring was 9.0 years (IQR 3.9, 10.1). Incidence of all renal disease over follow-up was 8.15 per 1,000 person-years in cases and 3.23 per 1,000 person-years in controls. Unadjusted hazard ratios (HR) for 5 years and 10 years follow-up were 3.11 (95% CI 1.93, 5.04) and 1.98 (1.62, 2.42) respectively. After adjustment for comorbidities and medications this risk was attenuated but remained significant; HRs 1.95 (1.13, 3.37) for 5 years and 1.53 (1.15, 2.02) for 10 years. Gout was also an independent risk factor for incident chronic renal failure: adjusted HRs 1.91 (1.05, 3.45) for 5 years and 1.57 (1.16, 2.15) for 10 years follow-up.

Consequences: Gout is significantly associated with incident renal disease. Individuals with newly diagnosed gout are at 50% greater risk of developing chronic renal failure independent of comorbidity and medication use. Presentation with gout in primary care should be viewed as a “red flag” to screen for and manage CKD. Future research should explore the mechanisms by which gout predisposes to CKD.

3E.6

Do cravings predict smoking cessation? An investigation into the utility of the "urges to smoke" measures

Jaspal Taggar[1], Sarah Lewis[1], Graeme Docherty[1], Andy McEwen[2], Tim Coleman[0]
[1]*University of Nottingham, Nottingham, UK,* [2]*University College of London, London, UK*

The problem - The strength of smokers' nicotine addiction affects their ability to successfully stop smoking and can be used to guide effective smoking cessation treatment. A recently-proposed alternative to measuring nicotine addiction is to quantify smokers' cravings to smoke. Cross-sectional analyses have found the frequency of urges (i.e. cravings) to smoke (FUTS) and strength of such urges (SUTS) to be inversely and more strongly associated with the successful smoking cessation than a conventional measure of nicotine addiction, the Heaviness of Smoking Index (HSI). This prospective cohort study investigated the independent associations between measures of cravings to smoke and stopping smoking and compared their ability to predict cessation with that of the HSI.

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The approach - Previously collected data from a randomised trial set in the English Smoking Helpline, which tested the offer of different methods of quitline cessation support, were analysed as a cohort for this study. The independent association between measures of dependence (FUTS, SUTS and HSI) and self reported abstinence from smoking at one and six months were investigated using multiple logistic regression. Explanatory variables included age, gender, ethnicity, Index of Multiple Deprivation (IMD) score, age at completing full-time education, free NHS prescription entitlement, whether or not smokers resided with other smokers or made quit attempts in the last 12 months, study treatment allocation and whether cessation support, including drug treatment, had previously been used. Variables were retained in multivariate models if the effects of confounding were evident and Receiver Operator Characteristic (ROC) analysis (area under ROC curve) was used to compare the ability of measures to predict cessation.

Findings - Of 2,535 participants, 44.8% were male, 90.0% Caucasian, and the median (IQR) age and IMD scores were 38 (28-50) years and 23.1 (13.5-37.1), respectively. Odds ratios, adjusted for age and gender, found FUTS and HSI to be inversely associated with smoking abstinence at one and six months after a quit attempt started at trial entry. At six months, for each point increase in HSI scores, participants were 16% less likely to have stopped smoking (OR 0.84, 95% C.I 0.78-0.89, p<0.0001) [for FUTS scores, similar figures were, 11% (OR 0.89, 95% C.I 0.81-0.97, p=0.0081)]. The AUC analysis suggested HSI had more predictive validity than FUTS at both one and six months after attempting to quit but differences between the measures were non-significant.

Consequences - Higher FUTS and HSI measures were inversely associated with successful smoking cessation at one and six months after quit attempts began and both had similar validity for predicting cessation. As FUTS are quantified with one simple question, there is potential for this measure to be useful for clinicians. However, further studies are required to further investigate the utility of the FUTS measure in routine clinical settings.

3F - Dangerous ideas soapbox

3F – Dangerous Ideas Soapbox

GPs should give up first contact care to non-medical practitioners and become 2nd line consultant medical generalists: *Tony Kendrick, Hull York Medical School*
We should give up seeing people with minor illness and concentrate on complex cases on multiple treatments

Resilience: a new metric for Primary Care: *Trevor Thompson, University of Bristol*
There's more to medicine than medication. Let's define and incentivize the promotion of individual and community resilience for better health.

Can stopping smoking seriously damage your health? *Deborah Lycett, University of Birmingham*
Uncovering and addressing the harmful effects of stopping smoking is an important part of smoking cessation research and practice

University linked localities – *Paul Thomas, NHS Ealing*
Academic primary care should create partnerships for organisational learning, multi-perspective research and whole system improvements

Palestine is isolated because of military occupation and its newly trained general practitioners desperately need international support for their development - *Paul Wallace - UCL*
We should be prepared to set aside considerations of politics and safety and offer our support to our Palestinian colleagues

Bringing death back to life: *Scott A Murray, University of Edinburgh*

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Dealing with dying helps people live and die better.

Computer says no – you reap what you sow: *Catherine Regan, General Practice Training – valley to coast, Australia*
Training a competent and sustainable 21st century medical workforce requires more flexibility from old fogeys and new bureaucrats

3G - Clinical highlights

3G.1

Recognising distress in health care consultations: a qualitative study of people with psoriasis

Pauline Nelson[1], Lis Cordingley[1], Christopher EM Griffiths[2,3], Carolyn A Chew-Graham[4,1]
[1]Health Sciences, University of Manchester, Manchester, UK, [2]Dermatology Centre, Salford Royal NHS Foundation Trust, Salford, UK, [3]University of Manchester, Manchester Academic Health Science Centre, Manchester, UK, [4]National School of Primary Care Research (NSPCR), Manchester, UK

The problem: Psoriasis is a life-long inflammatory condition affecting around 2% of the UK population. It is characterised by thick, red, heavily scaled plaques on the skin and scalp and can impact on a person's quality of life, psychological and social functioning. There is some indication of patient dissatisfaction with psoriasis management, however, little is known about people's specific experiences of health care consultations. The aim of the study was to gather in-depth perspectives about coping responses, self-care strategies and how consultations with health care professionals in both primary and secondary care are experienced.

The approach: Face-to-face, in-depth, semi-structured interviews were carried out with 29 people with psoriasis recruited from community sources across the North West of England who had responded to advertising. An iterative, purposive sampling strategy gave rise to a diverse sample in terms of gender, age, ethnic/socio-economic background and self-assessed psoriasis severity, duration and treatment. Verbatim transcripts of interviews were coded using the Framework Analysis approach, resulting in a thematic framework incorporating all the key issues and concepts emerging from the dataset.

Findings: Respondents perceived that the reality of living with psoriasis went unacknowledged by health care practitioners. They reported physical, emotional and social stress and distress as a consequence of the condition, with its visibility having strong effects on self-confidence and relationships. Having low control over psoriasis was often reported, compounding feelings of stress and distress. Participants wanted practitioners to acknowledge the degree of impact psoriasis has on wellbeing and provide more opportunities to discuss the condition. In addition, practitioners were perceived as disengaged from psoriasis management because of appearing to lack expertise and failing to manage it as a long-term condition (LTC). Participants described a broad range of strategies to cope with psoriasis, however some responded by ceasing to consult about psoriasis or seeking alternative opinions outside the UK health service.

Consequences: The study highlights that it may be problematic for patients to express within consultations in both primary and secondary care the extent to which psoriasis is a source of stress in their daily living and have this acknowledged by practitioners. It also indicates that the paradigm shift of the 1990s in experts' understanding of psoriasis as a complex LTC involving the development of new treatments is not being currently reflected in routine clinical practice. Such emotional blocking and disengagement from psoriasis management may discourage people from consulting their practitioners about psoriasis. If the mismatch between patient and practitioner perceptions of the condition is to be aligned, people with psoriasis need to be managed in a way that addresses emotional and social need, with appropriate diagnosis, regular review of treatments and 'stepping up' of care when necessary.

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3G.2

UK Dermatology Clinical Trials Network's PATCH I trial: an RCT of prophylactic antibiotics for the prevention of cellulitis (erysipelas) of the leg in patients with recurrent disease.

Hywel Williams[1], Kim Thomas[1], Katharine Foster[1], Andrew Nunn[2], James Mason[3], Angela Crook[3]
[1]University of Nottingham, Nottingham, UK, [2]MRC, London, UK, [3]Durham University, Durham, UK

The problem - Cellulitis (or erysipelas) of the leg is a common infection of the skin and underlying tissue which recurs in up to 50% of cases. Recurrent disease is particularly problematic, as each episode results in further damage to the lymphatic system, and is associated with additional morbidity and cost.

The approach - The PATCH I trial compared a twice daily dose of 250mg prophylactic phenoxymethylpenicillin (Pen V) with placebo for the prevention of recurrent cellulitis. It was a double-blind, randomised controlled trial (RCT) including patients with two or more episodes of cellulitis (erysipelas) of the leg. Primary outcome was time to first recurrence. Recruitment took place in 28 hospitals in the UK and Ireland. Randomization was by computer-generated code, and treatments allocated by post from a central pharmacy. Participants were treated for 12 months and followed for up to 36 months post-randomisation.

Findings - A total of 274 patients were recruited. The two groups were well balanced at baseline (including age, sex, pre-existing lymphoedema), and had similar periods of follow-up (94% had 12 months; 90% had 18 months; 54% had 24 months; 24% had 36 months). At the end of the 12-month treatment period, patients receiving Pen V had a 45% reduced risk of recurrence (HR 0.55, 95% confidence interval (CI) 0.35, 0.86; p=0.009). However, this significant treatment effects was lost once prophylaxis was withdrawn (non-treatment follow-up phase: HR 1.08, 95% CI 0.61, 1.93, p = 0.778).

During the treatment phase, the number of patients with a repeat episode was 30/136 (22%) in the Pen V group and 51/138 (37%) in the placebo group (CI: -26% to -4%, p = 0.007). Over the whole period of the trial, the Pen V group experienced fewer repeat episodes than the placebo group (119 and 164 repeat episodes respectively: p for trend = 0.045).

There were no differences between the groups in the number of adverse events known to be associated with Pen V (nausea, diarrhoea, thrush and rash).

Consequences - Low-dose, prophylactic penicillin is effective in preventing subsequent attacks of cellulitis of the leg, although the protective effect appear to be lost progressively once prophylaxis is withdrawn. Clinicians should make patients aware that even whilst on prophylaxis, repeat episodes may still occur, and that other measures to prevent recurrence should also be considered (e.g. use of compression hosiery for lymphoedema).

3G.3

Parents and carers' experiences of applying treatments for childhood eczema and barriers to this: qualitative study

Miriam Santer[1], Hana Burgess[1], Lucy Yardley[1], Steve Ersser[2], Sue Lewis-Jones[3], Ingrid Muller[1], Paul Little[1]
[1]University of Southampton, [2]University of Hull, [3]University of Dundee, UK

The Problem - Childhood eczema is very common and causes significant impact on quality of life for families. The main cause of treatment failure is thought to be non-concordance with prescribed treatment.

We aimed to explore parents' and carers' experiences of implementing treatment for childhood eczema and barriers to this.

The approach - Six general practices posted invitations to participate to carers of children aged 5 or less with a recorded diagnosis of eczema. Invitations were sent to 289 households. We received 70 replies (24%), of which 33 said eczema was no longer a problem, three declined for other reasons and six were not

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contactable. Qualitative interviews were carried out with 31 parents from 28 families. Transcripts were analysed thematically.

Findings - Barriers to treatment adherence included: parental beliefs around eczema treatment; the time consuming nature of applying topical treatments; and child resistance to treatment. This paper focuses on child resistance as this was a substantial problem and there is little published data on this. The other findings are presented elsewhere.

Child resistance to application of topical treatments was, or had been, a barrier to adherence for 18 of the 28 families interviewed. The degree of resistance varied, with seven describing a significant problem and a further 11 describing some child resistance on occasions.

Families described a range of responses in an attempt to work around their child's resistance which met with varying success. These included explanation and involvement of the child in treatment; distracting the child during treatment or making a game of it; or applying treatment to a sleeping child. A few reduced frequency of applications in an attempt to reduce child resistance. Some parents expressed the view that topical treatment 'had to be done' and this sometimes led to parents physically forcing cream onto the child. This strategy of establishing routine by whatever means necessary was not without cost and was sometimes described as detrimental to the relationship between child and parent. Sometimes entrenched patterns of child resistance developed.

Consequences - Establishing concordance through a clear explanation of the treatment plan and engaging with parental beliefs are a necessary first step in addressing adherence to eczema treatments.

Health professionals need to be aware of the difficulties faced by families in applying topical treatments to young children, particularly where child resistance develops. Early recognition and discussion of resistance with health care providers may help parents to respond positively and avoid establishing habitual confrontation.

The range of strategies identified here might usefully inform the development of self-help materials to support effective adherence for this group, including resources to support parents' ingenuity in overcoming child resistance.

3G.4

Characteristics of young women who do and do not return postal swabs for chlamydia testing: results from a feasibility study

Alice Crabtree, Eleanor Southgate, Pippa Oakeshott, Sarah Kerry
St George's, University of London, London, UK

The problem - As with *Chlamydia trachomatis* testing, it is crucial to understand more about the natural history of *Mycoplasma genitalium* before introducing screening. In preparation for a large (n=12000) multi-centre prospective cohort study of *Mycoplasma genitalium* and *Chlamydia trachomatis* we conducted a feasibility study in female genitourinary medicine clinic attenders aged less than 25.

The aims were to evaluate:

1. How many eligible women agreed to take part and provide self-taken vaginal swabs.

2. How many women who agreed to have a self-swab posted to them three months after initial testing actually returned the pack.

3. The characteristics of women who did and did not return postal swabs.

The approach - Women sitting in the female-only waiting area of clinic were given information about the study. Those who consented were shown how to take the swabs and asked to provide them in the nearest

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toilet. When they returned the swab they were given a lollipop. Those who consented to follow up after three months were phoned and/or emailed to confirm they were happy to receive a postal pack containing the second self-swab, which they were asked to return for *Chlamydia trachomatis* testing in a stamped addressed envelope.

Findings - Of 154 women approached, 104 (68%) consented to take part. Non responders were similar mean age to responders (19.5 SD 2.5 versus 19.9 SD 2.9 years) but more likely to come from ethnic minority groups (32/47 versus 50/101 $p<0.05$). Among responders, mean age of sexual debut was 15.9 (range 12-21 n=103), 33% (34/104) said they used condoms and 26% (26/101) reported previous chlamydia infection. Baseline tests showed that 11.5% (12/104) were positive for *Chlamydia trachomatis.* Of 104 women, 95% consented to follow up at three months, 61% were contactable by mobile phone or email and 52% agreed to be sent a postal pack. Results so far show that despite phone call, texts and emails only 20% (21/104) returned their pack. There were no significant differences between women who did and did not return their pack. In those who did return their packs, there was a non-significant trend towards having a history of sexually transmitted infection (RR 2.0, 0.95 to 4.23) and younger age of sexual debut (RR 2.1, 0.99 to 4.75) but numbers were small and final results will be presented.

Consequences - In this group of young, multi-ethnic, high risk women, the overall rate of return of postal swabs was low. As reported in the USA and Australia, additional financial incentives might help to improve return rates in the main study. Our findings suggest postal swabs may not be very useful for routine sexual health screening in primary care.

3G.5

Randomised trial of levonorgestrel intrauterine system compared to usual medical treatment for heavy menstrual bleeding in primary care

Joe Kai[1], Janesh Gupta[2], Lee Middleton[2], Helen Pattison[3], Richard Gray[4], Jane Daniels[2]
[1]University of Nottingham, Nottingham, UK, [2]University of Birmingham, Birmingham, UK, [3]University of Aston, Birmingham, UK, [4]University of Oxford, Oxford, UK

The Problem - Heavy menstrual bleeding (HMB) can disrupt women's health and quality of life, and is a common source of consultation in primary care. There is a lack of robust evidence, using patient centred outcomes, to inform the best choice of initial medical therapy. Existing studies have been modest in size, with short-term follow up of 6 months. In particular, they have focused on measuring menstrual blood loss rather than impact on women's day to day lives. We compared levonorgestrel containing intrauterine system (LNG-IUS or Mirena®) to usual medical treatment in a pragmatic randomised trial in primary care. Our principal measure of effectiveness was women's quality of life and we report outcomes at two years.

The Approach - We randomly assigned 571 women consulting their general practitioners with HMB to LNG-IUS or to usual medical treatment as clinically appropriate (tranexamic acid, mefenamic acid, combined or progestogen contraception). The primary outcome was patient-centred, HMB-specific quality of life, as measured using the validated Menorrhagia Multi-Attribute Scale (MMAS) over two years. Secondary measures were generic quality of life (EQ-5D, SF36), sexual activity and surgical intervention. Analysis was by intention to treat.

Findings - Over two years, women randomised to LNG-IUS averaged 13.4 points (95%CI: 9.9 to 16.9 points; $p<0.001$) greater improvement in MMAS score from baseline than those allocated usual medical treatment, although scores increased significantly for both treatment options in this period. All domains of the MMAS (practical difficulties, social life, psychological wellbeing, physical health, work/daily routine and family life) were improved in favour of LNG-IUS, as well as most domains of SF-36. More women discontinued usual medical treatment compared to LNG-IUS (62% versus 36% by 2 years; HR: 1.95, 95%CI: 1.52 to 2.49; $p<0.001$), with nearly half changing to LNG-IUS. No difference was seen in the number of women opting for surgical intervention after two years.

Consequences - To our knowledge, this is the largest trial in the world comparing initial medical treatments for heavy menstrual bleeding or for any evaluation involving LNG-IUS. For women presenting with heavy menstrual bleeding in primary care, our data offer three messages that may help inform treatment choices and decision making for them and their primary care practitioners. Firstly, LNG-IUS is more effective than

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usual medical treatment at improving women's quality of life and reducing interference of this problem in their lives. Secondly, use of other medical treatments, such as tranexamic and mefenamic acid, is neverthless also helpful and may be recommended where LNG-IUS is unsuitable clinically or as a result of individual preferences. Thirdly, given that many women do not appear to seek help, this research underlines women can benefit from accessing treatment for this problem in primary care.

3G.6

Following NICE guidelines: evidence versus practice for NHS Stop Smoking Services for pregnant women

Samantha Fahy[1], Sue Cooper[1], Linda Bauld[0,2], Tim Coleman[1]
[1]University of Nottingham, Nottingham, UK, [2]University of Stirling, Stirling, UK

The problem - Smoking during pregnancy is a major public health concern and an NHS priority. In 2010, 26% of UK women smoked at some point during their pregnancy and 12% smoked continuously. However, uptake of NHS Stop Smoking Services for Pregnant women (SSSP) is low with around only 7% of pregnant smokers accessing these services. In July 2010, NICE released standards for smoking cessation support in pregnancy which included guidance on identification, referral and treatment. Within these guidelines, SSSP were advised identify pregnant smokers using exhaled carbon monoxide (CO) monitoring and then refer all identified smokers for NHS support, whether or not they requested this (‘opt out' referral policy). Furthermore, SSSP were advised to utilise nicotine replacement therapy (NRT) where behavioural smoking cessation support alone had failed. However, there is no evidence to suggest that opt-out referrals are effective and recent work has demonstrated standard dose NRT to be ineffective in pregnancy. The aim of this work was to examine the how SSSP practice during April 2010 to March 2011 reflected the evidence and guidelines.

The approach - SSSP managers were invited to participate by email. Data were then collected via an online survey; where one survey was completed for each SSSP. Up to four reminder emails were sent over a two month period.

Findings - Of the 143 English SSSP identified, managers within 128 (90%) agreed to participate and 121 (85%) responded to the survey. In 50% of SSSP, pregnant smokers were identified using CO monitoring and 63% of SSSP reported following an opt-out referral pathway. All SSSP reported offering behavioural support in combination with NRT yet only 63% offered behavioural support alone, without NRT. SSSP reported most frequently providing pregnant women with high dose (>20mg) NRT patches compared to the standard dose (<20mg) alternative. Finally, 54% of SSSP reported undergoing substantial changes since the reporting period for the survey.

Consequences - This is the first study to describe how smoking cessation support is offered to pregnant women in England. Substantial numbers of SSSP were working to the standards recommended by NICE. This work represents the first steps in a larger programme of work and findings will be used to raise hypotheses about the most effective methods of delivering SSSP. In turn, this evidence can be used to produce evidence-based guidance for health professionals providing smoking cessation support to pregnant women.

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Thursday – Joint day SAPC and RCGP

SAPC sessions within Concurrent streams A and B

A4.1 – SAPC PANEL Clinical Commissioning Groups as 'membership organisations': what do we know, what can we learn from the past and what is happening now?

A4.1 Clinical Commissioning Groups as 'membership organisations': what do we know, what can we learn from the past and what is happening now?
Chair: Kath Checkland, University of Manchester
Discussant: Stephen Peckham, London School of Hygiene and Tropical Medicine

Panel overview
The problem - By April 2013 all GPs and their practices will be members of a Clinical Commissioning Group. Whilst many remain concerned as to the overall direction of the Health and Social Care Bill just passed by Parliament, this has not prevented a great deal of activity on the ground, as GPs and PCT managers strive to ensure that, come the expected abolition of PCTs, services continue and the system adapts. It is vital, therefore, that we understand the challenges facing the new organisations, and bring academic rigour to bear on the issues. The debate leading up to the passage of the Bill has been characterised by a great deal of political 'heat', but rather less evidential 'light'. This session will move beyond the politics of the Bill, presenting evidence from past and current research which will illuminate some of the key questions that emerging CCGs must consider.

Our contribution - There is considerable pressure upon emerging CCGs to demonstrate that they will be different from their predecessor organisations, PCTs. One of the key features that is being emphasised in this regard is the fact that they will be 'membership organisations', run by and accountable to their membership of practices. The presentations in this panel will address the evidence base relating to this issue, presenting evidence from past manifestations of GP commissioning alongside emerging data from an ongoing study of developing CCGs. This latter provides some of the first empirical evidence available of what is actually happening as CCGs develop, and a final summing up by the chair will set this contemporary evidence in the context of what we know from the past. Overall this session will provide a sound basis upon which discussion can move beyond opinion and commentary to discuss robust evidence of what actually happens when GPs and their practices engage with commissioning groups.

Where next - In this panel we plan to provide three presentations rather than four, allowing plenty of time for discussion of the issues raised. It is our intention to raise issues that may be of practical relevance for those who are involved with CCG development, as well as engaging our academic colleagues in debate about the evidence. We would also be delighted if this session played a part in clarifying the ongoing research agenda for the study of CCGs, enabling colleagues with an interest in this area to exchange ideas and build new collaborations. As primary care on the ground widens its focus to include commissioning for the health and wellbeing of populations, it is essential that those of us committed to the academic study of the discipline widen our focus as well.

A4.1.1

Clinical Commissioning Groups: what does it mean to be a 'member'?

Kath Checkland[1], Andrew Wallace[2], Stephen Peckham[2], anna Coleman[1], Imelda McDermott[1], Julia Segar[1], Rosalind Miller[2]
[1]University of manchester, manchester, UK, [2]London School of Hygiene and Tropical Medicine, London, UK

The problem - Clinical Commissioning Groups are currently in development all over the country, and will take over full responsibility for commissioning in April 2013. Since they were first mooted in the 2010 White Paper, the pace of change has been rapid. This study, which commenced in September 2012 and is being undertaken by the Department of Health funded Policy Research Unit in Commissioning and the Health Care System (PRUComm), is capturing this development process, and providing an analysis of the early formation

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and activities of these new commissioning organisations, including rapid feedback and learning to the Department of Health. This study offers the first rigorous analysis of a contested and politically sensitive process. Whilst the overall study is wide-ranging, in this presentation we focus upon the developing relationships between practices and their CCG, exploring in depth the concept of 'membership'.

The approach - There are two parallel streams of work. A web-based survey of all 'pathfinder' CCGs in England was carried out in December 2011, and is being followed up with a combined telephone/web survey in April 2012. At the same time, 8 detailed qualitative case studies are being carried out in emerging CCGs across England. Purposive sampling was used, in order to obtain a sample of pathfinder CCGs that exhibited maximum variety across a number of characteristics, including size, cohort, complexity of the local health economy and relationship to Local Authority boundaries. Data collection included observation of meetings, interviews and the collection and analysis of documents. The study aimed to capture the development of CCGs in real time, and data collection has therefore been flexible and adaptive in order to respond to the ever-changing political and policy landscape.

The findings - Collection and analysis of data is ongoing, and the study will report to the Department of Health in July 2012. Early analysis suggests that 'membership' is by no means a straightforward concept in this context, with study sites taking a great variety of approaches to engagement with members as well as to structures, processes and governance. A key element in the development so far has been the fluidity of organisational boundaries, with mergers between neighbouring groups imposing particular challenges in terms of engagement and ownership. Further analysis will focus upon the ways in which CCGs are engaging with their members, their approach to establishing legitimacy and the factors that are important in this process.

Consequences - This study represents some of the earliest evidence available about the ways in which emerging CCGs are tackling the challenges that they face. This will not only provide practical lessons for those currently involved, but will also help towards the establishment of a future research agenda in the key field of clinically led commissioning.

A4.1.2

Practice engagement in commissioning: what can we learn from the past?

Stephen Peckham[1], Kath Checkland[2], Anna Coleman[2], Imelda Mcdermott[2], Rosalind Miller[1]
[1]London School of Hygiene and Tropical Medicine, London, UK,[2]University of Manchester, Manchester, UK

The Problem - Clinical Commissioning Groups are the latest attempt to engage GPs with the business of commissioning care, with the key aims of making GP 'gate keepers' more aware of the financial impact of their decisions, whilst making use of their ground-level understanding of local population needs. Since the early 1990s there have been a number of attempts to engage GPs in commissioning, from Fundholding to Practice-based Commissioning. CCGs, therefore, are the culmination of two decades of experimentation, with each previous scheme criticised for failing in some way. CCGs, it is claimed, will succeed where previous schemes have failed in part because they are 'membership organisations' with a qualitatively different relationship between practices and the wider group. This presentation will examine this claim, using a systematic review of historical evidence to address the question: 'how does the relationship between practices and their commissioning organisation affect what occurs?'

The approach - The review built upon a more general review of public sector commissioning carried out in 2010, using the large database from this review as an initial resource. In addition electronic searches of 6 relevant electronic databases were carried out, and the BMJ, BJGP and JHSR&P were hand searched. A total of 519 relevant references were obtained from these sources, and abstracts sifted for relevance using clear inclusion/exclusion criteria. Full texts were obtained for 288 papers, which were read and summarised using a standardised data extraction tool. These summaries were synthesised using qualitative meta-analysis techniques, scrutinising them for recurring themes and using the constant comparative method to draw out the underlying factors affecting outcomes.

Findings - The literature review is not yet complete, but early results suggest that the perceived impact of clinically led commissioning is affected by the legitimacy enjoyed by commissioning leaders, the extent to which grassroots GPs feel that they can actually make decisions or significantly influence decisions, and the

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degree of 'ownership' that they feel of the commissioning process. Engagement of grassroots GPs is significantly affected by their perceptions of 'success' or 'failure', with evidence of significant positive or negative feedback and consequent increase or decrease in enthusiasm. These issues will be expanded and explained in the presentation.

Consequences - CCGs forming in England are extremely diverse in size and approach. As they begin to take up their commissioning responsibilities, maintaining grassroots enthusiasm and engagement will be a key task. The evidence presented will be valuable to those involved with CCGs and to academics interested in studying their development, highlighting the factors which are likely to affect eventual outcomes.

A4.2 - Clinical highlights – how useful are risk factors?

A4.2.1

How useful is the seven-point checklist for melanoma in general practice?

Fiona Walter[1,4], A. Toby Prevost[2], Joana Vasconcelos[5], Per Hall[3], Nigel Burrows[3], Helen Morris[1], Jon Emery[4,1]
[1]University of Cambridge, Cambridge, UK, [2]King's College London, London, UK, [3]Addenbrooke's Hospital Cambridge University Hospitals NHS Foundation Trust, Cambridge, UK, [4]University of Western Australia, Perth, Australia, [5]Independent Statistician, Lisbon, Portugal

The problem - Differentiating melanomas from other pigmented skin lesions in primary care is challenging as pigmented lesions present commonly in primary care consultations. GPs need to be able to reassure the vast majority of people with benign lesions, while rapidly referring those with suspicious lesions in order to make a timely referral and to improve prognosis. The seven-point checklist ('7PCL' items- change in size of lesion, irregular pigmentation, irregular border, inflammation, itch/altered sensation, lesion larger than others, oozing/crusting of lesion), although recommended for routine GP use in NICE guidelines for suspected cancer, has never been formally validated in primary care. We therefore aimed to validate both the Original (unweighted) and Weighted versions of the 7PCL.

The approach - A secondary analysis of data from the MoleMate^{TM} UK Trial was undertaken. Adults presenting in general practice with a pigmented skin lesion that could not be immediately diagnosed as benign had been recruited, and data including the 7PCL items were collected on all trial lesions. Reference standard diagnoses were: for referred lesions, histology or dermatology expert opinion; for non-referred lesions, clinical history, digital photograph, and MoleMate image where available. 7PCL scores were calculated blinded to the reference diagnosis, and the primary definition of a case was a 'clinically significant' lesion.

Findings - 1436 lesions were included in the analyses: 225 cases (biopsied/monitored by expert dermatologists, including 36 melanomas) and 1211 controls (clinically benign). There was a statistically significant difference between the performance of the Original and Weighted 7PCLs (respectively: sensitivity 62.6% (95% CI 56.0-69.0) vs 59.6% (52.8-66.0); specificity 65.0% (62.2-67.7) vs 73.2% (70.6-75.6); area under curve (AUC) 0.66 (0.62-0.70) vs 0.69 (0.65-0.73); difference=0.03 (0.01-0.05), $p<0.001$). Two items ('itch or altered sensation' and 'oozing/ crusting of lesion') did not contribute significantly and a new 5-point weighted checklist was developed (5PCL). With a cut off score of ≥5, the 5PCL demonstrated sensitivity of 71.1% (64.7-76.9), and specificity of 62.7% (59.9-65.4) with AUC of 0.73 (0.69-0.76), significantly higher than the Original ($p<0.001$) and Weighted ($p=0.04$) 7PCLs. A single item ('irregular border') alone performed very well with a sensitivity of 63.6% (56.9-69.9) and specificity of 71.2% (68.5%-73.7). For the identification of melanoma, the results provided similar conclusions.

Consequences - The Original and Weighted 7PCL both performed well in a primary care setting to identify clinically significant lesions, and an irregular border alone is an important distinguishing feature. A new 5PCL performs slightly better than both the previous checklists and could easily be systematically applied in general practice, integrated into electronic clinical records or a referral template, to support the recognition of clinically significant lesions and therefore the early identification of melanoma.

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A4.2.2

Does Heartwatch work? Preventing Cardiovascular Disease in Primary Care: Role of a National Risk Factor Management Program.

E McGrath, LG Glynn, AWM Murphy, A O Conghaile, M Canavan, C Reid, B Maloney, MJ O Donnell
NUI Galway, Galway, Ireland

Aims and Objectives
"Heartwatch", a structured, risk factor modification program for secondary prevention of cardiovascular disease (CVD), is associated with improvements in cardiovascular (CV) risk factors in participating patients. However, it's not known whether Heartwatch translates into reductions in clinically important CV events. This study examined the association between participation in Heartwatch and future risk of CV events, in patients with CVD.

Format and content - Prospective cohort of 1,609 patients with CVD in primary-care practices. 97.5% of patients had data available on Heartwatch participation status, of whom 15.2% were Heartwatch participants. Cox proportional-hazards models were used to determine the association between Heartwatch participation and risk of the CV composite (CV death, non-fatal myocardial infarction, heart failure and non-fatal stroke). All-cause mortality and CV mortality were secondary outcome measures.

During follow-up, the CV composite occurred in 208 (13.6%) patients. 8.4% of Heartwatch participants experienced the CV composite compared to 14.5% of non- participants (P=0.003). Participation in Heartwatch was associated with a significantly reduced risk of the CV composite (HR 0.52; 95% CI, 0.31-0.87), CV mortality (HR 0.31; 95% CI, 0.11-0.89) and all-cause mortality (HR 0.32; 95% CI, 0.15-0.68). Heartwatch participation was also associated with greater reductions in mean systolic blood pressure (p=0.047), mean diastolic blood pressure (p<0.001) and greater use of secondary preventative therapies for CVD, such as lipid-lowering agents (p<0.001), □-blockers (p<0.001) and ACE-inhibitors (p<0.001).

Take Away: A structured, risk factor modification program for secondary prevention of cardiovascular disease is associated with a reduced risk of major vascular events and improved risk factor modification, supporting its potential as a programme for secondary prevention of CVD in primary care and as a model for the management of other chronic disease.

A4.2.3

What is the relationship between absolute risk of cardiovascular disease and benefit from statin therapy?

James MacKay[1,2], Robert Fleetcroft[1], Nick Steel[1]
[1]*Department of Population Health and Primary Care, University of East Anglia, Norwich, Norfolk, UK,* [2]*Norfolk and Norwich University Hospital, Norwich, Norfolk, UK*

The problem - Evidence on the beneficial effects of statins has led expert committees to promote their use on a widespread scale. Although their benefit in secondary prevention is established we do not know at what level of cardiovascular risk primary prevention (PP) is beneficial. This is important as statins can cause harm. A previous review in 2001 suggested benefit above a Framingham 10 year risk of cardiovascular disease (CVD) of 13%. We aimed to update this by exploring the relationship between absolute risk (AR) and relative risk reduction (RRR) in cardiovascular events and mortality, and determining the level of AR of a cardiovascular event that patients are likely to benefit from statin therapy.

The approach - We systematically searched Medline, Embase, Scopus and CENTRAL for studies published between 1980 and 2012. We included RCTs comparing statins with placebo with > 1 year follow-up, > 80% of participants without cardiovascular disease, and outcomes for CVD and mortality. Data was independently extracted by 2 researchers with disagreement resolved by consensus. We used weighted meta-regression to examine the relationship between predicted AR (Framingham 10 year CVD risk) of the typical patient receiving placebo and the RRR for cardiovascular events and mortality in patients receiving statins. We calculated the predicted AR of a cardiovascular event using Framingham 10 year CVD risk to avoid automatic correlation.

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Findings - 15 studies met the inclusion criteria. Studies had average 10 year predicted CVD risks of between 11.4% and 33.6%. Only 5 studies contained participants without known cardiovascular disease or diabetes. There was no significant association between the underlying 10 year Framingham CVD risk and RRR in major CV events (R^2=0.021, p=0.611) or mortality (R^2=0.008, p=0.772) with statin use. A sensitivity analysis was done excluding studies with small numbers of events (<10 events each arm). For both major CV events (R^2=0.015, p=0.724) and mortality (R^2=0.011, p=0.789) there remained no significant association.

Consequences - Using data from 15 PP trials, our findings contrast with a previous review which suggested a correlation between predicted AR and RRR in patients receiving statins and benefit for patients with a 10 year Framingham risk over 13%. We believe our review to be an improvement on the previous review as it excluded secondary prevention studies which may reflect a different population, contained more PP studies (15 vs 2) and adjusted for size of studies using meta regression.

These findings suggest that it is not possible to predict (using conventional risk scores) when treatment with statins in low risk patients might be beneficial. All of the 15 PP trials included patients at relatively high absolute risk of a cardiovascular event. Further research is needed in patients at low risk of CVD to identify those who may benefit.

A4.2.4

Independent risk factors for injury in pre-school children: three population-based nested case-control studies using routine primary care data

Elizabeth Orton, Denise Kendrick, Joe West, Laila Tata
University of Nottingham, Nottingham, UK

The Problem - Injuries in childhood are largely preventable yet in the UK they rank among the leading causes of death in children aged 1-4 years, resulting in over a quarter of a million emergency department attendances and more than 20,000 hospital admissions each year.

Recent guidance from the National Institute for Health and Clinical Excellence (NICE) recommends that GPs and Health Visitors play a role in identifying those children at greatest risk of injury, referring them for targeted home safety interventions such as home safety assessments and installation of safety equipment. NICE recommend also that GPs provide home safety advice when visiting the home of vulnerable families, even if this is not related to a safety or injury issue. However, the factors that contribute to injury occurrence have not been quantified at the population scale using information routinely available to primary care practitioners.

The approach - We used The Health Improvement Network (THIN) database from the UK to identify risk factors for the most common types of injury in preschool children, namely thermal injury, fractures and poisoning, in order to inform the optimal delivery of preventative strategies to at risk families as recommended by NICE.

We used a matched, nested case-control study design. Cases were children under 5 with a first medically recorded injury, comprising 3,649 thermal injury cases, 4,050 fracture cases and 2,193 poisoning cases, matched on general practice to 94,620 control children.

Findings - Younger maternal age and higher birth order increased the odds of all injuries. Children's age of highest injury risk varied by injury type; compared with children under 1 year, thermal injuries were highest in those age 1-2 (OR=2.43, 95%CI 2.23-2.65), poisonings in those age 2-3 (OR=7.32, 95%CI 6.26-8.58) and fractures in those age 3-5 (OR=3.80, 95%CI 3.42-4.23).

Increasing deprivation was an important modifiable risk factor for poisonings and thermal injuries (tests for trend p≤0.001) as were hazardous/harmful alcohol consumption by a household adult (OR=1.73, 95%CI 1.26-2.38 and OR=1.39, 95%CI 1.07-1.81 respectively) and maternal diagnosis of depression (OR=1.45, 95%CI 1.24-1.70 and OR=1.16, 95%CI 1.02-1.32 respectively). Fracture was not associated with these factors, however, not living in single-adult household reduced the odds of fracture (OR=0.88, 95%CI 0.82-0.95).

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Consequences - We have shown that maternal age and birth order are important risk factors for the most common types of injuries. In addition, maternal depression, hazardous or harmful adult alcohol consumption and socioeconomic deprivation represent important modifiable risk factors for thermal injury and poisoning but not fractures in preschool children. Since these risk factor profiles can be ascertained from routine primary care records, GPs have an opportunity to use the frequent visits that pre-school children have to primary care to reduce injury risk by implementing effective preventative interventions

B4.1 - Clinical highlights – is what we are doing working?

B4.1.1

Efficacy of sulfonylurea treatment as a monotherapy and added-on to another treatment for glycaemic control in diabetes - a systematic review and meta-analysis

Jennifer Hirst[1], Andrew Farmer[1], Anna Tochlin[1], Thomas Lung[0,1], Richard Stevens[1]
[1]University of Oxford, Oxford, UK, [2]University of Sydney, Sydney, Australia

Efficacy of sulfonylurea treatment as a monotherapy and added-on to glucose-lowering treatments for glycaemic control in diabetes - a systematic review and meta-analysis

Jennifer Hirst, Andrew Farmer, Anna Tochlin, Thomas Lung, Richard Stevens

The Problem - Sulfonylureas are the oldest class of oral medication for treating diabetes, but the effect size for treatment on glycated haemoglobin levels (HbA1c) is not well understood. A 2009 American Diabetes Association Consensus report suggests that sulfonylureas lower HbA1c by 1.5%, but this estimate is based on the results of a single trial. A recent systematic review estimated the reduction in HbA1c to be closer to 1% but included only 6 trials. We aim to identify randomised controlled trials of sulfonylurea treatment to examine their effect on HbA1c as monotherapy and add-on treatment to another glucose-lowering medication.

The Approach - Medline, Embase and the Cochrane Library of Registered Controlled Trials were searched and the retrieved records of articles screened for eligibility by two reviewers. Criteria for inclusion were randomised controlled trials of at least 12 weeks duration, a diagnosis of type 2 diabetes, treatment with sulfonylureas as a monotherapy or added to another glucose-lowering medication, and a fixed doses of oral glucose lowering treatments for the duration of the trial. Reported HbA1c results were pooled in a random effects meta-analysis using the Dersimonian and Laird method. Different sulfonylurea types were examined in subgroup analyses. The effects of trial quality and trial size were investigated in sensitivity analyses.

Findings - Thirty-two trials met inclusion criteria. In eight trials of sulfonylureas as a monotherapy, HbA1c was on average 1.42% (15 mmol/mol) lower (95% confidence intervals, CI, 1.04-1.80%) with treatment compared to placebo. In four trials of sulfonylurea added to background therapy of another oral medication, the combination therapy lowered HbA1c by on average 1.62% (18 mmol/mol), (CI 1.0 to 2.24%), compared to the background therapy alone. In seventeen trials of sulfonylurea added to insulin treatment, combination therapy with sulfonylureas lowered HbA1c by an average 0.46% (6 mmol/mol) (CI 0.24-0.69%) more than insulin plus placebo. Average insulin dose was 30% lower in the sulfonylurea treated group than the comparator group.

Consequences - We have shown that sulfonylureas administered as monotherapy and added to oral glucose-lowering medication lower HbA1c to a greater extent than estimates from a previous systematic review. Sulfonylureas added-on to insulin treatment also lowered HbA1c more than insulin alone and allowed a lower insulin dose Our results are based on more trial data than previous reports, and provide guidance to clinicians in estimating the likely impact of treatment on a clinically relevant treatment outcome.

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B4.1.2

'Abandoned acid' - problems with adherence in older women at risk of osteoporosis

Amanda Howe, Charlotte Salter, Lisa McDaid
University of East Anglia, Norwich, UK

The problem Osteoporosis is a known consequence of ageing, with significant morbidity and mortality in later life. It is a major focus for public health, and it is already established that behavioural and pharmacological interventions can reduce risk and improve prognosis. A multi-centre MRC research trial is being conducted on the efficacy of different screening approaches for women aged 70-85 ('SCOOP'- SCreening Of Older women for Prevention of fracture: a randomised controlled trial of screening by clinical and DXA for fracture risk).

Any clinical gain depends on women taking up appropriate preventive measures, but there is clear evidence that non-adherence to bisphosphonates and calcium-Vitamin D supplements can undermine risk reduction in this age group. We therefore undertook a study to ascertain the perceived factors that influence older women to adhere to prescribed medication for fracture risk factors, and examined their key motivations to adhere to osteoporosis prevention regimens.

The approach In-depth interviews of women purposively sampled from the SCOOP intervention cohort (those deemed at higher risk of osteoporosis), at approximately 3 months and 2 years after screening assessment. 25/30 women completed both interviews, and an additional sample of 5 women who appeared to have been persistently adherent was added in round 2. Transcripts were coded using NVivo qualitative software, and analysed using an applied framework approach.

Findings 14 women were adherent at second interview, and 11 were nonadherent, while 8 had changed their status over time. Health beliefs, side effects, co-morbidities, and understanding of the issues and risks were all perceived as relevant to the choices and behaviours of individual women, but none of them seemed to be strongly associated with actual adherence or otherwise. Axes of active and passive decision making, influences of health professionals, and concurrent life events such as bereavement or falling were also deemed relevant but not definitive. All women had taken steps to improve their lifestyle, most declared a willingness to be advised by doctors, but there were worrying confusions about the meanings of being at risk and its significance, and some seemed to perceive that their adherence to medication was of low importance to their GPs as well.

Consequences Accepted medical interventions may be underused by women at risk of osteoporosis unless clinicians themselves are more persistent about checking and advising on these. Barriers to clinician intervention in this group of older women without current pathology need exploring - this may relate to the fact that osteoporosis screening for populations is not yet a routine part of practice, or to professional scepticism about the progressive medicalisation of old age. Clinical staff can be reassured from this study that older women can overcome complex regimes and side effects over time with their input.

B4.1.3

Can we prank call GPs in the name of research?

James Sheppard[1], Ruth Mellor[1], Satinder Singh[1], Richard McManus[2]
[1]*University of Birmingham, Birmingham, UK,* [2]*University of Oxford, Oxford, UK*

The idea: Assess how stroke patients who initially call their GP are referred for treatment using medical role-play actors who normally perform scenarios for medical student training. These 'unannounced simulated patient telephone calls' (USPTs) will provide valuable information about how GP receptionist's behave when a patient calls up with stroke symptoms. This information will be used to inform subsequent training interventions for GP receptionists to facilitate faster referral of stroke patients who call their GP.

Why it matters: GP receptionists are often the primary interface between patients and their doctors and are instrumental in deciding how urgent appointments with the GP will be made. We have found that approximately 20% of stroke patients contact their GP practice following the onset of symptoms and very few,

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if any, of these subsequently receive thrombolysis due to delayed admission. Those who are rapidly referred on to the emergency services have a chance of receiving this hyperacute treatment which can significantly improve their functional outcomes after stroke. Little evidence is available regarding the interaction between such patients and their practices. Such evidence is needed to inform effective training interventions which could improve GP referral of stroke patients for emergency care.

Next steps: A cross-sectional observational study has been designed which involves the use of medical role players performing vignettes of patients experiencing stroke-like symptoms over the telephone. Up to 60 practices in the West Midlands will be invited to participate in this study and once consented, will receive 10 USPTs over a three month period. Response to these USPTs will be coded for correct/delayed responses and barriers to effective referral will be investigated through quantitative and qualitative analyses.

Risks? This type of study contains a number of potential risks such as GP receptionist recognition of the USPT, fictional patients being searched for on practice databases or inappropriate uses of GP/emergency services resources. These risks have been identified and strategies to prevent them from occurring have been developed.

B4.1.4

Investigating the Sustainability of Academic Careers in Primary Care

Ann Adams[1], Helen Lester[2], Joanne Reeve[3], Jane Roberts[4], Andrew Wilson[5]
[1]University of Warwick, Warwick, UK, [2]University of Birmingham, Birmingham, UK, [3]University of Liverpool, Liverpool, UK, [4]University of Sunderland, Sunderland, UK, [5]University of Leicester, Leicester, UK

The Problem: Academic primary care (APC) has undergone significant changes in the past decade. Many APC university departments have disappeared. Simultaneously, the advent of the National School for Primary Care Research has focussed APC resources in a small number of highly rated English universities (eight), with implications for supporting universal development, delivery and evaluation of a person-centred primary healthcare vision through critical scholarly activity. The changes imposed on the NHS and primary care in particular by the NHS Health and Social Care Act (2012), and pressure from the imminent Research Excellence Framework exercise further compound the effect of these changes. Nine years on from the Mackenzie Report (SAPC 2003), the Society for Academic Primary Care (SAPC) executive is re-examining career sustainability and what it means to be a PC academic.

The Approach: Semi-structured interviews were carried out by members of the executive with a purposive sample of 15 PC academics from a cross-section of disciplinary backgrounds and career stages, drawn from across the range of UK universities engaged in APC. Interviewees included both members and non-members of SAPC. Interviews explored participants' career pathways, identifying facilitating factors and barriers appearing to impact on key transition points (e.g. job changes, promotions), including UK-wide APC changes; and also participants' academic identity and what APC means to them. Thematic data analysis was informed by normalisation process theory (May 2006).

Findings: Our analysis to date identifies 3 key themes: uncertain career pathways; a vision of why APC matters; and particular pressures for middle career academics. Many of the difficulties in career sustainability identified in 2003 remain - including short-term contracts and anxiety about job funding. NIHR fellowship and training opportunities offer a welcome improvement, although not universally accessible. Yet despite structural problems people were motivated to continue in APC through the influence of academic ‘champions', mentorship and the intrinsic enjoyment of the work. Findings highlight the importance of a vision of ‘why this matters' as a motivator for personal engagement and activity; which rarely springs from SAPC and an APC discipline. Findings suggest that it is in mid-career that reported pressures are most keenly felt, across all disciplines, perhaps explaining a reported desire for a clearer pathway. Meanwhile, senior and junior academics report concern about the lack of flexibility in career pathways.

Consequences: Emerging study findings highlight clear challenges and opportunities for our discipline: in particular, the need for leadership supporting a vision of APC, and of ‘me as an APC professional'. The results support and inform SAPC executive activities in recognising and developing mentorship, and in undertaking a strategic review and planning for the next 10 years. Findings will also inform the design of a subsequent survey, to collect more comprehensive information about APC careers.

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B4.2 - Clinical highlights – how do we decide who to treat?

B4.2.1

Ethnic differences in electrocardiographic abnormalities.

Sonal Nicum[1], Gregory Lip[2], Paramjit Gill[0]
[1]School of Health and Population Sciences, University of Birmingham, Birmingham, UK,[2]University of Birmingham Centre for Cardiovascular Sciences, City Hospital, Birmingham, UK

The problem - Cardiovascular disease causes a significant burden on healthcare and is responsible for 48% of deaths worldwide. Although the increased rate of cardiovascular disease is related to risk factors such as diet, obesity and physical inactivity, it is unknown whether ethnicity itself may also be a contributory factor. These findings therefore suggest that a greater importance should be placed on detecting early cardiovascular disease in ethnic groups to prevent the secondary complications of myocardial infarction and stroke. In clinical practice, a tool that is commonly used to identify cardiovascular disease is the electrocardiogram (ECG). However, its parameters are predominantly derived from White subjects. Studies suggest that ECG parameters vary according to ethnicity; this data is based on ethnic subjects with cardiovascular disease and it is unknown whether physiological ethnic variations such as body mass index (BMI) or cardiovascular disease are responsible for these ECG disparities. This study aims to identify whether there is ethnic variation in ECG parameters and to identify whether these ethnic differences are due to physiological variation.

The Approach - A cross sectional community based study was performed. General practice registers were searched to identify all South Asian (Indian, Bangladeshi and Pakistani) and Black African Caribbean males and females aged 45 years or older. All eligible participants were invited to attend for a baseline assessment (interview administered questionnaire, physical examination, ECG and ECHO) at their local general practice. ECG data was coded according to Minnesota criteria. A total of 13 different ECG parameters were examined (heart rate, PR interval, QRS duration, Q waves, axis deviation, criteria for left ventricular hypertrophy, ST depression, ST elevation, T wave abnormality, atrioventricular block, bundle branch block, atrial fibrillatrion and other rhythm abnormalities). This study will be examining whether there are ECG differences in ethnic groups with asymptomatic disease, therefore, subjects with known cardiovascular disease (hypertension, diabetes) will be excluded in the final analysis.

Findings - At present, 1763 ECGs have been coded and analysed. Provisional results show that ECG defined left ventricular hypertrophy is higher in Black African Caribbean (14.5%) compared to other ethnic groups (Bangladeshi 4.6%, Indian 3.6%, Pakistani 0.9%). However, the prevalence of ECG defined left ventricular hypertrophy varies according to the ECG criteria used. Other ECG criteria such as atrial fibrillation, bundle branch block and T wave inversion are also higher in Black African Caribbean compared to other ethnic groups. These results are currently provisional and full data analysis for 5000 ECGs are expected to be completed and available for presentation in October.

Consequences - These provisional results suggest that ethnic variation occurs in ECG parameters and advise the use of ethnic specific ECG criteria in clinical practice to prevent misclassification of cardiovascular disease in ethnic groups.

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B4.2.2

Risk of stroke and oral anticoagulant use in atrial fibrillation: Cross-sectional survey of 99,000 UK primary care health records

Tim Holt[1], Tina Hunter[1,2], Candace Gunnarsson[2], Nada Khan[1], Paul Cload[3], Gregory Lip[4]
[1]Oxford University, Oxford, UK, [2]S2 Statistical Solutions, Cincinnati, USA, [3]GE Healthcare, Chalfont St Giles, UK, [4]University of Birmingham Centre for Cardiovascular Sciences, Birmingham, UK

The problem: Oral anticoagulants substantially reduce risk of stroke in atrial fibrillation but are under-utilised in current practice. Stroke risk stratification schemes are available, including the $CHADS_2$ and CHA_2DS_2VASc scores. Application of these scores to routinely collected data offers a means of systematically identifying high risk individuals requiring anticoagulation, but depends on adequate recording of risk factors.

The approach: Longitudinal series of cross sectional surveys using electronic health records from a large, representative sample of UK general practice linked to the QRESEARCH database. Outcome measures were the proportion identified in each $CHADS_2$ and CHA_2DS_2VASc risk band in 2010; for each the years 2007-2010, proportion with $CHADS_2$ and CHA_2DS_2VASc scores >=2 treated with anticoagulants or anti-platelet agents; numbers identified using four alternative definitions of hypertension; prevalence of comorbidity codes in treated and untreated groups in the high risk population.

Results: 99,351 people with atrial fibrillation registered with 583 practices were included. The proportion at risk of stroke in 2010 was 56.9% using the $CHADS_2$ >=2 threshold and 83.1% using CHA_2DS_2VASc >=2. The proportions of these groups receiving anticoagulation were 53.0% and 50.8% respectively. The proportions treated increased between 2007 and 2010. A higher than expected proportion of lower risk ($CHADS_2$=0 and CHA_2DS_2VASc=0) people were treated (32.1% and 25.3% respectively). The definition of the hypertensive population made a significant impact on numbers of people identified by the scores. Around one in seven high risk individuals will be missed if membership of the Hypertension register is used to define hypertensive status. A number of comorbidity codes were associated with avoidance of anticoagulant treatment including a history of falls, use of non-steroidal anti-inflammatory drugs, and dementia.

Consequences: Use of anticoagulants in atrial fibrillation has increased since 2007, but remains sub-optimal. Routinely collected primary care data can support the systematic identification of individuals likely to benefit, but improved coding of hypertension is required. Use of recommended risk scores to support decision making is not reflected in the distribution of treatment uptake across risk bands. A number of barriers need to be addressed to optimise the effective and safe use of anticoagulants for stroke prevention in current practice.

B4.2.3

The Diagnosis of Urinary Tract infection in Young Children (DUTY) study: derivation and validation of a clinical rule to improve the recognition of urinary tract infection in pre-school children

Alastair D Hay[1], Kerry Hood[2], Jonathan Sterne[1], Harriet Downing[1], Emma Thomas-Jones[2], Kate Martinson[3], Cherry-Ann Waldron[2], Chris C Butler[2], on behalf of the DUTY study team[3,4]
[1]University of Bristol, Bristol, UK, [2]Cardiff University, Cardiff, UK, [3]University of Southampton, Southampton, UK, [4]Kings College London, London, UK

The problem: Most acutely unwell children are managed in primary care. Diagnosing urinary tract infection (UTI) in pre-school children is difficult (and missed in at least 50%) because: young children cannot clearly articulate symptoms; parents are not aware of the classic (adult) dysuria and frequency symptoms when children wear nappies and obtaining an adequate urine sample can be frustrating and time consuming. Since appropriate treatment may alleviate suffering and help prevent long term sequelae, NICE CG54 recommended a large primary care study to develop a clinical algorithm based on symptoms, signs and dipstick results.

The approach: We conducted a cross sectional diagnostic study of children <5 years presenting acutely (≤28 days) unwell to primary care in four UK regions. Children with trauma, recent antibiotic use or known neurogenic bladder, spina bifida or urinary catheter use were excluded. We collected detailed information on the presence/absence and severity of presenting symptoms and signs, as well as socio-demographic and

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past medical history data. A urine sample was collected by clean catch (preferred) or nappy pad, 'dipsticked' and sent to (i) the local NHS laboratory (the priority sample) and (ii) a specialist research laboratory (at Cardiff University). Blind to children's clinical symptoms and signs, the NHS and research laboratories processed urine samples according to their standard operating procedures. UTI was defined as a pure/predominant growth of >105 colony forming units per millilitre of a recognised uropathogen. Our sample size calculation suggested we should recruit at least 4,000 children with a urine recovery rate of at least 77.5% for algorithm derivation and a further minimum of 2,000 children for validation.

Findings: At the time of submission (19 March 2012), 6,537 children have been recruited with NHS and research urine sample results available for 5,154 (79%) and 4,155 (64%) respectively. Recruitment will close on 30 April and main analyses will be conducted during the summer of 2012. Preliminary descriptive statistics (ignoring missing data) on the first 6537 children show: 95.1% were recruited at a GP surgery and 4.9% at Emergency Departments; children's mean age was 2.2 years (s.d.=1.4); 49.4% were male; 50.4% of urine samples were collected via nappy pads, 48% via clean catch, and 1.6% using a bag; NHS and research laboratory urine sample UTI positive rates were 5.2% and 1.7% respectively. At the conference, we will present an algorithm based on clinical symptoms, signs and the dipstick urinalysis for the identification of children with UTI.

Consequences: Our results will help clinicians select, from among all pre-school children presenting unwell to primary care, the children in whom urine samples should be obtained, which samples should be sent for laboratory culture and which children should be given antibiotics while awaiting laboratory culture results.

B4.2.4

Which sexually active female London students get tested for chlamydia and why? Results from the POPI (Prevention of Pelvic Infection) chlamydia screening trial

Sarah Kerry[1], Sally Kerry[2], Pippa Oakeshott[1]
[1]St Georges University of London, London, UK, [2]Barts and Queen Mary's University of London, London, UK

The Problem - In the UK, the number of young women seeking sexual health screening is increasing as awareness improves, but the chlamydia positivity rate in those tested has decreased. Are the women who are most at risk being tested?

The Approach - The POPI chlamydia screening trial recruited young (16-25 years old), sexually active women from universities and FE colleges. All participants were told that their baseline vaginal samples might not be tested for a year and advised to get tested independently for chlamydia. We compared the demographic characteristics and reported sexual behaviour of women who did and didn't get tested independently during 12 months follow up. We also investigated predictors of not being tested independently in women with undiagnosed chlamydia at baseline. We restricted the analysis to 1017 women in the deferred screening control group who returned questionnaires about independent chlamydia testing because those positive for chlamydia in the screened intervention group were referred for treatment. Binomial regression was used to ascertain odds ratios for independent chlamydia testing.

Findings - 28% (284/1017) of participants reported that they had had an independent chlamydia test during 12 months follow up. Predictors of testing included ≥2 sexual partners in the year of follow up (odds ratio 2.6, 95% confidence interval 2.1 to 3.6), ≥2 partners in the year prior to baseline (2.0, 95% C.I. 1.7 to 2.5), black ethnicity (1.4, 95% C.I. 1.0 to 1.9), age<20 years (1.5, 95% C.I. 1.2 to 2.0) and baseline chlamydia (2.7, 95% C.I. 1.6 to 4.6). 126 participants gave a reason for having a test: 49% said they had a check-up, 30% said it was partner related such as suspecting he had other partners, 10% had symptoms and 11% went for other reasons, mostly co-infections. However, 30 of 66 participants who were chlamydia positive at baseline (but were unaware of this) were not tested independently. They were significantly more likely to be of black ethnicity than the rest of the untested sample (n=703) (2.4, 95% C.I. 1.1 to 5.0) but not significantly different in age, or number of sexual partners at baseline or follow up (median =1).

Consequences - Participants reporting ≥2 partners in the past year were more likely than those with fewer

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partners to get tested independently. However, nearly half the women with undiagnosed chlamydia at baseline did not get tested. To optimise detection of untreated chlamydia positives, GPs should be aware that women with only one sexual partner may still be at risk, and that black women may be more susceptible to infection.

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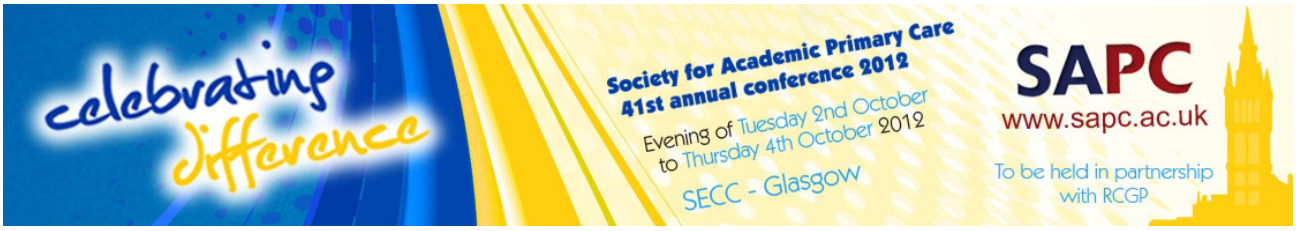

SAPC conference abstracts 3-4 October 2012

POSTER PRESENTATIONS

POSTER THEMES

Some posters were withdrawn after numbering and are not included in these abstracts.

WINNER OF THE RCGP/SAPC Elective Prize 2011

SP 001 - **Exploring the healthcare needs of the Aboriginal population** - *Kristina Ooi* - University of Cambridge

Introduction: The Aboriginal population of Australia has suffered from much injustice over the course of its tumultuous history. The social and economic damage done by decades of mistreatment has had a catastrophic effect on Aboriginal health. There has been a drive over the past twenty years to improve Aboriginal health and bring it up to the same standards seen for the non-Indigenous population. Several community-controlled health services (known as Aboriginal Medical Services, or AMS) are now in existence all over Australia, with the first opening in Redfern, Sydney in 1971.

During my three week placement at the AMS, I was interested in exploring the needs of the Aboriginal population with the healthcare professionals who dealt with these issues on a daily basis.

The aims of the project were:

- to build up a clear picture of the priorities of this minority population's healthcare from the perspective of healthcare professionals;

- to learn about the difficulties that the Aboriginal population may face in accessing healthcare;

- to ascertain what the major health problems in the Aboriginal population are;

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- to determine what the difficulties are in managing Aboriginal patients, and how it compares to other populations;

Findings and Conclusion: The Aboriginal population has endured many difficulties throughout its history, and the state of their general health reflects such hardship. Doctors and nurses working with Aboriginal patients must bear this in mind when treating them, and remember that many health problems stem from deeper socioeconomic issues. More time, patience and support is required for successful treatment of such patients, as well as the same courtesy and respect that should be extended to all patients, Indigenous or not. It will take several years to reverse the damage done to Aboriginal health but considerate and accessible healthcare administration is already making headway.

Theme: Patient centred health care

SP002 - 'It's something in the back of my mind': Understanding people's response to receiving familial risk assessment

Linda Birt[1], Jon Emery[2,1], Kathy Restarick[1], Nicola Grehan[1], Fiona Walter[1,2]
[1]University of Cambridge, Cambridge, UK, [2]University of Western Australia, Perth, Australia

Aims and objectives - The use of family health screening tools is increasing in primary care settings. However, little is known about the psychosocial/behavioural impact of familial risk assessment for common chronic diseases. This qualitative study was embedded with the FAST study which validated a short version Family Health Screening tool. Chronic illness places a huge burden on health care services, hence policy documents increasingly recommend the identification of individuals at risk and the implementation of evidence-based risk reduction strategies. There is growing recognition that the family medical history could be applied for more tailored chronic disease prevention, which may be more effective than existing approaches.

The impact on, and acceptability to, primary care patients of undergoing systematic collection of FH information remain unknown. Understanding personal risk of chronic illness may cause anxiety and uncertainty. During the validation of short Family Health Screening tool data were collected about the impact of completing the surveillance tool and the impact of receiving information on familial risk.

The study explored people's response to receiving information about their risk of developing one of four marker conditions: diabetes, heart disease, breast and colon cancer. These conditions fulfil screening criteria, and effective interventions and lifestyle strategies exist for their primary and secondary prevention.

Format and content - Thirty participants (aged 24-50, 22 females), recently informed of their personal risk, were recruited via the FAST study, set in 10 East of England general practices. Purposeful sampling led to a cohort of population (N=12) and increased (N=18) risk participants, enabling data to be explored for similarities and differences across populations.

Data were collected using semi-structured interviews, transcribed verbatim and interpreted using framework analysis. The coding framework was developed in collaboration with a co-researcher and a member of the steering committee. Trustworthiness, the level to which findings may be credibly, transferable and dependable was enhanced by researcher and theoretical validation

'Take away' - Receiving information about increased personal risk did not appear to cause psychological distress. Participants used mental models of health to assess salience of risk to themselves and kin. Four personalising processes were identified: 1) actively making lifestyle changes and seeking further health advice; 2) acknowledging risk but not enacting lifestyle changes or seeking further screening;3) not presently perceiving personal risk as high but acknowledging possible changes in the future; 4) being at population risk was generally perceived as a validation of current lifestyle.

Participants were influenced by their knowledge of marker condition risk, but reported that being at higher risk did not always lead to preventive behaviours.

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Furthermore, being at population risk could lead to less preventive behaviour.

SP003

Introducing new interventions in primary care: the example of improving care for people with osteoarthritis.

Bie Nio Ong, Andrew Morden, Lauren Brooks, Mark Porcheret, Chris Main, John Edwards, Krysia Dziedzic
Keele University, Keele, UK

The Problem: The challenges involved with implementation of complex interventions are well documented, and a number of theoretical models have been developed to better understand both barriers and drivers in order to optimise the design and introduction of new approaches into everyday practice. This type of research in primary care is growing, and this paper reports on the introduction of an intervention to enhance the management of osteoarthritis (OA) in four GP practices and its reception by GPs.

The approach: The intervention was designed to support self-management of OA and followed the recommendations in the NICE OA Guideline. The process of introducing and embedding the intervention was supported by Normalisation Process Theory (NPT). This theory recognises the importance of sense-making by participants. If participants can distinguish the new intervention from current practice, recognise its purpose, understand what they are required to do and acknowledge its worth, they are expected to achieve 'coherence'. Thus, the initial phase of the study focused on ensuring coherence through careful design of all stages of introduction and familiarisation and taking into account the specific contexts of each practice.

Findings: Presenting the purpose of the study as implementing best practice needed to be supplemented by demonstrating an understanding of particularities of each participating practice (population and identified needs, practice skill mix and organisation of work, GPs' own clinical interests and reimbursement for participating in research). Thus, early discussions about the 'fit' and feasibility of the study took place, and the process of engagement could be tailored to each practice, in particular with regard to introducing a pop-up template on practice computers and agreeing times for training GPs and practice nurses in the new intervention. The involvement of practice managers in the operational details of the study was essential. Various adaptations were made without compromising the overall purpose of the study.

Consequences: New evidence-based complex interventions can be introduced into primary care when careful consideration is given to 'sense-making' by the actors involved. This process is facilitated by using NPT from the inception because it allows a systematic assessment of the stages towards coherence, and takes account of organisational context. Thus, evidence can be accumulated as to whether the GPs develop a sense of worth of the intervention. The current study shows that by shaping the early interactions with participating practices in a theory-informed way the intervention has been accepted as a new approach to be adopted.

SP004

What matters most to patients? Identifying the drivers of overall satisfaction with primary care in England. Evidence from the GP Patient Survey

John Campbell[3], Charlotte Paddison[1], Gary Abel[1], Martin Roland[1], Marc Elliott[2], Georgios Lyratzopoulos[1]
[1]Cambridge Centre for Health Services Research, University of Cambridge, Cambridge, UK, [2]RAND Corporation, Santa Monica, Ca, USA, [3]Peninsula Medical School, Exeter, UK

The Problem - Examining the drivers of overall satisfaction can help identify which aspects of health care experiences matter most to patients. We aimed to identify aspects of patient experience that show the strongest relationship with overall satisfaction with primary care in England. We determined the extent to which these vary by socio-demographic and health characteristics.

The approach - Secondary analysis of 2009/10 English GP Patient Survey (2,169,718 patients registered with 8,362 practices). Linear mixed effects models quantified the association of patient experience and satisfaction. We included practice as a random effect, six case-mix variables (age, gender, ethnicity, deprivation, self-reported health, and self-reported mental health) and six patient experience items

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addressing four domains of care (access (three items); helpfulness of receptionists; doctor communication; and nurse communication) as fixed effects. Additional models used interactions to test whether these associations varied by socio-demographic group.

Findings - Doctor communication showed the strongest relationship with overall satisfaction (standardised coefficient 0.48 (95% CI = 0.48, 0.48)), followed by the helpfulness of reception staff (standardised coefficient 0.22 (95% CI = 0.22, 0.22)). Among six measures of patient experience, experience with obtaining appointments in advance showed the weakest relationship with overall satisfaction (standardised coefficient 0.06 (95% CI = 0.05, 0.06)). Interactions showed statistically significant but small variation in the importance of drivers across patient groups.

Consequences - Doctor communication is the most important driver of overall satisfaction with primary care in England, for all patient groups. Some aspects of care may matter more than other aspects of care to certain patient groups.

SP005

Cross-sectional prevalence study in general practice of male victims and perpetrators of domestic abuse

Sue K. Jones, Marianne Hester, Emma Williamson, Gene Feder
Bristol University, Bristol, UK

The Problem - Domestic violence and abuse (DVA) is threatening behaviour, violence or abuse between adults and their intimate partners or ex-partners. Population life-time prevalence is 28% for women and 18% for men. There is virtually no research on men as victims or perpetrators of DVA in the context of health services. Our previous research showed that male perpetrators and victims of domestic violence will often present to primary care seeking help for DVA, without necessarily disclosing it. We need reliable estimates of prevalence in clinical populations.

The Approach - A random sample of 16 practices in south-west England was selected to represent the national profile of socio-economic status, ethnicity and urbanity/rurality.

Men waiting to consult their GP or nurse were recruited to self-completion questionnaire, including items on abusive behaviours and their health impact.

Findings - 1430 of 2428 eligible men consented to complete the questionnaire. Median age was 49, 87% were white British and 97% were heterosexual.

Lifetime prevalence of victimisation: 13% said they had felt afraid of a partner at some point in their life; 11% had ever needed a partner's permission to work, go shopping, visit friends or relatives; 12% had ever been hit, slapped, kicked or otherwise physically hurt by a partner, and 2% had been forced to engage in a sexual activity against their will. Thirty-one per cent of those experiencing any of these behaviours, had done so within the last 12 months, and 9% had needed medical treatment for injuries. For 41% of men who had ever experienced any of these behaviours, this was a single event and never happened again.

Fewer men disclosed lifetime DVA perpetration than disclosed victimisation. 15% of men said they had made a partner feel afraid of them; 9% said a partner had needed their permission to go to work, shopping, visit family or friends; 5% said they had ever hit, slapped, kicked or otherwise physically hurt a partner; and 1% said they had forced a partner to engage in sexual activity. 27% of men who disclosed carrying out any of these four behaviours to a partner, said they had done so in the last year.

When asked if they were currently in a relationship with DVA, 1% said 'Yes' and 9% said they had been in a such a relationship in the past.

Consequences - There is a substantial lifetime prevalence of DVA victimisation and perpetration among male patients that requires an appropriate response from general practice.

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SP006

What works, and for whom? The challenge of providing personalised mental health care.

Sarah Knowles, Peter Bower
University of Manchester, Manchester, UK

The idea - Evidence based care recommends treatments based on 'what works'? Patient centred care requires that professionals tailor treatments to the individual, taking account of their 'needs and preferences'. However, the optimal way of integrating evidence based and patient centred care is unclear, partly because the meaning of 'needs and preferences' is poorly understood.

We propose an approach to patient centred care which focuses less on 'needs and preferences', and more on identifying factors that predict how different patients will respond to treatment. In the research literature, such factors are known as moderators of treatment outcome. The approach mirrors that of 'personalised medicine' in genetic research, which aims to match specific patient groups to those therapies that will be of most benefit to them. Rather than 'needs and preferences', we focus on 'aptitudes', which refer to a patient's suitability or propensity to respond to a treatment. We illustrate these issues in Primary Care regarding psychological therapies for common mental health problems.

Why it matters - Neglecting variability in how patients respond to treatment risks misleading patients and clinicians about what will work for them. Translating evidence from comparative effectiveness trials of large populations into meaningful treatment decisions for individuals requires better understanding of variability in treatment response. Matching patients to treatments could be more efficient by targeting treatment allocation, and could help patients predict which treatments are most suitable for them.

Furthermore, this would extend our conception of patient centred care. Policy notions of 'patient centred care' have focused on preference, choice, and the quality of the consultation between doctor and patient, but the link between these issues and outcomes has proven more elusive. Exploring patient 'aptitude' would add a new dimension to the aim of providing care responsive to the needs of individual patients and might have a clearer link to effectiveness and cost-effectiveness.

Next steps - Standards for reporting moderator analyses need to be agreed and methodological challenges to identifying moderators must be overcome.

'Aptitudes', reflecting different patients' attitudes and ways of responding, need to be included and reported consistently in effectiveness trials.

Acceptability of an 'aptitude' based model of patient-centred care to both patients and clinicians needs to be explored.

Risks

· The model assumes that consistent moderators of treatment outcome can be found and reliably measured in patients.

· Although offering a new conception of patient centred care, the model may conflict with existing approaches which emphasise patient choice, and may raise tensions if 'aptitudes' do not match expressed 'preferences'.

SP007

An initial GP phone call improves patient access and continuity when a whole system approach to change is adopted.

Harry Longman[1,2], Jacqueline Walsh[3], Carl Thompson[1], Ian Watt[1]
[1]University of York, York, UK, [2]Patient Access, Leicester, UK, [3]Watton Medical Practice, Norfolk, UK

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The idea - A GP phone call becomes the initial response to all patient demand in a general practice. When the whole practice system is oriented around this method supply is matched to demand and GPs regain control over who needs to be seen.

Why it matters - Poor access to GPs is a continuing issue for doctors and patients (study of 300 NHS choices comments show it is dominant complaint at 1 in 3). Lack of continuity is a repeating complaint again for both doctors and patients. A King's Fund report in 2010 showed that continuity is highly valued by clinicians, yet falling due to structural changes and access targets, and difficult to measure.

This paper presents objective measures of access (waiting time to speak to and see a GP) and continuity (UPC and GP consultation level reports). Direct patient feedback is measured, but it does not rely on GP survey results. Interrupted Time series analysis reveals before/after change to the new model in diverse UK practices. Average wait to see GP falls from 7 days to 1.5 days, median phone response time falls to 30 minutes, DNAs fall 83% and GP job satisfaction improves.

Next steps - The method has been in use in at least 3 practices for over 12 years. Invented at least 20 times independently, it has a growing base of at least 50 practices and is now spreading at an increasing rate, in settings ranging from inner city to rural practices, single handed GPs to multi partner practices with 20,000 patients. It is known to provide rapid access to GPs (usually same day to all who request it), but until now its effect on continuity has not been measured.

With these measures the system can be optimised around both speed of access and continuity in the patient-doctor relationship. Transferability has already been demonstrated, and while an intervention over 8 weeks is shown to be effective in making the change, it is not known whether the method is unsuitable for any practices.

If the results can be repeated widely, the method offers significant benefits to patients, doctors and the NHS.

Risks - Clinical risk is a concern to GPs and patients, and evidence is presented to address the issue. A repeat consultation rate within 2 weeks has been measured at 5%, suggesting high acceptance. A&E attendances in all known practices using the method are shown to be 20% lower (age/sex/deprivation adjusted) than the mean for all practices, suggesting lower anxiety and its high cost effects.

A Cochrane review covers telephone triage, but not specifically this method of GP phone call. Funding for further research into clinical effects is currently being sought.

SP008

REsearch into implementation STrategies to support patients of different ORigins and language background in a variety of European primary care settings

Anne MacFarlane[1], Mary O'Reilly-de Brún[2], Tomas de Brún[2], Chris Dowrick[3], Catherine O' Donnell[4], Frances Mair[4], Wolfgang Spiegel[5], Maria vandenMuijsenbergh[6], Evelyn van Weel-Baumgarten[6], Christos Lionis[7], RESTORE group[0]
[1]University of Limerick, Limerick, Ireland,[2]National University of Ireland, Galway, Galway, Ireland,[3]University of Liverpool, Liverpool, UK,[4]University of Glasgow, Glasgow, UK,[5]Medical University of Vienna, Vienna, Austria,[6]Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands,[7]University of Crete, Crete, Greece

The problem - Many migrants and primary care practitioners interact with each other in primary care consultations without having a shared language or cultural background. It is well established that trained professionals should be used to support effective communication in these cross-cultural consultations. In reality, untrained and informal interpreters and cultural mediators are commonly used with evidence of negative consequences for migrants. The aim of this paper is to describe a programme of research, funded by the EU FP7 Health theme, which is designed to address this translational gap. The RESTORE project (2011-2015) focuses on the implementation of guidelines and/or training initiatives to support the use of professional interpreters and/or cultural mediators in cross-cultural primary care consultations.

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The approach - This is a qualitative case study, using multiple primary care sites across Ireland, England, Austria, Netherlands and Greece. Our potential range of key stakeholders are migrant service users, general practitioners, primary care nurses, interpreters, cultural mediators, service planners, policy makers. We will use purposive and maximum variation sampling to identify and recruit stakeholders in our five local settings. Sample size in each setting will be determined by the point of theoretical saturation.

We will conduct a mapping exercise to identify guidelines and/or training initiatives that have been designed to enhance communication in cross-cultural consultations. We will then use Participatory Learning and Action (PLA) research methodology to conduct a brokered dialogue with stakeholders about the results of the mapping exercise. Through this participatory dialogue, stakeholders will be asked to select one guideline and/or training initiative as an implementation project for their local setting. We will continue our participatory dialogue with stakeholders over time in order to follow their experiences of trying to implement their chosen guideline and/or training initiative in practice. We will use a contemporary social theory, Normalisation Process Theory (NPT), as a conceptual framework to understand these implementation journeys.

Data will be generated using interviews, focus groups and specific PLA research techniques. These techniques are specifically designed to enhance mutual respect and equal participation of all involved in this multiperspectival process. To enhance the quality and rigour of the analysis process, data analysis will follow the principles of thematic analysis, will occur in iterative cycles throughout the project and will involve participatory co-analysis with key stakeholders.

Findings - We will generate empirical data about the levers and barriers to the implementation of relevant guidelines and/or training initiatives across European settings and about the benefits, if any, of combining NPT and PLA to investigate and support implementation processes.

Consequences - Research findings will have significant implications for practice and policy and potentially will improve uptake of trained professionals for supporting communication in primary care consultations.

SP009

The Needs of Regular Attenders and Innovative Approaches to their Treatment in Primary Care

Sam Malins[1,2], Richard Morriss[1,2], Joe Kai[1,2], Chris Atha[1,2], Anthony Avery[1], Sara Bayes[1,2], Shireen Patel[1,2], Michelle Stubley[0]
[1]University of Nottingham, Nottingham, UK, [2]Collaboration for Leadership in Applied Health Research and Care (CLAHRC), Nottinghamshire, Derbyshire & Lincolnshire, UK, [3]National Institue for Health Research, UK,

The problem - The top 3% of frequent attendance in primary care is associated with 15% of all appointments in primary care, a fivefold increase in hospital expenditure, and more mental disorder and functional somatic symptoms compared to normal attendance. However, there is no long-term study of the economic impact or clinical characteristics of regular attendance in primary care. Cognitive behavioural formulation may offer an understanding of the development, maintenance and treatment of regular attendance.

Primary Aim - To gain a better understanding of regular attending behaviour in primary care and to explore the effectiveness of a multifaceted approach to improving patient healthcare.

The approach

- A case control design will compare the clinical characteristics, health care use and costs of 100 regular attenders with 100 normal attenders from five primary care practices.
- Qualitative interviews with regular attending patients and practice staff will explore barriers, drivers and experiences of consultation, and organisation of care.
- The feasibility, acceptability and utility of Cognitive Behaviour Therapy (CBT) for regular attendance will be examined.
- A thematic analysis of cognitive behaviour formulations will explore the development, maintenance and therapeutic opportunities for management in regular attenders.

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- The study will be completed in March 2013 and although write up and analysis will be continuous, this will allow a six month period of final write up and analysis when participant involvement is complete.

Findings - We are currently halfway in terms of recruitment.

Initial findings suggest:

- Significant differences between regular attenders and normal attenders in all areas investigated.
- CBT reduces attendance regularity, particularly through collaborations between GP practice, therapist and patient.
- General Practitioners commonly have, and are clearly cognisant of, significant learning needs in relation to this population's care, particularly in the light of myriad policy level constraints on their practice.

A fuller data set supported by case examples will be used to illustrate themes from analysis of clinical characteristics.

Consequences - Results aim to inform GP training and influence policies to enhance organisation and provision of care for regular attenders, with a view to developing this approach as part of a multifaceted intervention incorporating CBT.

SP010

Exploring knowledge and identifying barriers to the prevention of Venous Thromboembolism

Lorraine McFarland[1], Sheila Greenfield[1], Sian Harrison[2], Ellen Murray[1], David Fitzmaurice[1]
[1]university of Birmingham, Birmingham, UK, [2]University of Oxford, Oxford, UK

The Problem - Epidemiological studies have established that Venous Thromboembolism (VTE) is a major public health problem. VTE occurs frequently. It is a significant cause of death and serious illness among a range of patients and can be acquired in hospital as well as in the community. Heparin is an established, effective and safe therapy for the prevention of VTE and new approaches to VTE prevention and treatment are anticipated. However, a lack of awareness of the threat to health posed by VTE persists. Poor public awareness is evident; knowledge is limited to the media attention given to risks associated with long-haul flights.

Little is known about the role of primary care in thromboprophylaxis or the information that high risk patients receive prior to hospital admission or after discharge. The majority of VTE episodes occur days or weeks after a patient has left hospital. Primary healthcare professionals initially responsible for patient care often remain unaware that a patient has experienced an event. A multifaceted approach, at each level of the NHS, is required to ensure consistency of care and to avoid under-reporting.

The approach - Using qualitative and quantitative methods, this study examines current levels of knowledge of VTE risk and current practice of thromboprophylaxis among primary healthcare professionals and patients in Oxfordshire and South Birmingham PCTs. In addition, the study seeks to identify barriers to providing thromboprophylaxis in primary care and to develop educational initiatives to help the adoption of safe practice outside the hospital setting. Descriptive data is summarised from a series of surveys. Qualitative thematic methods are used to analyse open-ended responses and semi-structured interview data. Survey data is analysed using SPSS.

Findings - Findings will be presented under the following headings: Healthcare Professionals - Attitudes to the provision and implementation of thromboprophylaxis; perceived barriers to implementation of thromboprophylaxis. Patients - Attitudes to receiving thromboprophylaxis; knowledge of VTE risk; recognition of VTE symptoms; awareness of thromboprophylaxis prior to hospital admission; experiences of risk assessment for VTE and of thromboprophylaxis on hospital admission and discharge; requirement for primary care intervention; identification of an optimum time frame for delivering VTE information.

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Consequences - Effective education initiatives are needed to ensure public and primary care engagement in VTE preventative measures outside the hospital setting. The findings suggest that there is a vital requirement for education for the early recognition and diagnosis of VTE symptoms. A national campaign may be an appropriate medium for this proposal. These results will be utilised to design appropriate educational interventions for both patients and professionals.

SP011

Self Management Support in general practices consultations in affluent and deprived areas.

Jenna-Marie Mullen, Stewart Mercer, Graham Watt
University of Glasgow, Glasgow, UK

The Problem - Supporting patients to manage their own conditions has become a key policy direction in Scotland, elsewhere in the UK, and internationally. Anticipatory care (AC) is a particular type of self-management support (SMS) aimed at prevention through health promotion. However, the extent to which SMS and AC occurs in primary care is not well documented. The aim of the study was to compare to assess the nature, type and frequency of SMS (including AC) in general practice consultations in areas of high and low deprivation in Glasgow (2006).

The approach - The study compares the content of consultations in general practices serving affluent and deprived areas, using the Davis Observation Code (DOC) (Callahan et al, 1991) to describe observed activities in 499 videoed consultations. The coding procedure involved the coding of the full videoed consultation, with codes being recorded at 30 second intervals. Seven codes within the Davis coding system where designated as relating to SMS (treatment effects, health knowledge, patient questions, compliance issues, health education, health promotion, preventative services), two of these specifically AC (health promotion, preventative services). Logistic regression was used to control for potential confounding variables relating to patient characteristics.

Findings - In the high deprivation group significantly more time was spent on history taking, physical examination discussing smoking, and substance misuse (including alcohol) compared with the low deprivation consultations. The low deprivation group spent significantly more time discussing treatment effects, getting feedback on results, discussing compliance, and carrying out procedures (such as taking bloods)compared with the high deprivation group.

There was no significant difference in the amount of Self Management Support observed in the high and low deprivation consultations. However there was a significant difference found for the amount of Anticipatory Care, with more Anticipatory Care being carried out in the high compared with the low deprivation patient groups ($p<0.01$). Adjustment for potentially confounding variables did not substantially change the findings.

Consequences - The analysis of the DOC codes showed that the type and frequency of codes are affected by the patients' socioeconomic status. Although there was no evidence that the amount of SMS overall in consultations varied by deprivation, there was evidence of more AC occurring in the high deprivation consultations, presumably as a response to the much higher health needs and risk factors in this group. These finding are discussed in terms of holistic care and the inverse care law.

SP012

Patients' perceptions of GPs' empathy and objective measurement of emotional concerns, cues and responses in consultations in areas of high and low deprivation in Scotland

Jenna-Marie Mullen, Stewart Mercer, Graham Watt
University of Glasgow, Glasgow, UK

The Problem - The Consultation and Relational Empathy (CARE) Measure is a patient-rated experience measure (PREM) of perceived GP empathy in the consultation, developed and validated in areas of high and low deprivation in Scotland. It is recommended for use in the NHS in Scotland, in GP Appraisal, and is widely

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used internationally. However, as with most PREMS, little is known about how patients actually make such judgements about consultations.

The approach - The aim of the study was to compare patients' perception of GPs empathy (CARE Measure) with objective measurement of emotional cues and responses in videoed consultations in areas of high and low deprivation.

The study was a secondary analysis involving 112 videoed consultations of GPs rated by patients as having high or low empathy (CARE Measure) based in areas of high or low deprivation. The Verona Emotional Sequences of Cues and Concerns (Verona-CoDES-CC) was used to assess objectively emotional concerns, cues and responses. Logistic regression was used to control for potential confounding variables relating to patient characteristics.

Findings - Overall, significantly more cues ($p < 0.00$), concerns ($p < 0.02$) and GP Responses ($p < 0.00$) were observed in consultations of the high CARE GPs, compared with the consultations of the low CARE GPs. However, analysis by deprivation group showed that these differences between high and low CARE GPs were only found in the high deprivation patient group. Four types of cues (A[1], B[2], D[3] and F[4]) were significantly more common in high CARE consultations in deprived areas, compared with low CARE consultations. Health Provider Responses by high CARE GPs in the high deprivation group were more Inviting (I) ($p < 0.01$) and Non Explicit (NE) ($p < 0.05$) than responses by low CARE GPs, a difference which was not found in the low deprivation group. Adjustment for potentially confounding variables did not substantially change the findings.

Consequences - Although the CARE Measure was developed and validated in high and low deprivation settings, objective assessment of videoed consultations using the VERONA system suggests that patients of differing socio-economic status may rate CARE Measure items using different criteria. The GPs ability to detect emotional cues and respond in an open and inviting manner may be more important to patients in deprived circumstances than the more affluent, in terms of their perceptions of practitioners' empathy.

Footnotes:

[1] Cue A refers to words or phrases in which the patient uses vague or unspecified words to describe their emotions.

[2] Cue B refers to verbal hints to hidden concerns (emphasizing, unusual words, metaphors).

[3] Cue D refers to neutral words or phrases that mention issues of potential emotional importance which may refer to stressful life events/conditions.

[4] Cue F refers to non verbal expressions of emotion.

SP013

The association between patient experience and quality of prescribing in primary care

Rupert Payne, Gary Abel
University of Cambridge, Cambridge, UK

The problem - Prescribing of medicines is one of the major therapeutic interventions used by general practitioners to improve health. Previous analyses have confirmed a significant relationship between patient experience and clinical measures. However, evidence regarding patient experience and prescribing quality is lacking. This is important because patient experience may influence medicines' use (e.g. adherence). However, good patient experience may not necessarily reflect high quality prescribing. We hypothesised that the association between prescribing quality and measures of patient experience would vary with different aspects of prescribing.

The approach - We used data from 7832 English GP surgeries with practice population >1000. Patient experience data was gathered from the 2009/10 GP Patient Survey on overall satisfaction, confidence/trust in

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the doctor, doctor-patient communication, continuity of care, and ability to get an appointment in advance, or within 48 hours. Shrunken case-mix adjusted practice estimates were obtained, adjusted for patient age, sex, ethnicity, deprivation and self-rated health. National prescription dispensing (ePACT) data from the same time period were obtained from NHS Comparators for antibiotics (items per weighted prescribing unit, STAR-PU), inhaled corticosteroids (average daily quantity per STAR-PU) and percentage of low-cost statins. We examined the association between the various prescribing indicators and patient experience measures, using logistic or Poisson regression models as appropriate. Results are expressed in terms of either the rate ratio (RR) or odds ratio (OR) comparing the 5th and 95th percentile of patient experience.

Findings - We found evidence that increased antibiotic and inhaled corticosteroid prescribing were both associated with increasing confidence/trust (antibiotics RR=1.14, 95% CI 1.11-1.16; inhaled corticosteroids RR=1.06, 1.04-1.09), better doctor-patient communication (1.12, 1.10-1.14; 1.07, 1.04-1.10) and overall satisfaction (1.09, 1.07-1.11; 1.02, 1.00-1.05). Prescribing of low cost statins was negatively associated with confidence/trust (OR=0.89, 0.85-0.93), doctor-patient communication (0.88, 0.84-0.92) and overall satisfaction (0.97, 0.94-1.01). Inhaled corticosteroid prescribing was negatively associated with continuity of care (0.93, 0.91-0.96), and availability of both advance appointments (0.89, 0.88-0.91) and 48-hour appointments (0.94, 0.92-0.96). Low-cost statin prescribing was positively associated with availability of both advance (1.10, 1.06-1.14) and 48-hour (1.08, 1.04-1.12) appointments. Antibiotic prescribing was positively associated with availability of 48-hour appointments (1.07, 1.05-1.09) but negatively associated with availability of advance appointments (0.90, 0.88-0.91). There was no evidence of an association between antibiotic or low-cost statin prescribing with continuity of care.

Consequences - Increasing patient satisfaction appears associated with increased prescribing, which may be potentially favourable (inhaled corticosteroids, reflecting more aggressive asthma/COPD treatment) but also unfavourable (more expensive but less cost-effective statins; antibiotics, risking increased bacterial resistance) in nature. Access to GP services may also adversely influence certain prescribing. Interventions to improve prescribing quality should consider patient perceptions of care and accessibility of services.

SP014

"Kaleidoscope medicine": How GPs combine multiple perspectives into a usable view

Louisa Polak[1,2]
[1]*London School of Hygiene and Tropical Medicine, London, UK,* [2]*North Hill Medical Group, Colchester, UK*

The idea - A primary care focus on population health has gained strength in recent years, and was promoted by a keynote speaker this year at a regional SAPC meeting. This presentation calls for an appraisal of the implications and origins of this focus.

Over time, the way in which we see ‘medicine' has changed, affecting the range of problems classed as medical, the kinds of solution considered and the expected doctor: patient relationship. These changes have been described as a succession of paradigms, thus implying that each replaces its predecessors. Yet a GP will use elements of each model within a single consultation. This phenomenon is the subject of the two ideas I present.

First, moving from a kaleidoscopic view (containing these disparate elements) to a view that enables us to define and pursue the goals of that consultation is a process deserving further study. Similar knowledge-combining processes have been studied in different contexts: these include a team caring for a patient with atherosclerosis, doctors constructing usable ‘mindlines' from the available information, and a doctor ‘conferring meaning to the [patient's] narrative' within the diagnosis process.

Second, while much has been written about the tension between population health and patient-centred care, which are two elements of the ‘kaleidoscope' present in every GP consultation, this tension has received little published attention from those promoting population health; within the literature on shared decision-making (widely agreed to be central to patient-centred care) ethical considerations are mentioned more, though without always making assumptions explicit. An open debate is overdue.

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Why it matters - GP's workload is widely perceived to be increasing. Overshadowed by an increasingly dominant focus upon cost-effectiveness, the pressure to attend to population health (reinforced by financial incentives) often competes with the pressure (strongly emphasised in training, and demanded by patients) to be patient-centred.

In planning and training the medical workforce, a deeper understanding of the task GPs perform is needed. The multiple goals of that task rest upon differing ethical assumptions, and the work of prioritising these should be explicitly shared across the medical and policy-making communities (including 'grass roots' GPs), and at least made transparent to the tax-paying public who fund our efforts.

Next steps - My current research project should further the pursuit of the ideas presented.

I welcome the BJGP's recent call for papers about ethics, and hope to write one.

Locally, I shall continue to encourage discussion among colleagues, fellow trainers and medical students.

Risks - Those whose strong opinions were demonstrated by the recent heated debate about information leaflets before bowel cancer screening, where one person's 'informed adherence' was another's 'propaganda', may see a risk to their position from my ideas, but for the rest of us I see none.

SP015

Sexual minorities experience double disadvantage of worse health and less positive experience of health care: results from a national survey in England.

Martin Roland[1], Marc Elliott[2], David Kanouse[2], Q Burkhart[2], Gary Abel[1], Mark Schuster[3], Georgios Lyratzopoulos[1], Megan Beckett[2]
[1]University of Cambridge, Cambridge, UK, [2]RAND, Santa Monica, USA, [3]Harvard Medical School, Harvard, USA

The Problem - Past studies suggest that gay and lesbian people may experience particular health problems and that some experience discrimination when receiving healthcare. However, most previous research is based on small or convenience samples.

The approach - We use data from 2,115,335 respondents to the 2009/2010 English General Practice Patient Survey to analyses responses from 27,497 people who described themselves as gay, lesbian or bisexual. We used multi-variate analysis to compare the health and healthcare experience of gay and lesbian people with heterosexuals of the same gender, adjusting for age, ethnicity and deprivation.

Findings - Sexual minorities were more likely to report poor or fair health status (age-adjusted percentages for men 19% heterosexual, 24% gay, 29% bisexual $p<0.001$, and for women 20% heterosexual, 26% lesbian and 33% bisexual $p<0.001$). Sexual minorities were also more likely to report the presence of a longstanding psychological or emotional problem (age-adjusted percentages for men 5% heterosexual, 13% gay, 6% bisexual $p<0.001$, and for women 6% heterosexual, 13% lesbian and 19% bisexual $p<0.001$). Adjusting for ethnicity and deprivation had little additional effect on these disparities.

Sexual minorities reported less positive experiences with four aspects of primary care: doctor communication, nurse communication, trust and confidence in the doctor, and overall satisfaction with care. On these measures adjusted for socio-demographic characteristics and health status, gay and lesbian respondents reported less positive experiences by 1-3 percentage points ($p<0.05$). The effect was most marked in London, where differences were up to 5% ($p<0.0001$) and in areas of socio-economic deprivation ($p<0.05$).

Consequences - Sexual minorities appear to suffer a double disadvantage of poor health and worse experience of health care. Efforts should be made to improve the experiences of sexual minorities, with particular emphasis on areas of socioeconomic deprivation

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SP016

Numbers, graphs or smiley faces? Discrete choice analysis to identify patients' preferences for communicating NSAID related risk.

Angela Schedlbauer, Anthony Avery, Carol Coupland
University of Nottingham, Nottingham, UK

The problem: Delivering information on medication risk in the most appropriate format is important to support individuals in their treatment decisions. At present, a variety of co-existing ways of risk presentation is used by health professionals to explain adverse effects to patients. This study attempts to determine what kind of information patients prefer when being explained side effects from medication and whether preferences are correlated to demographic characteristics.

The approach: A cohort of patients having experienced pain in the previous 12 months was recruited from Primary Care to take part in a *discrete choice experiment* in form of a postal questionnaire. The probability of suffering serious side effects from a non-steroidal anti-inflammatory drug (NSAID) was expressed in different ways: verbally (captured in words), numerically (captured in numbers) and visually (captured in icons, graphs or traffic-light system). Sets of risk information were presented within both high and low risk scenarios, and patients were asked to select the most appropriate information. Presuming that respondents choose the information that would provide them with the highest benefit and assuming a linear utility function, patient utility of risk information was analysed via regression techniques. The impact of patient characteristics such as age, education, ethical background and income was determined by including interaction terms into the regression model.

Findings: 636 out of 2000 patients (32%) completed the survey. The risk level of the information presented clearly determined patients' preferences. In the low risk scenarios, numeric risk presentation achieved the highest utility (number needed to harm, $p<0.05$), whereas verbal statements scored lowest. In the high risk scenario, overall utility was less obvious. Income, education and household size had a statistically significant impact on the choice of information, but age and gender didn't.

Consequences: Preferences for risk information are both associated with patient characteristics and the level of risk presented. This emphasises the necessity to offer patients a wide spectrum of risk information. Whether the results of this study are transferable to adverse effects of other medication or risk in other areas of medicine, will need to be established further.

SP017

Patients' experiences of participating in a large scale depression trial: a mixed method study

Bethany Simmonds, Laura Thomas, Nick Turner, Nicola Wiles, Katrina Turner
The University of Bristol, Bristol, Avon, UK

The problem: Randomised controlled trials (RCTs) are necessary when evaluating the effectiveness of new treatments or existing treatments for new populations. However, the recruitment and retention of participants for large-scale trials, especially in mental health research, can be challenging. Poor recruitment and attrition reduces the power of the study and can lead to sampling bias, delays in completion and limit generalisability of results. Existing research in primary care has examined barriers to recruitment and experiences of trial participation, but most are purely quantitative and or have focussed on GP recruitment. Quantitative surveys provide reliable descriptive data and qualitative interviews provide rich in-depth data, but no studies of participants who completed such RCTs have triangulated both methods. Furthermore, no studies have examined the views and experiences of patients with treatment resistant depression (TRD) about participating in research. By triangulating the strengths of quantitative and qualitative methods, this mixed methods study was able to fill this gap in knowledge. Both an overview of this specific population's views and experiences about participating in large-scale RCTs, alongside why patients felt they benefitted from participating in CoBalT will be presented.

The approach: The CoBalT trial examined the effectiveness of CBT given in addition to usual care in patients with TRD. Patients were randomised to receive CBT in addition to usual care or to continue with

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usual care (that included antidepressants). Patients who had taken part in the CoBalT trial were asked to complete an exit questionnaire (n= 302). This questionnaire aimed to elicit reasons for taking part, their experience of participating in the trial and suggestions for how the trial could be improved. A subgroup of patients who had completed the exit questionnaire were also asked to take part in a telephone interview in order to provide a more in-depth account of trial participants' experiences (n= 40). The quantitative data were analysed using Stata 11.2 and the qualitative data was thematically analysed using NVivo 9.

Findings: Patients with TRD took part in the research because they felt it was important, they were altruistic and/or wanted CBT. Patients with TRD perceived benefits were receiving face-to-face contact and developing a trusting relationship with a researcher. Contact with a non-judgemental researcher or clinician encouraged self-reflection and increased their feelings of self-worth. The main suggestion for improvement was that if regular communication with the usual care group was maintained, attrition rates could be further improved.

Consequences: Knowing that building a trusting relationship with researchers and clinicians over time through regular contact enhances participant recruitment and retention can now be applied to improve the design of future large-scale depression RCTs with other populations.

SP018

Diagnosis and management of Chronic Fatigue Syndrome/Myalgic Encephalitis (CFS/ME) in Black and Minority Ethnic people. A qualitative study.

Kerin Hannon, Louise Fisher, Sarah Peters, Alison Wearden, Lisa Riste, Karina Lovell, Carolyn Chew-Graham
University of Manchester, Manchester, UK

The problem: Population studies suggest CFS/ME may be more common in people from Black and Minority Ethnic (BME) communities when compared to Caucasians. However it seems that the diagnosis is made less frequently in non-Caucasians. This study explores possible reasons for the lower levels of diagnosis and any implications for management of CFS/ME in people from BME groups.

The approach: Semi-structured qualitative interviews were conducted with 9 GPs, 10 people with CFS/ME and 2 carers (6 South Asians, 3 Indians, 2 Black British, 1 Other White) in NW England. Interviews were analysed using open explorative thematic coding.

Findings: All participants suggested that language can act as a barrier to describing symptoms, reading information and accessing specialist services. GPs believed that patients' health beliefs contribute to communication difficulties, while patients perceived that GPs discriminate against patients who cannot speak English resulting in poor quality care. GPs also viewed BME people as more complex than the White British population, presenting with multiple conditions and social issues, making diagnosis more difficult. Furthermore, GPs felt that the having the label of CFS/ME was not important to BME patients.

GPs, patients and carers described how the expectation of roles in the family and community can act as a barrier to the diagnosis of CFS/ME in BME communities. For example, the role of women to care for the family can mean they may not have the time or support to seek medical advice. Religious prayer or spiritual healing were seen as an alternative way to manage symptoms. However, GPs did not report being aware of such factors in consultations.

Patients saw an on-going relationship with the GP as key to achieving a diagnosis. Perceived high turnover of GPs in inner city practices was said to undermine the holistic approach necessary for a diagnosis of CFS/ME in BME groups in these areas. Patients, carers and GPs all recognised the possible influence of racism and stereotypical beliefs and patients suggested that there was a belief that certain groups are "lazy" or "work shy" and this may act as a barrier to diagnosis.

Consequences: The findings of this study suggest that GPs make assumptions about people from BME communities, which impact on making the diagnosis, or not, of CFS/ME. In addition, the focus on the individual in UK primary care may not be appropriate for this group due to the active role played by the family and community in how symptoms may be presented and whether the diagnosis is acceptable. By

understanding the perspectives from patients, carers and GPs, and recognizing where these differ, this study illustrates the particular difficulties in achieving a diagnosis of CFS/ME in people from BME groups.

Theme: Mental health

SP019

AMP Training*plus*: a flexible, learner-centred training intervention – Development, Implementation and Evaluation

Carolyn Chew-Graham[1], Linda Gask[1], Waquas Waheed[1], Derek Hibbert[2], Jon Lamb[1], Susan Beatty[1], Christopher Dowrick[2]
[1]*University of Manchester, Manchester, UK,* [2]*University of Liverpool, Liverpool, UK*

The Problem: Simply offering training to GPs, even if this includes work on skills as well as knowledge, does not improve outcomes for patients with mental health problems. Improvement of primary care 'quality' is key. Initiatives need to be seen as relevant to the practice's everyday work, and flexible enough to respond to the particular challenges for the individual practice needs. To improve access for patients with mental health problems, there is a need to promote primary care services that recognise and accommodate the various ways that users (and their communities) 'frame' common mental health problems. These services need to be 'patient-centred' and 'culturally-responsive'.

The approach: As an integral part of the AMP Programme, we developed the 'AMP training*plus*' (ATP), based on a made-to-measure training package for primary care teams, offering support to practices to review organizational barriers to access and linking to internal and external resources [including AMP Psychosocial intervention (PSI) and the local community]. ATP had three strands – 'knowledge transfer', 'systems review' and 'active linking'.

'Knowledge transfer' (based on Grol, 2008) emphasised the need to bring expertise from specialists to the front line of care, to improve the management of people with mental health problems, with co-production of new knowledge within the practice. 'Systems review' encouraged the practice to review their appointment systems, use of interpreters, whilst 'active linking' aimed to increase practice knowledge and use of a range of local community services.

We used a quasi-experimental design, offering ATP to eight of 16 practices in the four AMP localities. We conducted a process evaluation of the implementation of the training. This included ethnography within the intervention practices, semi-structured interviews with key practice stakeholders, and quantitative data collection on referral for patients with mental health problems in intervention and control practices.

Findings: Training was delivered in seven practices (one to 7 sessions). We will discuss reasons for differing levels of engagement of practices, such as the presence of a 'practice champion' and reputation of research team. Co-production of work had to be perceived by practices as genuine. Learning needs developed by practices included access and triage, consultation skills, the patient journey, culture and mental health, managing Asylum seekers and issues for older people. Initial analysis of qualitative data suggests increased awareness of cultural issues (not just language), changes of systems within practices and increased use of third sector groups. Referral data will be presented.

Consequences: It is possible to develop and deliver a flexible package of training to a whole practice. A practice champion crucial to engagement and each practice has to be understood as an organisation. The role and impact of research team on the practice, and the tensions therein need to be considered.

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SP020

UPBEAT-UK pilot RCT of Practice Nurse-Led Personalised Care for CHD and Depression: content of intervention and findings at 6 months.

Elizabeth Barley, Rachel Phillips, Mark Haddad, Paul Walters, Anthony Mann, Andre Tylee
King's College London, London, UK

The Problem: Depression co-morbid with coronary heart disease (CHD) is associated with poor outcome. In the UK depression and CHD are managed largely in primary care. Collaborative care in this setting in the USA has been found to be beneficial but is resource-intensive. Less intensive interventions are needed.

The Approach: A practice nurse (PN)-delivered personalised care intervention for CHD patients with depression designed to fit within current practice. PN time is conserved by using telephone follow up (FU). After biopsychosocial assessment, patients identify up to 3 problems which contribute to depression and CHD and which they choose to work on. The PN uses behaviour change techniques and existing resources to help patients achieve their goals. In a pilot RCT, personalised care delivered by nurse researchers was compared with usual care over 6 months. The nurses recorded the problems addressed and actions taken. 81 patients on 17 practice CHD registers, screened as depressed (HADS ≥8) and reporting chest pain (Rose angina questionnaire) participated.

Findings: Participants (52 male) were aged 38 to 95 years (mean65 SD11). Intervention patients (n=41) received a mean 203 SD100 mins of nurse time (78 SD19 for assessment + 125 SD91 in telephone FU) over 6 months. Mean number of FU calls was 9 SD5. 22 types of problem were addressed; most frequent were (patients): pain (18), lack of exercise (17), sleep (13), anxiety (11), overweight (11). Behaviour change techniques most used were: general encouragement (27), information linking health and behaviour (18), goal setting (15), barrier identification (13), focus on past success (13). Nurse-reported actions could mostly be grouped into: lifestyle advice /counselling, provide information, promote adherence to therapy, supportive counselling, referrals. At 6 months (intervention n=36, control n=39), 38% of intervention compared with 18% of control patients no longer reported chest pain (OR 0.36, p=0.07). There was no difference between groups in depression (p=0.22) or anxiety (p=0.21) controlling for baseline scores (HADS).

Consequences: Primary care patients with CHD and depression reported varied health and social problems and nurse researchers utilised a wide range of techniques and resources to address them. Attrition was low. The UPBEAT personalised care intervention appears to be acceptable to patients, requires minimal PN time and may reduce reported chest pain over 6 months. A full trial is needed to confirm this and to test the intervention when delivered by PNs.

SP021

The importance of place in the identification and management of common mental health problems in older people

Susan Beatty[1], Pamela Clarke[2], Jonathan Lamb[1], Jonathan Hammond[1], Christopher Dowrick[2], Linda Gask[1], Anna Dowrick[2], Carolyn Chew-Graham[1]
[1]University of Manchester, Manchester, UK,[2]University of Liverpool, Liverpool, UK

The Problem

Depression in older people is under-diagnosed and a lack of appropriate treatment options can limit engagement and outcome. Services for depressed older people fail to acknowledge the particular barriers faced in seeking help, including the impact of upbringing, experiences and attitudes towards mental health problems, as well as the impact of their neighbourhood on their sense of wellbeing.

The approach

This study was conducted in two localities in North West England as part of the AMP research programme which aimed to increase equity of access to high quality mental health services in primary care.

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Our objective was to investigate older people's views about their neighbourhoods past and present, and on services for people who were depressed. Views of service providers were also sought about resources for older people with common mental health problems. NHS Ethics approval was granted.

Focus groups with 16 older people and 18 service providers were conducted to explore how psychological therapies could be tailored to meet local needs and made acceptable and accessible to older people.

Go-Along interviews were conducted with 21 older people aged from 52 to 91 years, and with 18 service providers. This involved accompanying participants around their local neighbourhood so that triggers from the environment could stimulate discussion.

Informed consent was obtained and focus groups audio-taped. Analysis was by open coding, comparative analysis to develop themes, discussion within the team, then a framework approach to look for commonalities.

Findings

There was variety in the personal histories and circumstances of older people, but they were united by their experiences of change. Many had memories of their neighbourhoods that went back to their childhoods. Change was seen as imposed, and older people were at risk of social isolation as their circle of friends diminished through age, infirmity and death.

Older people retained the stoicism that had sustained them in the past, and described mental health problems as stigmatising. They drew on their own resources to manage periods of distress or low mood and relied on trusted friends to provide support.

Service providers recognised the sensitive nature of mental health problems for older people, the importance of building up trusting relationships, and the need for flexibility to provide longer periods of therapy. They felt that a good knowledge of the areas where the older people lived was an important aspect of responding to older people's needs.

Consequences

Places are spaces invested with personal meaning. Older people's perceptions of their localities were intimately linked with their own histories in the areas as well as with their current situations. Closer consideration of older people's experiences of and in place would be helpful in assisting identification of depression and designing appropriate services to offer acceptable management.

SP022

The development and testing of myGRiST, an on-line tool for personal safety planning and service user self-assessment of risks associated with mental health problems.

Ann Adams[0,2], Christopher Buckingham[1]
[1]Aston University, Birmingham, UK,[2]University of Warwick, Coventry, UK

The problem: Risk associated with mental health problems often goes undetected in primary care and the community, because lay people lack understanding about what contributes to risk, how to spot it and how to communicate it effectively to clinicians. The complexity of individuals' risk profiles, coupled with short consultation times and clinical uncertainty about how best to assess risk often means people do not get the timely help they need.

The approach: The Galatean Risk and Safety Tool (GRiST, www.egrist.org) is an evidence and web-based decision support system modelled on how expert clinicians assess the risks of suicide, self-harm, harm to others, self-neglect and vulnerability. GRiST is designed to disseminate this mental health expertise to those in frontline health and social care services, and to lay people in the community. This paper describes the development of myGRiST, the companion tool for service user self-assessment and personal safety planning.

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Eight focus group discussions with 36 mental health service users, with others working remotely on-line, were used to validate the risk model underpinning GRiST, and to refine the developing myGRiST software. Discussion focused on question wording, instructions for use, software navigation and functionality, the graphical user interface, potential uses for myGRiST, and building in self-management advice. Service users undergoing a current episode of care were subsequently recruited through 5 IAPT services and two general practices, to pilot the use of myGRiST under clinical supervision, and provide survey data.

Findings: myGRiST helps patients to: (a) share with clinicians a more holistic view of factors contributing to risk in their lives than is usually possible; (b) present their history using concepts and language readily understood by clinicians; (c) think through, organise, record and reflect on their history, and generate self-management solutions; (d) work more effectively in partnership with clinicians in risk assessment and management decisions; and (e), as a result, feel valued and listened to. For clinicians, significant time spent on history taking is saved, allowing consultations to focus more rapidly on key concerns; health care assistants can gather history data from patients too unwell to self-assess; and secure sharing of information online under the control of service users in the community provides a means of maintaining remote clinical support. myGRiST software and the output reports it generates will be demonstrated.

Consequences: Patients and primary care clinicians can now communicate more effectively about risk. This is because myGRiST and GRiST are rooted in the same underlying validated risk assessment knowledge, so that while question wording differs, information collected by each of them is directly comparable. This provides a common risk language and will highlight differences in service users' and clinicians' perspectives on risk, which should facilitate agreement about effective care.

SP023

Enhanced care by generalists for functional somatic symptoms and disorders in primary care - a Cochrane review

Christopher Burton[1], Marianne Rosendal[2], Annette Blankenstein[5], Michael Sharpe[3], Kurt Kroenke[6], Richard Morriss[4]
[1]University of Edinburgh, Edinburgh, UK, [2]University of Aarhus, Aarhus, Denmark, [3]University of Oxford, Oxford, UK, [4]University of Nottingham, Nottingham, UK, [5]Vrije Universiteit, Amsterdam, Amsterdam, The Netherlands, [6]Indiana University, Indiana, USA

The Problem - Symptoms which are not adequately explained by physical disease are common in primary and secondary care. These functional (or "medically unexplained") symptoms and disorders have been viewed as the product of somatisation – a psychosomatic process by which emotional distress is expressed as physical symptoms. Reattribution is a treatment model by which GPs seek to elicit and reframe patients' symptoms in ways which link physical symptoms to psychosocial distress.

Several studies have trained GPs in treatment models involving, or drawing on, reattribution and we have grouped these together as "Enhanced care by generalists for functional somatic symptoms and disorders".

The approach - We carried out a systematic review in association with the Cochrane Collaboration Depression Anxiety & Neurosis Review Group.

Enhanced care was defined as "the use of a structured treatment model which draws on explanations for symptoms in broad bio-psycho-social terms and, or, encourages patients to develop additional strategies for dealing with their physical symptoms". It includes reattribution and reframing models. Inclusion in the review was limited to randomised controlled trials of intervention vs. usual care in which enhanced care was provided by the patient's usual GP. The primary outcome was physical health related quality of life at long-term follow-up (6-12 months); secondary outcomes included physical symptoms, depression and anxiety and healthcare use. We also included data after shorter periods of follow up (1-3 months). Risk of bias was assessed using the Cochrane tool.

We extracted quantitative results from published papers and obtained additional data from authors. Effect sizes were calculated as standardised mean difference to enable comparison of similar measures. For each comparison we estimated heterogeneity using the I^2 statistic and made forest plots to visualise outcomes.

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Where heterogeneity was <50% we carried out random effects meta-analysis. Studies not eligible for quantitative analyses contribute to the qualitative synthesis of results.

Findings - 35 studies (47 full text articles) were examined of which six were eligible for inclusion. Risk of bias was introduced by lack of blinding of clinicians, loss to follow up and potential recruitment bias. Studies varied substantially in the proportion of registered patients who were eligible for inclusion (a proxy for severity).

There was substantial heterogeneity for most outcomes with no overall evidence of clinically important benefit. Two small studies which examined more intensive interventions including serial consultations and patient diaries suggested mild to moderate effects. Enhanced care was associated with a small increase in health anxiety in the short and longer term.

Consequences - Very brief interventions by GPs to reattribute or reframe functional symptoms within a psychosomatic model are unlikely to be beneficial and may increase anxiety.

SP024

Cost-effectiveness of CBT as an adjunct to pharmacotherapy for treatment resistant depression in primary care

Fran Carroll[1], Sandra Hollinghurst[1], Laura Thomas[1], David Kessler[1], Nicola Ridgway[3], John Campbell[2], Tim Peters[1], Glyn Lewis[1], Nicola Wiles[1]
[1]University of Bristol, Bristol, UK, [2]Peninsular College of Medicine and Dentistry, Exeter, UK, [3]University of Glasgow, Glasgow, UK

Problem - Only around one-third of patients with depression respond fully to treatment with antidepressant medication. Combined pharmacological and psychological treatment of depression has been shown to be effective at improving clinical outcomes, although evidence on cost-effectiveness is limited. Moreover, there is no evidence specific to those who have not responded to antidepressants, which is the group for whom cognitive behavioural therapy (CBT) is often reserved.

Approach - We carried out a prospective economic evaluation alongside a pragmatic randomised controlled trial (RCT) of CBT given as an adjunct to pharmacotherapy for primary care based patients with treatment resistant depression. The evaluation was carried from a societal perspective.

The cost of the intervention was estimated using data on the number and length of CBT sessions received by each participant, and the grade of the staff member. An additional cost was included to allow for supervision and sessions not attended. Quality adjusted life years (QALYs) were estimated from responses to the EQ-5D obtained at baseline, 6 and 12 months.

A cost-consequences framework is used to show the cost per participant from the perspectives of: the NHS and personal social services (PSS); the participants; and the value of lost productivity due to time off work. These are compared with a range of primary and secondary outcomes. A cost-utility analysis is used to compare NHS and PSS cost with QALYs. Both analyses are based on the costs incurred and the benefits obtained over the 12 months following randomisation.

Findings - Complete cost and QALY data were available for 368 (78%) participants: 186 (79%) intervention and 182 (77%) control. The mean number of sessions received by these participants was 11.24 with 0.67 DNAs; the mean cost was £1,021 (sd £407). Estimated NHS and PSS service costs per participant are: CBT group £784 (sd £1015); usual care group £778 (sd £713). Adjusted QALYs over the 12 months for the CBT group were 0.614 (sd 0.243) and 0.559 (sd 0.245) for the usual care group. QALY gain was 0.055 (95% CI: 0.008 to 0.102).

Incremental cost per QALY gain from the NHS and PSS perspective is £18,652. The net benefit at £20,000 per QALY is £66 (95% CI: -£933 to £1053) and the probability that it is cost-effective at this level of willingness-to-pay is 0.55.

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Further planned analyses include the estimation of participant costs and the value of lost productivity. We will also report the results of imputing missing data and sensitivity analyses of assumptions, primarily around the cost of the intervention.

Consequences - CBT given as an adjunct to pharmacotherapy for primary care based patients with treatment resistant depression offers good value for money when judged against the criteria used by the National Institute for Health and Clinical Excellence (NICE).

SP025

Has Having Heart Disease Changed Your Life? - A thematic analysis of responses by people on a coronary heart disease (CHD) register

Alison Smith, Elizabeth Barley, Rachel Phillips, Anthony Mann, André Tylee
King's College London, Denmark Hill, London, UK

The Problem Primary care registers enable access to patients who have CHD to establish its short and long term effects. Is this experience always negative? In hospitalised patients, positive illness perceptions are associated with attendance at rehabilitation and return to work following MI (Petrie et al 1996).

The approach The primary aim of the UPBEAT (NIHR RP-PG-0606-1048) cohort of 803 people on the CHD registers of 16 South London practices is to monitor the relationship between CHD and depression over 4 years. As a sub study, we asked 548 consecutive participants: "Has having heart disease changed your life? If so, was that change for the better, worse, both or neither." Patients were also asked to elaborate; answers were subjected to thematic analysis.

Findings Respondents (394 male) were aged 27 to 98 yrs. They had GP recorded CHD for a mean of 12.4 SD8.4 years. 228 participants were ambivalent to the effect of CHD, 120 reported that their life was better and 200 said it was worse. In the 'better' group themes were (some patients made >1 response): 1) Healthier Living (n=39): patients had changed their health behaviour, increased their exercise, improved their diet and become more active. *"I'm fitter and healthier*" 2) Recognised Mortality (n=52): responses related to having a "*wake up call*", increased awareness of their influence over their health and a greater appreciation of life. 3) Stress Reduction (n=29): participants reported having "*slowed/calmed down*" and being reassured by treatment. Some changed their work and were spending more time with family or friends. *"It encouraged me to slow down and have 20 years happy retirement so far"*. In the 'worse' group themes were: 1) Restricted Lifestyle (n=107): participants reported being limited, less active and being "*slowed down*". Restrictions around the kind of holiday they could take were also a problem. 2) Recognised Mortality (n=53): this related to having to be more health conscious and fear of dying or having another heart attack. Some reported a "*ruined life*". 3) Loss and Burden (n=40): CHD had led to loss of work, financial burden and loss of love life. *"It affected my love life with my wife, meaning it affected life for the worse - much worse".*

Consequences Most participants said CHD had changed life for the better or worse. Both groups reported greater recognition of their mortality and changing their health behaviour. However, for those who felt their life was worse these changes were viewed negatively, whereas those who reported their life was better viewed the same changes positively. We will track the implications of these reported impacts during follow up on depression, quality of life and service use.

SP026

Assessing severity of depression in UK primary care using the QOF depression indicators - a systematic review

Elizabeth Shaw[1], Daniel Sutcliffe[1], Terence Lacey[1], Tim Stokes[1,2]
[1]NICE, Manchester, UK,[2]University of Leicester, Leicester, UK

The Problem - The UK quality and outcomes framework (QOF) provides financial incentives for a range of clinical quality indicators in primary care and has been managed by the National Institute for Health and Clinical Excellence (NICE) since 2009. Indicators should have an evidence base to support their use and any potential unintended consequences should be identified and rectified otherwise they may have adverse

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effects on patient care. Two indicators on depression severity assessment were introduced into QOF in April 2006 and 2009: one at diagnosis and one at follow-up after diagnosis. In 2011 NICE were asked to review the evidence base for these owing to concerns that there is limited evidence that they lead to improved health outcomes for people with depression and that they may have unintended consequences.

The approach - We systematically reviewed the evidence for the effectiveness of assessing the severity of depression using structured tools in UK primary care and unintended consequences as to the use of the two QOF depression severity indicators as self-reported by GPs and patients. We presented findings using GRADE evidence profiles.

Findings - There is very low quality evidence that assessing severity in a structured way at diagnosis using a validated tool leads to the selection of interventions appropriate to the severity of depression. However no evidence on whether structured assessment of severity and subsequent treatment based on the assessment resulted in improved health outcomes, such as remission of depression or improved quality of life, was found. Patients and GPs had different perceptions of the value of assessing severity of depression at diagnosis, with patients generally being more positive than GPs. GPs considered that the routine use of questionnaire severity measures as incentivized by QOF had a number of unintended consequences, specifically compromising the doctor-patient relationship, threatening holistic practice and intuition and interfering with the consultation process.

No evidence on how assessing severity in a structured way at follow-up impacts on either health outcomes, or any measure of process, such as modification of treatment or rates of referral was identified. However, patients considered assessment at follow-up to be a useful monitoring tool and the results seemed to reflect patients' accounts of their depression over time. No evidence on the views of GPs on a structured assessment at follow-up was identified.

Consequences - Any estimate of effect of structured depression severity assessment in general practice is very uncertain. GPs consider routine use of questionnaires as incentivized by the indicators has unintended consequences which could adversely affect patient care. Future depression QOF indicators need a robust evidence base to support their use to improve health outcomes for patients and should be piloted prior to their introduction to minimize the risk of unintended consequences.

SP027

Jena-Paradise-Study: Evaluation of a practice team supported, self-directed exposure training for patients with panic disorders and agoraphobia in primary care - protocol of a cluster-randomized controlled trial

Paul Thiel, Thomas Hiller, Monika Storch, Nico Schneider, Jochen Gensichen
Institute of General Practice and Family Medicine, Jena University Hospital, Friedrich-Schiller-University, Jena, Germany

The idea - Anxiety disorders in Germany have a one year prevalence of 14.5%, panic disorders appear in 6.3% of the patients in primary care. The effectiveness of anxiety treatment with guided self-help and collaborative care in primary care settings has been shown before. Aim of the project is to examine, if a practice team supported, self-directed exposure training for patients with panic disorders and agoraphobia in primary care leads to a significant improvement of the Beck Anxiety Inventory (BAI), compared to a treatment without training.

Why it matters - Patients with panic disorders belong to the highest users of the health care system; this fact leads to a relevant health economic burden. Panic disorders and agoraphobia can heavily affect the patients' subjective wellbeing and quality of life. Secondary care treatment of anxiety disorders in Germany is cost-intensive and limited due to capacity. That's why the General Practitioner (GP) increasingly takes on an important role in anxiety diagnosis and treatment. This project aims to provide an effective and economic treatment for patients with panic disorders and agoraphobia, which can be implemented in small primary care practices in Germany.

Next steps - We will perform a prospective, two-armed, multi-centre, and cluster-randomized controlled trial. 300 patients with panic disorders with or without agoraphobia (ICD-10 F40.01, F41.0) from 60 small primary

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care practices in Middle Germany will be included in the trial. The recruitment of the patients will be carried out by the primary care provider. Within the intervention the GP will be trained to teach the patients the supported, self-directed exposure program, the related Health Care Assistant (HCA) will be trained in patient coordination and telephone monitoring. Every GP will be trained in evidence-based diagnosis and treatment of anxiety disorders. The control consists of usual care connected with recommended standard.

Risks - The study is designed to evaluate a complex intervention for anxiety treatment. The use of different modules admittedly complicates the definition of one specific component to be the cause of the results, but the effectiveness of guided self-help in the primary care setting has been shown before. Therefore we expect a significant reduction of anxiety symptom induced by the intervention. Furthermore the costs of the intervention pose another risk. Until now the evidence on cost-effectiveness of anxiety treatment in the primary care setting in Germany is still unclear. The practice team support in this project will be mainly conducted by the HCA, who have the lowest qualification in the ambulatory health care system in Germany. As a consequence the cost-effectiveness of a practice team supported, self-directed exposure training can be supposed.

SP029

Displaying empathy in online CBT for primary care patients with depression: a conversation analytic study of therapist-patient interactions during the IPCRESS trial

Stuart Ekberg[1], Ali Heawood[1], Rebecca Barnes[2], Alice Malpass[1], David Kessler[1]
[1]*University of Bristol, Bristol, UK,*[2]*Plymouth University, Plymouth, UK*

The Problem: Interest in computer-mediated mental health care is increasing worldwide, driven by factors such as lack of availability of conventional face-to-face psychotherapy and the need to offer therapeutic encounters that suit the particular characteristics of patients. The IPCRESS trial found that online CBT was effective for primary care patients with depression. A qualitative interview study conducted in parallel indicated that online CBT was acceptable to patients who are comfortable with writing feelings down and attracted to the anonymity of an online relationship. However, questions remain concerning how therapists and patients develop a productive working relationship online. Specifically, how do online therapists detect emotional content and display empathy when they cannot see or hear their patients?

The approach: We used the methodology and empirical findings of Conversation Analysis to analyse therapist-patient interactions in online CBT, using a sub-set of therapy transcripts collected during the IPCRESS trial. These transcripts provide a direct typed record of therapists' and patients' posts during online therapy. We studied 22 patient-therapist pairs, each of which engaged in 1-10 therapy sessions; a total of 149 sessions.

Findings: Our analysis identified a recurrent point in therapy sessions where it was consistently possible for therapists to display empathy. Posts during online CBT are tightly organised into sequences where therapists ask questions and patients provide responses. This system gives therapists a discretionary space immediately before they ask their next question, where they can specifically reply to patients' responses. When therapists use this opportunity, they do so in ways that orient to the emotional intensity of the patient's previous post. Where there is little emotional intensity, therapists can respond by simply thanking patients for information provided. Alternatively, therapists can reply to intensely emotional posts by displaying empathy. Our analysis shows how empathy does not substantially delay other important therapeutic tasks, such as history-taking. We suggest how our findings can be used as a basis for quantitative work examining the relationship between communicative practices and treatment outcomes.

Consequences: Conversation Analysis allows us to demonstrate that therapists conducting text-based online CBT are successfully able to display empathy and that being empathic does not necessarily detract from other core goals of CBT consultations. Through its capacity to identify interactional practices used by practitioners and patients during consultations, Conversation Analysis can help us to unpack the ‘black box' of interaction-based interventions used within primary care research.

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SP031

Early discontinuation of anti-depressant therapy in the primary care setting: continuers, discontinuers and contemplators - A qualitative study

Mariesha Jaffray[1], Isobel Cameron[1], Amanda Cardy[1], Ian Reid[1]
[1]University of Aberdeen, Aberdeen, UK, [2]NHS Grampian, Aberdeen, UK

The problem - Sub-optimal treatment length using antidepressants still predominates (<6 months for new patients and <2 years for patients with previous episodes)[1,2]. Illness, patient characteristics, side effects and nature of the doctor-patient relationship[3] are known to affect adherence as do patient attitudes which are often mixed and changeable during the course of treatment. Three time points have been identified when patients may benefit from intervention from a practitioner: when patients experience a return to function or adverse side effects; or during a latency period, characterised by beliefs of apparent ineffectiveness of treatment[4].

The approach - The objective of this work was to explore patient experiences with newly initiated courses of antidepressants and to improve understanding of what leads to adherence or discontinuation. Semi-structured interviews were conducted with patients aged 18 or over and initiated on antidepressant therapy < 6 months previously. A purposive sampling framework was applied to ensure a mix of age, sex and deprivation status of participants. Interviews were audio recorded and transcribed verbatim. A thematic analysis was conducted based on consensus of coding frame by two team members.

Findings - Thirty-six patients from four UK practices participated.

Six main themes emerged: (1) previous experience of depression/treatment with antidepressants; (2) circumstances; (3) initiation of treatment; (4) knowledge/understanding of SSRIs/depression;(5) treatment journey and (6) attitudes to antidepressants.

Adherence was associated with active patient role in treatment initiation decision making, positive attitudes towards antidepressants, external support, limited side effects, symptom improvement, good understanding of antidepressants and treatment guidelines, regular review/support from GP and fear of relapse.

Discontinuation was associated with limited patient role in treatment initiation decision-making, predominance of negative attitudes towards antidepressants, limited external support, limited/no symptom improvement, side effects, limited understanding of antidepressants and treatment guidelines, limited reviews/support and fears of addiction.

Consequences - The results of this study support previous work by Malpass et al (2009)[4] and suggest that patients discontinue antidepressant treatment early due to their experiences during treatment and their negative attitudes towards antidepressants. Particular attention should be made during four time points: the initiation of therapy, during the experience of side effects, during an apparent return to function and during a latency period. Interventions should focus on these times points and steps should be taken to improve patient understanding of depression/antidepressants early on.

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SP032

TRUMP: A Trusted Mobile Platform for the Self-Management of Chronic Illness in Rural Areas: the case of depression

Mariesha Jaffray[1], Isobel Cameron[1], Ian Reid[1], Pete Edwards[1], Rajanish Dass[2], Michael Catt[3], Chris Edwards[4], Tim Norman[1], Patrick Oliver[3], Peter Phillimore[3], Muttukrishnan Rajarajan[5], Paul Rodgers[6], Mike Trenell[3], Peter Wright[3], Chris Burnett[1], Papreen Nahar[3]
[1]University of Aberdeen, Aberdeen, UK, [2]Indian Institute of Management, Ahmedabad, India, [3]Newcastle University, Newcastle, [4]Lancaster University, Lancaster, [5]City University, London, [6]Northumbria University, UK

The idea - The Trusted Platform for the Self-Management of Chronic Illness in Rural Areas study (TRUMP) explores use of mobile phone technologies in the development of a trusted platform to support chronic disease management in rural areas of the UK and India. Diabetes and depression are exemplars for development of this platform and its evaluation. This abstract focuses on the depression element.

Why it matters - Depression is a leading cause of morbidity in both developing and developed countries. The management of chronic conditions, such as depression, is particularly challenging for people living in rural areas. In India around 71%, and in the UK, around 20% of the population are rural dwellers with large parts of the country being sparsely populated. This can lead to health care inequality due to difficulties in meeting transport costs and in accessing specialist services. Telephone technology has been demonstrated to be an effective component of collaborative depression care. These strategies to improve mental health and help prevent relapse might also have a role in improving access to effective care for people residing in remote areas. Given the worldwide rise in mobile phone subscription since the early 2000s, there is great potential for mobile phone technology to have a role as an active component of collaborative care for depression.

Next steps - A systematic review of literature exploring effectiveness of telephone technology in the management of depression, and qualitative interviews with patients is underway. These will inform the development of a pilot intervention. Rural areas in the UK and India will be selected (informed by an appraisal of epidemiological data). Following this, key informant, staff and patient interviews as well as clinic observations will be conducted. These will explore how mobile phone services may offer an effective component of managing depression for people in rural areas. These results will inform the design of the management programmes, in particular the requirements of the information architecture and interfaces for pilot work.

This unique project integrates multidisciplinary perspectives (including primary care based health services research, health economics, anthropology, computing science and design and technology). Research outputs will be of significant interest to researchers across these fields and the dissemination plan includes publication at leading destinations in these fields.

Risks? - One of the biggest challenges of the project is trust and security. The research team will need to work hard to ensure the secure and reliable management of medical data and information. There is also uncertainty regarding the quality of routinely collected data in both locations and as the project utilises a mix of collaborators which span the India/UK partnership, there may be challenges in ensuring that the team can work together whilst being geographically distant.

SP033

A 'Making Sense of Depression' Framework: A lay model of explanation and understanding

Penny Louch[2,1]
[1]UCL, London, UK, [2]Health E1, Homeless Medical Centre, London, UK

The Problem: How do patients with depression who take antidepressant medication long-term understand their illness? It is important for clinicians in primary care to gain this knowledge in order to facilitate and actively negotiate care, treatment plans and expected outcomes with their patients whilst remembering the patient is their therapeutic ally (1).

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The Approach: A primary care based, mixed method study that aimed to explore the meaning of depression for people taking long-term antidepressant medication was undertaken. The study had two phases: a survey of a general practice population and in-depth interviews with a sub-sample of the original survey respondents. Drawing on the work of Kleinman and his theory of explanatory models of illness (1,2), a questionnaire was sent to 572 patients who were receiving either a tricyclic antidepressant or an SSRI antidepressant from one General Practice. A sub-sample of 30 patients was purposively identified from the 201 questionnaire respondents and were interviewed using Lloyd at al's Short Explanatory Model Interview (SEMI) framework (3). The aim of the interviews was to increase the depth and breadth of understanding of patients' explanatory models in order to understand how they understand their depression, anticipate the cessation of antidepressant medication, what their anxieties and concerns might be, and how this transforms their perception of recovery and cure.

Findings: The interview accounts revealed how individuals who have lived with depression and taken antidepressant medication for a sustained period of time try and make sense of their illness experience. There were four dimensions which framed how this group of patients tried to make sense of their illness:

1. Naming

2. Causes and triggers of depression

3. Illness coherence

4. Treatment and control of depression

These four dimensions capture how patients understood, adapted and integrated their illness experience into their everyday lives.

Consequences: If clinicians understand the patient's explanatory model for their depression they will be better able to involve patients in shared decision-making and provide personalised care (4). It is suggested that the use of this 'Making Sense of Depression' Framework will facilitate discovery of the patient's lay model of explanation thus improving patient satisfaction and clinical outcomes.

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SP034

Models of recovery in patients with depression who take antidepressant medication long-term

Penny Louch[2,1]
[1]*UCL, London, UK,* [2]*Health E1, Homeless Medical Centre, London, UK*

The Problem: Some patients identify concern and fear about stopping antidepressant medication. The problem for clinicians is to understand whether these concerns are dependent upon a personal construction of the meaning of recovery from a depressive illness.

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The Approach: A primary care based, mixed method study that aimed to explore the meaning of depression for people taking long-term antidepressant medication was undertaken. The study had two phases: a survey of a general practice population and in-depth interviews with a sub-sample of the original survey respondents. Drawing on the work of Kleinman and his theory of explanatory models of illness (1,2), a questionnaire was sent to 572 patients who were receiving either a tricyclic antidepressant or an SSRI antidepressant from one General Practice. A sub-sample of 30 patients was purposively identified from the 201 questionnaire respondents and were interviewed using Lloyd at al's Short Explanatory Model Interview (SEMI) framework (3). The aim of the interviews was to increase the depth and breadth of understanding of patients' explanatory models in order to understand how they understand their depression, anticipate the cessation of antidepressant medication, what their anxieties and concerns might be, and how this transforms their perception of recovery and cure.

Findings: Some individuals with depression who had taken antidepressant medication long-term had concerns about stopping antidepressant treatment and had developed recovery models which supported their treatment decision. Participants identified three recovery models within which antidepressant medication was pivotal to their understanding of what recovery meant to them:

1. Maintenance
2. Restoration
3. Cure

Some participants became expert patients over time and developed an expertise regarding self-care and ongoing treatment with antidepressant medication. However, patients were not always able to share their recovery model with their GP. This problem increased these patients' fears and anxieties about seeing their GP in case their GP told them to stop medication.

Consequences: Patients defined recovery models which were subjective, complex and at times obscure; recovery is not a simple model with a single meaning. These three recovery models are not mutually exclusive definitions. They represent the complexity of recovery with patients able to hold more than one model at a time, or move between models within an episode of depression. It is important for clinicians to understand these models.

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SP035

The psychological impact of a lifestyle intervention addressing behavioural risk factors for chronic disease

Suzanne McKenzie[1,2], Mark Harris[2], Megan Passey[3], Mahnaz Fanaian[2], Rachel Laws[3], Upali Jayasinghe[2]
[1]James Cook University, Townsville, Queensland, Australia, [2]University of New South Wales, Sydney, New South Wales, Australia, [3]Sydney University, Sydney, New South Wales, Australia

The Problem - Unhealthy lifestyle choices have been associated with anxiety and depression but it is not clear if they are also associated with psychological distress (behavioural response to a stressor). Positive behaviour changes may reduce psychological distress and contribute to improved mental health however there is also evidence that "disease risk awareness" may increase distress. This study aimed to determine if a cluster randomised controlled trial of a complex general practice based intervention to prevent vascular

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disease changed the psychological distress of the participants and to explore whether this change was related to changes in physical activity, diet or weight.

The approach - The trial was conducted in Australian general practice. 814 patients aged from 40-65 years, with at least one risk factor for cardiovascular disease, were randomly selected from patient records in 30 practices. Patients with pre-existing cardiovascular disease were excluded. The intervention consisted of a practice based health check, brief intervention tailored to their stage of change and referral to a lifestyle management program which consisted of individual and group sessions with an exercise physiologist or dietician. The Kessler Psychological Distress Scale (K10) was the continuous outcome variable. Dichotomous patient behavioural risk variables were computed using self reported questionnaire responses from baseline and 12 months. Self reported demographic characteristics and markers of socioeconomic status were measured at baseline. Bivariate analysis followed by multilevel, multivariate linear regression models were performed to determine the impact of the intervention on the outcome variable and to control for confounders.

The Findings - There was a significant reduction in K10 between the intervention and control groups from baseline to 12 months ($p<0.01$) but this was not associated with either self reported physical activity or diet; or with a change in these behaviours using analysis of variance ($p<0.05$). The linear regression model demonstrated that K10 at the completion of the trial was predicted by the K10 at baseline, being allocated to the intervention group and being unable to work ($p<0.05$). The variance of distress between practices was reduced by 98% after adjustment for independent variables at the practice level; and by 42% at the patient level.

Consequences - Psychological distress is not raised by cardiovascular disease risk awareness. Being in the intervention group reduced distress and baseline distress was the strongest predictor of distress at 12 months. The change in distress is independent of a change in diet, physical activity or weight but external stressors such as being unable to work are significant contributors. Participation in healthy lifestyle programs should be encouraged as they not only potentially result in improved lifestyle choices but also reduce psychological distress. This impact seems to be independent of any actual change in reported behaviours.

SP036

Psychometric Properties of the Quick Inventory of Depressive Symptomatology: Systematic Review

Thomas Reilly, Isobel Cameron, Ian Reid, John Crawford
University of Aberdeen, Aberdeen, UK

Problem - Depression is a common psychiatric disorder and a major burden of primary care. The importance of measuring symptom severity in depression is a key priority of implementation in national guidelines (1), however, concerns remain regarding the accuracy of commonly used scales (2). The Quick Inventory of Depressive Symptomatology (QIDS) is a brief scale used to measure severity of depressive symptoms, based on DSM-IV criteria (3). There are both self-rated (QIDS-SR) and clinician rated (QIDS-C) versions. The psychometric properties of the QIDS have not previously been systematically reviewed.

Approach - We performed a systematic literature review of original research which used either the QIDS-SR or QIDS-C and contained psychometric data. We included studies which reported factor analysis, internal consistency, concurrent validity, discriminant validity, re-test reliability or responsiveness to change. Both Classical Test Theory and Item Response Theory methods were considered. Using the keywords "QIDS" and "quick adj inventory", we searched the following databases: MEDLINE, EMBASE, PsychINFO, CINAHL, Web of Science and the Cochrane Library. On the basis of title and abstract, two authors independently decided which full text articles should be sought, with disagreement resolved through discussion. Upon reviewing full Methods and Results, the same two authors chose which papers to include. From these, relevant data were extracted using a pro-forma.

Preliminary Findings - The initial search retrieved 293 individual studies. On the basis of title and abstract, we obtained the full text of 138. On assessment of the complete paper, we extracted data from 30 papers. Initial results show the internal consistency of QIDS-SR and QIDS-C is generally acceptable, Cronbach's alpha ranging from 0.68 to 0.89 (QIDS-SR) and from 0.65 to 0.87 (QIDS-C). All factor analyses showed the scales to be unidimensional. Further analysis will be presented of pooled correlation data and

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responsiveness to change. 26 studies were based in the US, restricting the generalisability of the scale to this population.

Consequences - The QIDS scales have potential for use in measuring depression severity. However, to evaluate whether they are generalisable, their psychometric properties should be measured in more settings outwith the US.

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SP037

The association between maternal smoking and the prevalence of ADHD in nine year old children

Udo Reulbach[1,2], Elizabeth Nixon[1], Emma Ladewig[1], Tom O'Dowd[1]
[1]Trinity College Dublin, Dublin, Ireland, [2]HRB Centre for Primary Care Research, Dublin, Ireland

The Problem: Attention Deficit Hyperactivity Disorder (ADHD) is the most commonly diagnosed behavioural disorder amongst children. The precise cause of ADHD remains unclear, though evidence suggests that multiple genetic and environmental factors interact in this complex disorder. In recent years it has been suggested that maternal smoking may play an important role in the development of ADHD.
The approach: The study sample from the first wave of Growing Up in Ireland - the National Longitudinal Study of Children was randomly selected using a two-stage sample design resulting in a representative sample of 910 Primary Schools in the Republic of Ireland and 8,568 nine-year-olds and their families. This study uses a sample of 8,358 biological mother and child pairs, which accounts for 97.5% of the entire GUI child cohort sample. Analysis was based on statistically reweighted data to ensure that it is representative of all nine-year-olds in Ireland.Central 95% confidence intervals were calculated using a Bayesian approach (24). Univariate tests included Pearson's chi-square and Mann-Whitney U tests. Crude odds ratios (using logistic regression) of a child having ADHD were calculated for each of the potential exposure to smoking such as the smoking during pregnancy, current smoking of the biological mother, current smoking of a partner, and exposure to second hand smoke. The latter was estimated with a proxy question regarding smoking in the same room as the study child. Logistic regression models were then adjusted with maternal age, lone motherhood, sibship status of the child, highest maternal education, occupational household and class median equivalised household income.

Findings: The prevalence of ADHD in nine year old children was 1.16% (95% CI: 0.95 - 1.42%). Current maternal smoking was significantly associated with a risk increase for ADHD in the study child (odds ratio (OR) of 3.93 (95% CI: 2.57-6.01; $p<0.001$). The OR was 4.90 [3.19-7.52]; $p<0.001$) if the mother was smoking during pregnancy. After adjustment for maternal age, lone motherhood, sibship status, highest maternal education, occupational household class and equivalised household income, a strong confounding effect of socioeconomic factors was evident. All adjusted odds ratios for exposure to smoking were lower than the crude odds ratios and only factors concerning smoking of the biological mother remained significant. The smoking of a biological mother during pregnancy again had the highest attributable risk of ADHD in the study child with an adjusted OR of 2.74 (95% CI: 1.64-4.58).

Consequences: ADHD has significant health consequences for children and adolescents, and is an important issue with profound clinical implications. ADHD in children is significantly associated with maternal smoking.

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It is important to identify any potential modifying factors, in order to direct future education, policy and planning such as smoking cessation approaches targeting women.

SP039

Problem alcohol use among problem drug users: Development of clinical guidelines for general practice

Jan Klimas[1,2], Catherine Anne Field[2], Walter Cullen[1,2]
[1]Graduate Entry Medical School, Limerick, Ireland,[2]UCD School of Medicine, Dublin, Ireland

The problem: Problem alcohol use is common and associated with considerable adverse health and social outcomes among patients who attend GPs in Ireland and other European countries for opioid substitution treatment. This paper aims to describe the development and content of clinical guidelines for the management of problem alcohol use among current or former opioid users attending general practice for methadone treatment.

The approach: The guidelines were developed in three stages: i) identification of key stakeholders; ii) development of evidence-based draft guidelines, and iii) determination of a modified 'Delphi-facilitated' consensus among the group members. These guidelines were informed by a review of scientific evidence and a qualitative study, results of which will be presented also at this conference.

Findings: The guidelines incorporate advice for GPs on all aspects of care of this problem, including i) definition of problem alcohol use among problem drug users, ii) screening / identification of problem alcohol use, iii) interventions for treatment and management of problem alcohol use, v) referral to secondary services and vi) role of GPs in the management of persistent problem alcohol use and on-going care.

Consequences: General practice has an important role to play in the care of problem alcohol use among problem drug users, especially patients who attend for methadone treatment. Further research on strategies to inform the implementation of these guidelines is a priority.

SP040

Management of problem alcohol use among drug users in primary care: Exploring patients' experience of screening and treatment

Catherine Anne Field[1], Jan Klimas[1,2], Gerard Bury[1], Joseph Barry[3], Eamon Keenan[4], Bobby Smyth[4,3], Suzi Lyons[5], Walter Cullen[1,2]
[1]UCD School of Medicine, Dublin, Ireland,[2]Graduate Entry Medical School, Limerick, Ireland,[3]TCD, Dublin, Ireland,[4]Addiction Services, HSE, Dublin, Ireland,[5]Health Research Board, Dublin, Ireland

The problem: Problem alcohol use is common among drug using patients who attend GPs in Ireland (35%) and other European countries. It is associated with adverse health outcomes including physical, psychological and social implications. These include various forms of liver disease exacerbated by the high prevalence of Hepatitis C among IDUs (62-81% in Ireland), fatal/non-fatal opiate overdose, mood anxiety, personality disorders, poor emotional health and wellbeing, early cessation of drug treatment, poor treatment outcomes and an increase in anti-social behaviour. Evidence has demonstrated the role of primary care in screening and treatment for problematic alcohol use and the importance of a stepped approach to alcohol treatment. This study examined patients' experience of being screened and treated for problem alcohol use, the barriers and enabler to addressing these issues and their views on how these therapeutic interventions can be improved.

The Approach: We conducted semi structured interviews with patients (n=38) attending general practice for methadone services. Patients with known alcohol use were identified through GPs taking part in the study who were recruited through the central treatment list. Patients were asked about their current and former alcohol use, their experience of being screened and treated and views on how services can be improved.

Findings: Patients' interviewed, commented on the serious nature of problem alcohol use among their patient cohort, they were aware and had personal experience of the physical, psychological and social harm

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caused by problem alcohol use including liver disease, exacerbation of hepatitis C, depression, anxiety and death. Most patients' report being screened for problem alcohol use at initial assessment but few reported routine screening or treatment. Patients' highlighted the importance of a "good" relationship with healthcare professionals as key to the management of this issue. Main themes / codes: Patients and their experience of alcohol, experience and knowledge of alcohol related issues, experience of therapeutic interventions, patients view on service improvement.

Consequences: Patients' are aware of the prevalence and harm associated with problem alcohol use but are not fully aware of what constitutes 'safe drinking'. Their experience of and attitudes towards therapeutic interventions for problem alcohol use are important resource when developing services in this area.

SP041

Towards Early Intervention for Youth Mental Health in Primary Care: A Qualitative Study in Deprived Urban Areas

Walter Cullen[1], Dorothy Leahy[1], Elisabeth Schaffalitzky[1], Claire Armstrong[1], David Meagher[1], Gerard Bury[2], Blanaid Gavin[3], Fiona McNicholas[3], Ray O'Connor[4], Eamon Keenan[5], Bobby Smyth[5], Barbara Dooley[2], Tom O'Toole[8], Ellen O'Dea[5], Rory Keane[5], Linda Latham[5], Veronica O'Keane[5], Edel Reilly[6], Lena Sanci[9], Pat McGorry[10]
[1]Graduate Entry Medical School, University of Limerick, Limerick, Ireland, [2]UCD, Dublin, Ireland, [3]Lucena Clinic, Dublin, Ireland, [4]General Practice, Killeely, Limerick, Ireland, [5]Health Services Executive, Ireland, Ireland, [6]F2 Centre, Dublin, Ireland, [7]Limerick Regeneration, Limerick, Ireland, [8]Brown Alpert Medical School, Rhode Island, USA, [9]Department of General Practice, Melbourne University, Australia, [10]Orygen, Melbourne, Australia

The problem: As the healthcare professional most often consulted by young people, GPs have a central role in early detection of mental and substance use disorders. However, international data suggests many young people have concerns bringing these issues to their GP, and GPs themselves experience difficulty identifying and treating mental health issues. The aim of this study therefore is to determine young people's experience of mental and substance use disorders treatment in two deprived urban areas to inform future early intervention practice development.

The approach: Semi-structured interviews were conducted with 37 healthcare professionals in two deprived urban centres, Dublin and Limerick. Interviews were recorded, transcribed and inductive thematic analysis carried out using QSR NVivo9. Codes were generated from the data, collaborated on by the research team, and arranged into themes relating to the research question.

Findings: Two major themes, '*Context*' and '*Intervention*' were identified. 'Context' suggests youth mental health issues (especially service development and treatment) are considerably influenced by wider societal context and local factors (e.g. family). 'Intervention' suggests many barriers and enablers to helping to young people, be that at the identification, treatment or engagement stages of intervention.

Consequences: Many factors influence how a young person develops, seeks help for, and engages with primary care for mental and substance use disorders. This knowledge, coupled with a parallel study of young people will be useful in developing interventions in primary care that are context-specific for these two areas and perhaps other deprived urban areas.

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SP043

Growing our own GPs- working together to nurture the future GP workforce

Caroline Anderson
Nottingham Medical School, Nottingham, UK

Poster of workshop 3H

The poster describes in more detail a series of initiatives developed from Nottingham Medical School and East midlands Deanery to encourage appropriate career management at all levels to facilitate consideration of General Practice as a career.

The paradox of fifty percent of the workforce being required in primary care yet students' experience in training being predominantly with doctors who have chosen secondary care provides challenges and opportunities.A collaborative and integrated approach is required.

SP044

M Career Soc- student career society activities at medical school

Caroline Anderson
Nottingham Medical School, Nottingham, UK

This Poster links with the workshop and poster 'Growing our own GPs' working together to nurture the future medical workforce.Please attend.

M Career soc is one of several student career societies at Nottingham Medical School, of which SCRUBS (surgery) has the hightest national profile.

This poster describes the co-ordinating role of the M Career society. They contribute student sections to the Nottingham Medical School Career Handbook which is available on the East Midlands Deanery website.Other activities include arranging the biannual careers fayre, a monthly forum for medical specialties and supporting career development for preclinical students eg 'a day in the life of a final year student'.

Since this poster was produced there has been a proliferation of student career societies eg Pins and needles (anaesthetics),GP Soc, Juniors (paeds), mind matters (psych) and clinical ethics society. Many are affiliated with the academic Careers Advisory Group so they can share an events diary on the student 'networked learning environment' .

New GMC recommendations have enhanced curriculum input related to careers and in 2013 all final year students will undertake a 'career taster week' which is currently being devised.

SP045

General Practitioners' increased involvement in core teaching: welcomed, onerous or natural progression?

Kerry Boardman, Ann Wylie, Yuko Takeda, Kathleen Leedham-Green, Rini Paul, Ruth Sugden
King's COllege London School of Medicine, London, UK

The Problem - General Practice is thought to contribute, on average, about 15% of the teaching for medical undergraduate curricula in UK medical schools, a figure which is also thought to be steadily increasing. The

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small group nature of teaching in General Practice means that it is ideally placed to provide the supervised patient contact and feedback opportunities that students identify as vital and demand more of.

In the past couple of years, the King's Undergraduate Medical Education in the Community (KUMEC) team have responded to student calls for more General Practice teaching by introducing additional community components in each of the clinical years. In addition, our GP teachers have been given more in-course assessment responsibilities, in the form of global student grades, coursework assignments and use of workplace-based assessment tools, such as the Mini-CEX.

Whilst these changes should prove positive for students, The KUMEC team wanted to know how feasible this increased workload was for our teaching practices. In Phase 3, for example, we have added what equates to around 4000 student-hours of teaching time. Might quality be comprised, or conversely, might this increased level of student teaching be welcomed and contribute to a higher level of satisfaction for the GPs with regard to their teaching roles?

The Approach - As part of a larger two year curriculum evaluation project exploring the teaching of social determinants of health, General Practice Teachers involved in the new teaching components were invited to focus groups to explore the acceptability, feasibility and sustainability of these additional requirements.

Findings - The results will be analysed and presented with regard to organisational aspects, tutor preparedness and sharing positive and negative experiences.

Consequences - The increasing General Practice curriculum developments at King's have been gradual and based on pilots and multisource feedback, but this academic year has seen the full implementation of these changes. There is a possibility that such an increase is too onerous for some practices, without significant additional support. Findings from this study will help us to identify faculty development needs and inform decisions regarding further curriculum improvement.

SP046

The acceptability and reliability of Video Objective Structured Clinical Examination

Gerard Browne, Julie Struthers, Jon Issberner, Cathy Jackson
School of Medicine, University of St Andrews, St Andrews, UK

The problem - The Objective Structured Clinical Examination (OSCE) is a widely used assessment tool (1). Despite the undoubted strengths of the OSCE, the format is not without limitations (2). It has been reported that the presence of an assessor can lead to a Hawthorne effect whereby behaviour can be modified in response to the presence of the assessor and not the assessment (3). The validity of the OSCE format has also come under scrutiny (4).

The approach - Videotaped OSCEs (VOSCE) have been reported in shoulder and knee examination (5) where the authors identified VOSCE as possibly providing a ‘higher level of consistency' and ‘better quality assurance'.

We first examined the acceptability of VOSCE using a semi-structured questionnaire to sample medical students and faculty assessors. Subsequently we took a cohort of consenting undergraduate medical students (across years 1-3) from University of St Andrews sitting a summative OSCE assessment in January 2012. From this group two OSCE stations were additionally assessed by ‘remote' and ‘delayed' examiners using video-capture technology.

Findings - The questionnaire results showed most students found the presence of an assessor does impact on their performance. When questioned about using video in the OSCE format the majority had no concerns about this but did not favour replacing assessors with video alone. Among the faculty respondents there was triangulation of the student responses on the themes of video use and technical challenges involved. We examined the communication skills (n=142) and Basic Life Support (n=57) stations to determine the rater reliability of VOSCE assessment.

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Consequences - The innovative use of video-capture technology applied to health sciences education may provide a solution to some of the limitations of the OSCE format, in particular the Hawthorne effect. An OSCE circuit that runs without individual station assessors will benefit from a lack of assessor influence and be less labour intensive.

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SP047

Early Patient Contact: Current issues and Initial Experience at Ireland's Newest Medical School.

Aidan Culhane[1], Peter Cantillon[2], Walter Cullen[1]
[1]*University of Limerick, Limerick, Ireland,* [2]*National University of Ireland, Galway, Ireland*

The Problem: It is already known that a wide variation in experiences, learning outcomes and arrangements for early patient contact programmes already exist in medical schools. It is know that students learn a lot on EPC programmes but the extent to which the set learning outcomes of these EPC programmes are achieved is not known and equally importantly the extent to which other learning experiences occur is equally unknown. This is particularily relevant for new graduate only medical schools , where very little work has been done at looking at the experiences of "more mature medical students" on early patient contact programmes.

Hence we decided to carry out this research project into the learning experiences of graduate entry medical students on the early patient contact programme at the graduate entry medical school at the University of Limerick.

The Approach: A literature search was done to determine the evidence base for early patient contact programmes. Medline and ERIC databases were searched and hand searches of Medical Education, Medical Teacher, Academic Medicine and BEME reviews were performed.

Following this a qualitative research project was undertaken to determine the learning experiences of graduate medical students on the University of Limerick graduate medical school early patient contact programme. A purposive sample of 10 students who had just completed their early patient contact programme were interviewed using a semi structured interview format. A initial thematic analysis of these interviews is currently in progress. The final results will be available for presentation in Glasgow

The Findings: From our literature review we found that most early patient contact programmes occur in the first two years of medical school and up to fifty per cent of them occur in community settings. The literature review revealed that early patient contact programmes can acclimatise students to clinical environments, help students develop self reflection and appraisal skills, make students classroom learning more relevant to clinical practice and help students understand how health and illness are managed from a patients perspective.

Initial results from our qualitative research study at University of Limerick reflect many of the outcomes and challenges in our literature review. Some of the initial findings indicate that the early patient contact programme at the University of Limerick helps students professionalise and socialise into the role of a doctor.

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Consequences: Early patient contact programmes provide an invaluable " starting point educational resource" for many aspects of medical school training. The extent to which medical schools utilise them to their fullest extent will be dependant on medical school resources and different medical school philosophies. Early patient contact programmes provide golden learning opportunities for medical students and medical school curriculum planners and these opportunites should not be wasted.

SP048

Teaching the social determinants of health - campus or community?

Kathleen Leedham-Green, Yuko Takeda, Ann Wylie, Kerry Boardman
King's College London, London, UK

The Problem - Many medical students come from relatively privileged backgrounds[1,] with limited personal exposure to social deprivation. Without an understanding of the social determinants of health there may be a tendency to judge patients who smoke, or who are overweight, or who do not manage their own health well[2,3]. A better understanding of the variability of social circumstances in our communities should allow tomorrow's doctors to empathise better with patients from backgrounds different to their own, and to engage with tackling the causes of ill health rather than simply responding to morbidity.

At King's College London, the limitations of teaching this important topic exclusively on campus or online are recognised. A fundamental change in attitude requires the student to believe that the social determinants of health are both real and important. An established community-based component, that includes visits to a patient in their own home, has had some additional content added and is being re-evaluated to explore how well this enhances teaching of this topic.

The Approach - Our penultimate-year community-based component consists of a longitudinal project where medical students perform a semi-structured interview with a pregnant woman at home and follow the woman through childbirth up until the child is 3 months of age. Students share their experiences in seminars and presentations.

Student reactions to this programme will be assessed through three focus groups, (approximately 5-10% of cohort), and analysed using NVivo. Quantitative data will also be gathered from students from the entire cohort using online evaluation questionnaires immediately after the programme and a year later. The tutors that facilitated the seminars will be interviewed for their reactions to the modified programme.

Findings - The students' perceptions of this community-based component and whether it has helped them appreciate how societal factors influence their patients' health will be presented. We will also present the strengths and areas for improvement in teaching from the GP tutors' perspective.

Consequences - Community based programmes can be time-consuming for teaching institutions to organise. The effort however will be well spent if we can produce more empathetic, tolerant doctors with a passion for social improvement. Evaluation of the efficacy of this course component will not only improve our current teaching programme at King's, but will also be of interest to educational institutions contemplating similar programmes.

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SP049

A dietary history pro forma - does this help students and teaching practices raise and address obesity in General Practice?

Kathleen Leedham-Green[1], Paul Booton[2], Yuko Takeda[1], Rini Paul[1], Ruth Sugden[1], Ann Wylie[1]
[1]King's College London, London, UK, [2]Imperial College, London, UK

The Problem - Recently, in line with government initiatives at tackling what is seen as an obesity epidemic, UK medical schools have started to ensure that obesity as a topic is covered, especially within final year curricula. Whilst the NICE Obesity Guideline (2006) is a useful resource, there is little information or research for medical students and their teachers with regard to raising the issue of obesity in a consultation, how to take a dietary history and how to support and manage patients on a practical level.

The Approach -Two London medical schools have recently introduced the topic of obesity into their curricula - Imperial College developing a dietary history pro forma and King's College London requiring students to write a 500 word case study of a patient encounter with regards to obesity.
120 final-year King's medical students, out of a cohort of approximately 450, were given access to the Imperial College dietary history pro forma to the use at their discretion during their 8 week GP rotation as a way of helping them do their 500 word case study.

As part of a wider 2 year ethically approved research programme, a sample of these case studies will be thematically analysed to look at the application of the pro forma, and a comparison will be made with the case studies written by other students who did not have access to it.

Findings - We will present the perceived usability and usefulness of the Imperial College dietary history pro forma by medical students, with an analysis of the depth of information elucidated comparing case studies written by students that adopted the pro forma and those that did not.

Further areas of research are also considered, for example how far this pro-forma complemented current practice protocol of GP tutors and/or whether it has contributed to the further enhancement or development of practice protocol.

Consequences - We hope to present a validated tool that medical schools can consider adopting as part of their teaching on obesity. Such a tool would be valuable as we normalise the need to be objective and professional in accepting that obese patients need constructive and consistent approaches, as well as teachers and students having acceptable, validated content for teaching.

SP050

Primary health care preceptor role in the education of graduate and under-graduate students of a federal public university in Brazil - a reference term.

Vitor Hugo Lima Barreto[1,2], Gustavo Godoy[1,2], Rodrigo Cariri[1,2], Mario De Marco[1,3], Lara Neves[1], Regina Monteiro[0]
[1]Universidade Federal de Pernambuco, Recife, Pernambuco, Brazil, [2]Prefeitura da Cidade do Recife, Recife, Pernambuco, Brazil, [3]Universidade Federal de São Paulo, São Paulo, São Paulo, Brazil

The Problem: The reference term presents to the clinical supervisors of a federal public university in Brazil, working at primary health care, a theoretical and practical consulting document. The term comprehends primary health care as a peculiar practice scenario for students in different graduate and under-graduate courses. The objective was to describe important aspects of the teaching-learning process in the community setting and of its participating actors (professionals, managers, students, users, teachers, etc.). **The approach**: The term was built through a collective effort of family practitioners, students and teachers during focal groups and virtual discussions in mailing lists. **Findings**: The aspects detailed in the document are: concept of knowledge in the primary care setting; preceptor and student relationship; theory and practice correlation; evaluation process; teaching and researching in the work setting; politically integrated learning;

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team health care work and the interinstitutional effort to integrate the service and academic worlds. **Consequences**: the article proposes the reintegration of education, research and work in primary health care, where these aspects have been historically separated. The document will help clinical supervisors build an interesting learning environment in primary care.

SP051

Resident as a teacher: pedagogic development during medical residency in primary health care.

Vitor Hugo Lima Barreto[1,2], Regina Monteiro[0]
[1]Universidade Federal de Pernambuco, Recife, Perambuco, Brazil, [2]Prefeitura da Cidade do Recife, Recife, Pernambuco, Brazil

The Problem: Work at Primary Health Care integrates prevention, promotion, treatment and rehabilitation with undergraduate and graduate students' education. Pedagogic competences play a major role in the performance as a general practitioner. A residency program, in Brazil, provides their residents the opportunity to develop teacher's knowledge, abilities and attitudes in a pedagogic development program. The objective was to evaluate the residents´ pedagogic development process. The approach: The present study analyzed, through predefined categories, the narrative of a resident under pedagogic development. The data was triangulated with three other sources of information. Findings: The resident´s concept of knowledge changed from the first narratives to the last. It moved from a finished and transmittable knowledge to an unfinished and collectively built comprehension. The evaluation process proposed by the resident to the students changed from a grading test to an ongoing pact of learning objectives, significant to the students´ context and motivation. Difficulties arouse in helping students correlate knowledge to historical, political and economical facts. Consequences: The resident tended to reproduce the pedagogic methodologies learned during undergraduate studies to students during practice and class time. The narratives show a transition in the teaching role of the resident, which ranges from a traditional (teacher centered) to an emergent (student and problem centered) pedagogy. It suggests that residents participating in undergraduate and user education should go through a reflexive pedagogic development program. More narratives should be analyzed in order to improve validity of results.

SP052

Action research to improve GP education and spread best practise to improve professionalism, leadership competency and quality of care and create a social movement in GP education.

Marion Lynch, Michael Mulholland
Oxford Deanery GP School, Oxford, UK

The Problem - Quality improvements in service and care, professional standards and leadership competencies are read about, but not spread about, through GP education. Oxford Deanery GP School aims to improve GP education and add to the wider knowledge on how professionalism, quality improvement and leaderships skills can be incorporated into the current GP training programme.

Change in primary care is quickening. Good practice is not spreading quickly enough leading to potential pockets of excellence, untapped resources and undiscovered trainee talent.

The Approach - Research exploring the cultural and cognitive elements that inform the development and spread of best practice in GP education in relation to leadership competencies, quality improvement skills and professionalism. We asked how and why GP education support trainees in gaining such knowledge and skills and how can this be sustained and spread?

We have designed, delivered and evaluated educational interventions that develop these specific skills therefore preparing trainees for 21st Century UK Primary Care.

A year long education programme was provided in top of the usual VTS. Evidence of process and outcomes has included steering group reviews, focus group findings, and peer assessed Quality Improvement Projects.

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This programme has been compared with the evaluation of the GP Leadership Fellows programme (running for ten years). This supports high flying trainees and allocates an additional six months of training (ST4) to deliver a nationally led, locally needed change in service provision.

The findings - Analysis of the literature and action research findings have identified commonalities and differences between the 'everyone' and 'select few' approach to developing future leaders of primary care. Key success factors for such programmes including competency of trainee, content of programme and context of learning are identified. Recommendations are made as to how these findings can be adapted and adopted across GP training to inform local education, trainer support, career development for new GPs and future thinking for extended GP training.

The consequences - Theories in relation to adoption of innovations provide one lens on change however, social movement theory provides another. The dominant discourses at play in the NHS are preparing for war. Managerial, professional and patient voices prepare for battle to dominate policy, practice and price. The same can be said for GP education. The discourses at play are creating new understandings of assessment, curriculum content and professionalism. The changing epistemological approach to GP training and assessment needs to be supported by a changing approach to GP education. An understanding how ideas spread and how change is sustained is needed.

GP education needs to move with the times and shift paradigms to culturalist constructionist education. The findings from this research provides scaffolding to develop educational approaches that do just this.

SP053

"Graduating excellent clinicians": the general practice contribution.

Robert McKinley, Maggie Bartlett, Peter Coventry, Simon Gay, Sheena Gibson, Robert Jones, Vanessa Hooper
Keele, Keele, UK

The Problem: In 2007 students at Keele University School of Medicine embarked on a new community facing curriculum with the overall aim of 'Graduating excellent clinicians'. The challenge for the GP team was to identify how general practice could best contribute to this aim.

The approach: A key attribute of the 'Excellent clinician' working in any clinical context has got to be highly developed consultation skills. The development of mastery is dependent on repetitive, deliberate practice with graduated challenge which, for the development of consultation skills, means many opportunities to consult with patients with supervision and formative feedback over a prolonged period. We considered that general practice could make a unique contribution to developing consultation skills.

General practice's contribution builds on the Years 1 and 2 teaching of 'Basic communication, medical interview and clinical examination skills' which are largely taught in the skills lab. and the Year 3 'Basic Consultation Skills' course taught in hospital over six four week blocks. At the end of this students are assessed in an OSCE after which the general practice contribution starts. Its format is:

- Year 3: Consolidation of Clinical Skills (CCS): a 4 week year-end GP placement; during which students have a target of 75 consultations;
- Year 4: Higher Consultation Skills (HCS): clinical reasoning, information management and patient management taught during 5 one week slices throughout the year; students are expected to conduct 15 consultations each week and share the Workplace Based Assessments (WBAs) conducted by their GP tutor with their hospital tutor;
- Year 5: GP Assistantship (GPA) and Consolidation of Higher Consultation Skills: a 15 week GP placement during which students have a target of 375 consultations with people with acute and chronic conditions, many on multiple occasions.

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Students have a minimum of 11 formal formative WBA of consultation skills in general practice with written summaries which are ‘forward fed' to the next clinical teacher. The evaluation has been conducted by our school quality management team using a combination of end of year focus groups and electronic questionnaires.

The findings: The majority of students met their consultation targets in CCS and HCS and the preliminary evaluation indicates all have exceeded it in the GPA. To date, 88% of CCS, 96% of HCS and 88% GPA students found feedback on consultation skills useful. Further data will be available from the end of course evaluation being conducted in June 2012.

The consequences: At Keele, general practice contributes 24 weeks of placements in years 3 to 5 and makes a key contribution to the School's aim of ‘Graduating excellent clinicians'. Our graduates will understand the role of general practice in health care and to be well equipped to work in a primary care led NHS.

SP054

An innovative long final year assistantship in general practice: assessment and management of risks.

Robert McKinley, Peter Coventry, Sheena Gibson, Vanessa Hooper
Keele, keele, UK

The Problem: In 2011 Keele introduced an innovative 15 week final year assistantship in general practice, this constitutes half of our final year placements. It poses greater risks to students and practices than the typical GP placement of 25% or less of final year. We considered the major risks to be insufficient practice capacity, (perceived) lack of preparation or capability of practice tutors, insufficient patient contact or supervision, dysfunctional tutor-student relationships and student isolation. A further risk was perceived disadvantage in the finals OSCE for students in general practice in the second rotation.

The approach: Practice capacity and tutor preparation were addressed by long term ‘market making' and capacity and capability building which started in 2007 (four years before the launch of the assistantship) and through building strong relationships between practices and their identified locality lecturers. Student isolation was addressed by ensuring that students worked in ‘practice clusters' and timetabling 2 sessions (one facilitated by a practice tutor) each week for working in learning sets. Locality lecturers attended each learning set at least once during the 15 week assistantship to maintain contact between students and the School and to identify any problems students were experiencing. 50% of the OSCE cases were set in general practice and this was communicated clearly and frequently to students. We also ensure that all students had equal access to the skills laboratories before the OSCE. Finally, we conducted an ‘early warning' survey using SurveyMonkey for all students (GP and secondary care) in the 4th week of each rotation to detect any perceptions of poor practice preparation or capability to teach, lack of engagement in the practice team or low consultation rates which were treated as red flags for early intervention.

Findings: There are 121 students in the final year cohort placed with 62 practices. We have had 5 ‘red flags' from the ‘early warning' survey. To date we have identified another 2 potential problems from cluster visits and 1 from a ‘critical event' report by a student. Three ‘red flags' were low consultation rates of which 2 were the result of careful induction by a practice and another practice was successfully supported to increase its student consultation rate to above the indicative target. We supported 3 students either directly or indirectly to successfully address problems they had experienced with their practices. A further practice required longitudinal support which has been transformative. We have not needed to move any students from any practices; indeed students were more likely to feel part of the team and to have much greater patient contact in GP than in secondary care.

Consequences: The risks of long assistantships in general practice can be managed by careful planning, surveillance and early intervention.

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SP055

A qualitative study exploring the attitudes of GP trainees towards the e-portfolio and its relationship with learning

Sophie Park[1], Alex Davidson[1], Joe Rosenthal[1]
[1]UCL Medical School, London, UK,[2]UCL Medical School, London, UK,[3]UCL Medical School, London, UK

The problem: The e-portfolio was introduced nationally for GP trainees in 2007. It is a web-based tool which seeks to perform a number of functions including mapping GP trainees' learning to the RCGP curriculum, recording work-place based assessments and a reflective log. GP trainee entries are reviewed with educational supervisors or 'trainers' and monitored by local Deaneries.

Approach: Following ethical approval, this project used focus groups with trainees from a range of Deaneries. Ethnographic notes and focus group transcription were iteratively analysed using inductive thematic analysis (Corbin, 2008). Analysis used social constructivist theory, conceptualising technology as 'artefact'. This allowed us to explore trainees' feelings about the e-portfolio, but also how the e-portfolio technology had shaped social interactions and attitudes towards learning and practice.

Findings: Trainees reported several technical, aesthetic and access difficulties with the interface, limiting timely trainee and trainer entries. Linking patient-based experience to the curricular structure was reported as helpful by some (particularly novice trainees) ensuring breadth of knowledge coverage. However, most felt that this was a time-consuming, strategic and frustrating exercise. Trainees, for example, were limited to mapping two topics per patient, when learning frequently involved patients with complex, multi-morbidity. The tool facilitated contact with some hospital supervisors. The questions, however, were less relevant to this setting. The tool was perceived as more helpful when combined with weekly feedback in primary care, nevertheless, learners felt it generally distracted rather than facilitated discussion about patient-based learning, encouraging production of learner need lists, rather than space or resources to address them. For reflective entries, trainees constructed 'safe' boundaries, anticipating both current and potential future judgements. Many felt deanery feedback was ambiguous, superficial (counting, rather than depth or quality) and questioned the validity of assessing reflective work.

Consequences: Recommendations include making the platform more resilient, allowing logs to be entered simultaneously with clinics; avoiding loss of entered work; and more flexibility of interface. Sources of technical help could also be more explicit and readily available. Trainees had limited engagement with reflective records, rejecting notions of reflective and patient-based learning as meaningful; projected assessment anxieties towards the tool; and felt the tool undermined their identity as adult and trusted professionals. These tensions reflect the mixed formative and summative purpose *of* rather than *for* learning. While both summative and formative approaches offer some opportunities within the tool, they might more constructively be separated, using resources instead to support personal, rather than technological interaction for formative learning.

SP056

Risk management in General Practice: an educational initiative for undergraduate general practice teaching.

Emma Wallace, Tom Fahey
Royal College of Surgeons in Ireland, Dublin, Ireland

The idea - 'To Err is Human: Building a Better Healthcare system' published in the United States in 1999 highlighted the issue of medical misadventure and its adverse effect on patient safety. While error and medical negligence are not synonymous, medical negligence claims offer one way of characterising the domains of practice associated with higher risk. Traditionally general practice has not been regarded as a high risk speciality but this perception is changing as malpractice claims against general practitioners are rising. The inclusion of risk management content on the undergraduate general practice curriculum may have a role to play in increasing awareness. To facilitate the development of an evidence based risk management module, a systematic review was conducted to describe the areas of general practice that most commonly lead to medical negligence claims. The results of this review indicate that diagnosis, prescribing and

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communication are the domains which result in the majority of malpractice claims against general practitioners. A new ‘Risk management in General Practice' lecture has been developed, incorporating the findings of this review, and introduced to the undergraduate general practice course.

Why it matters - While error is an inevitable part of general practice, an awareness of the domains of highest risk allows for implementation of risk management systems. Introducing these concepts to medical undergraduates on their general practice rotation allows for increased awareness and acts as a foundation for risk management teaching in postgraduate training programmes. The product of such educational initiatives should impact positively on patient safety.

Next steps - This lecture was introduced at the start of this academic year. Summative assessment will be via MCQs and data OSCE. Student evaluation, involving rating of content, relevance to learning needs and quality of teaching, will be collated at the end of the academic year and revisions made accordingly. Next steps include formative assessment of risk management by inclusion in the student portfolio for the next academic year and the development of further module content pertaining to risk management and the broader issue of patient safety. We also hope to engage with the postgraduate general practice training schemes with a view to pooling and sharing resources.

Risks - A coherent educational programme regarding risk management in general practice requires a solid evidence base but also vertical progression of content across the undergraduate and postgraduate general practice training interface. Otherwise there is a danger that the undergraduate teaching may appear fragmented and irrelevant. Furthermore, assessing the impact of risk management teaching in medical undergraduates on future clinical practice and patient outcomes is very challenging. Further research on the impact of such educational initiatives is warranted.

SP058

Reflecting on consultations in a non english language

Enam Haque
Community Based Medical Education, University of Manchester, Manchester, UK

The idea - The proposal is for the development of an innovative undergraduate community placement with time in a non English speaking practice followed by small group debrief. The proposal aims to improve cultural competence amongst medical students, change their attitudes to non English language consultations and improve the learning environment of practices involved. These aims will be explored by focused group discussion.

Why it matters - There is a growing interest in undergraduate medicine to enhance diversity teaching. GP practices with ethnically diverse populations could be ideal for this learning, but have the challenge of consultations being in non English languages. Although there has been work utilising interpreters to improve communication for students (Escott et al 2009), non English speakers have been found to benefit from consultations with their GP in their own language (Freeman et al 2002) Workshops have been delivered to explore solutions to problems faced by students in non English consultations. Based on the findings, a protocol has been devised to help tutors (Haque, Lindley 2011).The aim of the new pilot is to develop the work from the protocol, and further enhance the student experience.

Next Steps - We are currently recruiting two practices for the pilot. The planned timetable at the practice is for a brief induction and outline of ethnic demographics, followed by participation in morning surgery. At least one consultation would be student led, with the GP interpreting.

The afternoon debrief session would be an opportunity to reflect and debrief on the clinical experience in a protected small group setting. There would be particular focus on emotions during the consultations, particularly the consultation undertaken with the GP translating. Discussion could expand to previous experiences in this setting, and look at student preconceived ideas about groups, and exploration of methods to dispel them.

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Focused group discussions afterwards would assess change in student attitudes and the impact on the GP tutor.

Risks - Potential pitfalls include a low uptake of students or practices for the pilot. Also, there may not be adequate numbers of consultations in a non English language. I could not find any similar projects in the literature, and so there is no prior knowledge of the benefits of such an experience.

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Theme: Public health

SP059

South Asian Hepatitis C Awareness Project

Enam Haque[1], Siobhan Fahey[2], Usman Choudry[3], Martin Prince[4], Shabana Baig[6], Julie Davies[6], Joanna Cartwright[5]
[1]Levenshulme Medical Practice, Manchester, UK, [2]Greater Manchester Hepatitis C Strategy, Manchester, UK, [3]Gatley Medical Centre, Cheadle, UK, [4]Manchester Royal Infirmary, Manchester, UK, [5]Health Protection Agency, Manchester, UK, [6]Black Health Agency, Manchester, UK

The idea - The proposal is to produce culturally appropriate training materials and design and deliver workshops on Hepatitis C, which are informative and accessible to the South Asian population. The aim is that this will Increase awareness of primary prevention of hepatitis C amongst South Asian communities, and dispel myths that exist around the transmission routes.

Why it matters - Uddin et al (2009) study shows that the prevalence of hepatitis C was particularly high in people originating in Pakistan than would be expected in the indigenous UK population.. In England, the overall prevalence of anti-HCV infection in adults has been estimated at around 0.53% (HPA 2011). Early identification of those who are infected will provide an opportunity for life saving, cost effective interventions. However without appropriate targeted information and awareness campaigns these individuals are at significant risk of an early death by liver disease. The reduction in under 75's mortality of liver disease is included as an outcome in the National Outcomes Framework - NHS (2012) and the Public Health Outcomes Framework - DH (2012).

Next steps - The GMHCVS (Greater Manchester Hepatitis C Strategy) and Islamic Society of Britain (ISB) have commissioned the Black Health Agency (BHA) to develop language specific communication products. These will be produced in Urdu and Punjabi. The GMHCVS will distribute the products to appropriate venues across Greater Manchester including renal dialysis centres, GP's, mosques and community centres.

The GMHCVS have also commissioned the BHA to deliver and develop an awareness raising training workshop for community groups and in mosques. The project will work with ISB and Directors of Public Health to deliver this training workshop. The aim is to deliver 10 workshops over the next calendar year, with evaluation looking at the impact on patient knowledge and attitudes with the intervention.

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Risks - The project is an excellent example of collaborative work between various organisations, but there is a risk that activities could be hampered by disagreement between. In terms of the workshops, there could be an inability to recruit participants, particularly through failure of publicity and recruitment planning. This aspect would be key to delivering effective workshops.

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SP060

Longitudinal cohort survey of women's smoking behaviour and attitudes in pregnancy

Sophie Orton[1], Katharine Bowker[1], Tim Coleman[1], Sue Cooper[1], Jo Leonardi-Bee[1], Stephen Sutton[2], Felix Naughton[2], Michael Ussher[3], Kate Pickett[4]
[1]University of Nottingham, Nottingham, UK, [2]University of Cambridge, Cambridge, UK, [3]St George's Hospital, University of London, London, UK, [4]University of York, York, UK

The problem - Maternal smoking in pregnancy causes substantial harm to infants increasing risks of miscarriage, stillbirth, prematurity, low birth weight, perinatal morbidity and mortality, neo-natal or sudden infant death, asthma, attention deficit disorder, learning difficulties, obesity and diabetes.

Smoking in pregnancy is a major public health concern, with around 26% of UK women smoking for at least some part of pregnancy, and 12% smoking throughout. Reducing smoking in pregnancy is therefore a major NHS priority; however NHS Stop Smoking Services for Pregnant women (SSSP) are used by less than 10% of pregnant smokers. There is great scope to increase the reach of SSSP and the ultimate aim of this study is to do this by enhancing our understanding of the influences upon women's smoking behaviour throughout pregnancy. By improved understanding of this unhealthy behaviour, engagement between the NHS and maternal smokers can be improved and support provided can be tailored more effectively to their needs.

The approach - The study aims to understand women's smoking patterns and their smoking behaviour and attitudes to smoking across pregnancy, such that the best times for offering NHS support with smoking cessation can be ascertained.

This study uses a longitudinal cohort design and will recruit 850 pregnant women between 8-26 weeks gestation who either currently smoke, or smoked regularly during the three months immediately prior to pregnancy. Women complete an initial survey whilst attending antenatal ultrasound scan appointments, a second survey at 34-36 weeks gestation and a final one three months after delivery.

The questionnaires will describe prevalence of smoking and incidence of quit attempts, and investigate factors known or strongly suspected to be predictive of attempts at stopping smoking or cutting down

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(including maternal health and psychological well-being, attitudes to smoking, prenatal attachment, social support, and smoking in women's family/social networks, and propensity to use 'self-help' forms of smoking cessation support).

Findings - Recruitment commenced in August 2011 and enrolment targets are being met. 500 women are currently participating in the study and recruitment is expected to be complete by August 2012. Baseline data on smoking rates, smoking patterns, women's use of and attitudes to offers of cessation support and sociodemographic characteristics will be available for presentation at conference.

Consequences - This survey will delineate women's longitudinal smoking patterns and their propensity of accepting and using both 'self-help' and 'traditional' modes of cessation support at different times in pregnancy. No other studies are investigating similar issues and this contemporary cohort should provide insights into the relationships between women's individual, family and social context factors predicting the patterns of their smoking and their use of and attitudes to cessation support in pregnancy.

SP061

Prevalence and Quality of Coronary Heart Disease Family History Recordings in a GP database: A Cross - sectional Study

Paula Dhiman[1], Nadeem Qureshi[1], Laura Horsfall[2], Kate Walters[2], Joe Kai[1]
[1]University of Nottingham, Nottingham, UK, [2]University College London, London, UK

The Problem - Parallel to the rising popularity of genotyping, there has been an increased interest in the effects of family history (FH) as a risk factor. One of its most important applications is in Coronary Heart Disease (CHD) risk prediction models, used to assess patient risk of the disease. Such tools include QRISK2 and Joint British Societies risk prediction charts. The latter widely disseminated in the British National Formulary.

This study attempts to shed some light on the extent of recording of CHD FH and the quality of this data in computer general practice records.

The Approach - A cross-sectional study design was used and data was extracted from THIN (The Health Improvement Network) primary care database. Data was extracted on patients aged 18 or greater, permanently registered with their practice between 1999 and 2009, and registered for at least one year. The quantity and quality of FH of CHD was assessed by gender, age, deprivation and patient year of registration, and was clustered by practice.

The study was split into 2 analyses: 1) assessing the prevalence of CHD FH recording with a multilevel logistic regression model and 2) assessing the quality of this data with a multilevel ordinal logistic regression model.

Findings - A cross-section of 2,386,788 patients were extracted from the THIN database of which 14.13% (95% CI: 14.08%-14.17%) had a FH of CHD recorded. Of these 337,231 patients, 50.97% (95% CI: 50.80%-51.14%) had a positive FH of CHD.

Deprivation had little influence on both FH recording and its quality. Patients aged 50-70 had an increased prevalence of having FH recorded and patients aged 50-60 had the highest increase in odds of having FH of CHD recorded (OR: 4.78 (4.70 to 4.86)). It was also found that more FH recording took place in the earlier years of the study period.

Limited recording was found of the relative affected (11.15%, 95% CI: 11.00%-11.30%), but age of onset of CHD was better recorded (43.42%, 95% CI: 43.18%-43.65%). No evidence was found that quality of FH improves or worsens with deprivation age sex, or year of registration.

Consequences - It was anticipated that family history recording is better in new registrants than established patients, but the quality falls short of that required to usefully utilise this data to identify family history of premature CHD.

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In this study 6 out of 7 (86%) of patients will not have sufficient FH information recorded to be useful in assessing cardiovascular risk. From previous research, we know improving the recording of the quantity and quality of family history can increase the proportion of individuals identified at high CVD risk by up to 40%.

SP062

Developing Point-of-Care-Tests (POCTs) for Infectious Diseases: Establishing the User Requirement Specifications

Micaela Gal[1], Kerry Hood[2], Nick Francis[1], Chris Butler[1]
[1]Wales School of Primary Care, Cardiff University, Cardiff, UK,[2]South East Wales Trials Unit, Cardiff University, Cardiff, UK

The Problem: Many POCTs have been developed but are not used, and there are no POCTS for some clinical niches where they are urgently required. Part of the problem is the lack of cohesion between POCT developers and potential users. The objective of an Innovative Medicines Initiative project, 'RAPP-ID: Rapid Point-of-Care Test for Infectious Diseases' is to improve the diagnosis and management of infections (including Bloodstream Infections, Lower Respiratory Tract Infections (LRTI) and Tuberculosis) by developing new POCTs that enhance both clinical decision-making and clinical trial efficiency.

The initial stage of POCT development is critical to ensuring that the tests are not only relevant and feasible for use in the usual clinical settings but also have the potential to improve clinical trial efficiency. This involves clearly defining the user requirement specifications (URS) and the intended use for each test. Every step in the development of any POCT must also be conducted to meet regulatory requirements to ensure future approval for clinical and clinical trial use.

The Approach: As part of the initial scoping assessment, key areas of relevance to end-users and information required by the POCT developers were identified through literature search, consultation with RAPP-ID partners and surveys of potential users.

The web-based survey targeted practicing clinicians to define their clinical priorities for the development of a rapid POCT, current clinical practice, and the minimum and ideal specifications that a test would need to meet in order to be used in their clinical practice. This included a POCT to improve the management of LRTI in primary care.

Qualitative interviews were conducted with clinical trialists involved in anti-infective trials to gain an understanding about what performance a diagnostic test requires to aid trial delivery.

The survey results were reviewed in a series of workshops and the outcomes taken into account when producing the URS Documents. The URS also include a clear intended use statement for each test, and will be consulted by the RAPP-ID technical partners for the POCT design.

Findings: 95 clinicians and 28 clinical trialists participated. There may be some technical barriers to achieving POCTs that meet clinicians and clinical trialists ideal requirements. Hence the most important requirements need to be identified and prioritised for the development of these new POCTs. The information collected on both the ideal and minimum acceptable user requirements in the URS documents will assist in achieving this.

Consequences: The study highlighted clinician's and clinical trialists views regarding their ideal and acceptable requirements of a POCT. These will directly impact on the URS document which is an essential regulatory requirement for the development of any diagnostic test. The RAPP-ID study emphasizes a good practice partnership between academia, clinicians, technologists, basic scientists and industry.

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SP063

Carriage of antibiotic resistant bacteria and Clostridium difficile in Care Home residents: a prospective cohort study

Kerenza Hood[1], Leanne Davies[2], Mandy Wootton[2], Emma Thomas-Jones[1], Arun Archajya[1], David Gillespie[1], Meirion Evans[1], Chris Butler[1], Robin Howe[2]
[1]Cardiff University, Cardiff, UK,[2]Public Health Wales, Cardiff, UK

The Problem: Point prevalence surveys show that antibiotic usage in care homes is high. Residents also frequently move between hospitals and care homes which may lead to care home residents playing a significant role in the epidemiology of Clostridium difficile infections and the spread of antibiotic resistance.

The approach: We undertook an observational study in eleven care homes for the elderly in South Wales, sampling to include residential, nursing and dual registered homes. All residents within a home were approached and consented to be included in a prospective cohort study. Upon recruitment baseline stool samples were collected and were analysed for carriage of Clostridium difficile, Gram- negative organisms resistant to ciprofloxacin, cefotaxime, ceftazidime, gentamicin, meropenem, and vancomycin resistant enterococci (VRE).

Findings: We recruited 279 residents with a median age of 86 years (IQR 82 to 90) and 236 provided a baseline stool sample (85%). At the point of recruitment, 22% reported taking antibiotics and 7% reported being in hospital in the previous four weeks. Twenty samples contained C. difficile (8.5%). Enterobacteriaceae resistant to ciprofloxacin was found in 44.5%, gentamicin in 7.6% and cefotaxime and ceftazidime in 7.2%. 90.5% of the isolates resistant to cefotaxime and ceftazidime were extended-spectrum β-lactamases. (ESBL),-producers. Three samples (1.3%) contained vancomycin resistant enterococci.

Consequences: This study has shown high levels of carriage of resistant organisms in care home residents, particularly for ciprofloxacin. Carriage of 3rd generation cephalosporin-resistance is higher than published rates for urinary isolates in Wales (4.8%) and this should be considered when selecting empiric treatment in this group. Further work will be presented on resident characteristics that were associated with carriage of resistant organisms in order to help guide prescribing practice.

SP064

Heath and use of health services of a homeless population in Dublin: A comparison study

Deirdre O'Connor[1], Claire Keogh[1], Anthony Hoban[1], Michael Cronin[1], Kirsty O'Brien[1], Austin O'Carroll[2], Janet Robinson[2], Tom Fahey[1]
[1]Royal College of Surgeons in Ireland, Dublin, Ireland,[2]Safetynet network, Dublin, Ireland

The problem: The prevalence of physical and mental health illness is higher in homeless populations than in the general population. However, their use of primary care services tends to be lower. Safetynet, a Health Service Executive (HSE) supported network, provides homeless people with free access to primary care services including GPs, nurses and drug workers. Safetynet uses a web-based computer system to record patient data to a central database. This information can then be electronically shared and accessed across the 14 different clinics in the network. This allows patients to be safely treated in any Safetynet clinic without the need for repeating medical histories. This service aims to increase access to primary care services for this population. A previous Irish study investigated the health of homeless populations in Dublin in 2005, prior to Safetynet being established. This provides a comparison group to determine the impact of Safetynet of the health of homeless individuals.

The approach: This is a cross-sectional analysis of data collected in 2011. A questionnaire was developed using a combination of demographic questions and standardised questionnaires. This assessed patients' reasons for homelessness, medical history, mental health and quality of life, drug and alcohol use, medication use, health behaviours and use and opinion of health services available to homeless people.

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Findings: Data was collected from a total of 105 participants. Similar to the previous study, the participants were predominantly male (75%) and ≥45 years of age (69%). Compared to the previous study, the current population were associated with lower levels of smoking (2011=81%, 2005=90%) and drug use (current or past use: 2011=60%, 2005=64%), an increase in the presence of mental and physical illness (2011=91%, 2005=85%), an increase in prescribed medication (2011=79%, 2005=49%) and an increase in self-reported health as being good, very good or excellent (2011=70%, 2005=46%). Furthermore, patients in the current study were more likely to have visited their General Practitioner (GP) in the previous 6 months (2011=82%, 2005=62%) and were less likely to visit other healthcare services (Accident and Emergency: 2011=29%, 2005=37%; out-patients department: 2011=17%, 2005=27%).

Consequences: The results from this study suggest that patients accessing Safetynet are more likely to engage with primary care services than previously, which may account for the increase in the reported presence of physical and mental illness and increase in prescribed medication. Reported levels of smoking and drug use are lower than in the previous study. Furthermore, self-reported health is higher in the current study. Taken together, this study suggests that homeless patients benefit from attending Safetynet services.

SP065

Quality of primary care for patients with diabetes in England before and after the introduction of a financial incentive scheme: longitudinal observational study

Evan Kontopantelis[1], David Reeves[1], Jose Valderas[2], Stephen Campbell[1], Tim Doran[1]
[1]University of Manchester, Manchester, UK, [2]University of Oxford, Oxford, UK

The problem: The UK's Quality and Outcomes Framework was introduced in 2004/5 and is the largest and most ambitious pay-for-performance health scheme ever attempted. It links remuneration for general practices to quality of care for several chronic conditions, including diabetes mellitus. However, the effect of the incentives on quality of care is unclear and its variation by patient and practice characteristics has not been investigated in detail.

The approach: We used Interrupted Time Series (ITS) analysis to examine the effect of the introduction of financial incentives in 2004/05 on overall performance across diabetes-related quality of care indicators. This quasi-experimental design uses the pre-intervention trend of the data to estimate its projection in the first post-intervention year and compare it with the observed data. The approach is similar for following years but the post-intervention slope also needs to be taken into account. By expanding the model using interaction terms, we also examined variation in the intervention effect across population subgroups.
We analysed electronic patient records for 23,920 patients with diabetes drawn from a stratified sample of 148 practices from 2000/01 to 2006/07. Practices were representative of all English practices in list size and area deprivation.

Findings: Quality of care improved for all subgroups in the pre-incentive period. In the first year of the incentives, composite quality improved over-and-above this pre-incentive trend by 14.2% (95% CI: 13.7%-14.6%). By the third year the improvement above trend was smaller, but still statistically significant, at 7.3% (95% CI: 6.7%-8.0%). The effect varied with years of previous care, practice area deprivation and diabetes prevalence. After three years of the incentives, levels of care varied significantly for patient gender, age, years of previous care, number of co-morbid conditions and practice diabetes prevalence.
Consequences:
The introduction of financial incentives was associated with improvements in the quality of diabetes care in the first year, although improvements were smaller for some sub-groups. Improvements in subsequent years were more modest. Variation in care between population groups diminished under the incentives, but remained substantial in some cases. Newly diagnosed patients received worse care throughout the whole period and although their levels of care increased over time, the gap with established patients widened. Policy makers need to be aware that an expensive pay-for performance scheme can generally reduce variation in delivery of care, by driving universal improvement, but may also generate or increase inequality gaps for particular patient groups.

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SP066

Association of primary care characteristics with variations in mortality rates in England: an observational study.

Louis Levene[1,2], John Bankart[1,2], Richard Baker[1,2], Kamlesh Khunti[1,2]
[1]East Leicester Medical Practice, Leicester, UK, [2]University of Leicester, Leicester, UK

The problem: Despite overall decline in mortality rates in England, wide variations persist (from 354 to 766 per 100,000 in 2009 among the then 152 primary care trusts in England), despite no financial barriers to primary care access. Starfield has identified mechanisms that potentially account for the beneficial impact of primary care on population health. These include greater access to needed services, better quality of care, greater focus on prevention, earlier disease management, and the cumulative effect of greater continuity and comprehensiveness. This study aimed to determine whether variations in primary health care predict variations in mortality at population level, after adjusting for population characteristics.

The approach: In a conceptual model of the main population and health care predictors of variations in mortality developed from Starfield's framework, primary care characteristics (including prevention, early detection, clinical management, and sustained patient-provider partnership) modify the predictive effect of population characteristics on mortality. To test this, an observational study of all 152 English primary care trusts (population 52 million) used negative binomial regression to analyse mortality counts for all-cause, coronary heart disease, all cancers, stroke, and chronic obstructive pulmonary disease mortality, with nearest contemporaneous explanatory variables of relevant population and service related characteristics, including an age-correction factor. Data from 2008 and 2009 were modelled jointly using a generalised estimating equations approach in order to take into account the clustering of observations within PCTs.

Findings: Results were available for all 152 primary care trusts in both years. The main predictors of variations in mortality were population characteristics, especially age, socio-economic deprivation, and white ethnicity. Of the primary care characteristics, higher levels of detected hypertension predicted lower coronary heart disease (incident rate ratio [IRR] 0.97, CI 0.95-0.99, p=0.006) and stroke mortality (IRR 0.94, CI 0.91-0.97, p<0.0001) (early detection); patients' recalled perception of better being able to see their preferred doctor predicted lower chronic obstructive pulmonary disease mortality (IRR 0.993, CI 0.98-0.998, p=0.02) and lower cancer mortality (IRR 0.997, CI 0.995-0.999, p=0.009) (continuity of care, an aspect of sustained patient-provider partnership). Variations in Quality and Outcomes Framework achievement were not associated with variations in mortality at primary care trust population level.

Consequences: Although variations in mortality rates are mainly predicted by population characteristics, variations in some primary care characteristics also influence mortality, as predicted by our model. Planned health care system reforms should strengthen such characteristics, and in particular primary care organisations need to develop strategies that involve delivering simple cost-effective evidence-based interventions to whole populations, and fostering sustained patient-provider partnerships.

SP067

Slimming World In Stop Smoking Services (SWISSS) - Protocol for a randomised controlled phase 2 trial

Deborah Lycett[1], Amanda Lewis[1], Katrina Turner[3], Marcus Munafo[3], Andrew Farmer[2], Paul Aveyard[1]
[1]University of Birmingham, Birmingham, UK, [2]University of Oxford, Oxford, UK, [3]University of Bristol, Bristol, UK

The problem - Smokers gain 5kg on average in the first year after stopping smoking but a quarter gain over 8kg. This deters some from trying to stop and may explain the increased incidence of type 2 diabetes after cessation(1-3).

Preventing weight gain on smoking cessation by dieting may be counterproductive. Hunger increases cravings for smoking(4) and trying to tackle two behaviours together may undermine quitting success. A meta-analysis of randomised controlled trials(RCTs) showed individualised dietary support may prevent weight gain, although evidence whether it undermines smoking cessation is insufficient(5). In these trials,

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individualised dietary support was given by specialists, but with 0.75million smokers stopping with support in England annually we need a cheap and easy-to-deliver intervention. Commercial weight management services, such as Slimming World(SW), provide individualised dietary support for NHS patients through 'weight loss on prescription' and may provide a large-scale, cheap intervention to prevent weight gain on cessation. However, there is no evidence that they can prevent smoking cessation-related weight gain.

The approach - We report the design for a RCT to examine the effectiveness of usual cessation support plus referral to SW to usual cessation support alone. Healthy weight, overweight, or obese adult smokers attending stop smoking services(SSS) will be included. The primary outcome is weight change in quitters12weeks post-randomisation. Multivariable linear regression analysis will compare weight change between trial arms and adjust for known predictors of cessation-related weight gain. We will assess participant acceptability through semi-structured telephone interviews within a purposive sample using framework analysis.

We will recruit 320 participants, 160 in each arm. With an alpha error rate of 5% and 90% power this will detect a 2kg(SD=2.5) difference in weight gain at 12weeks; given 20% remain abstinent by then.

Findings - Adequate recruitment will provide sufficient power to detect a worthwhile benefit on weight. Previously, recruitment to such trials through GP invitations has been poor(6). Therefore we are recruiting from those already attending cessation services, an approach which recruited >90% of smokers into healthy eating education classes(7).

In designing this trial we received positive feedback from smokers and cessation service managers. Healthy weight smokers may be disinclined to attend SW and investigating uptake and acceptability in these smokers will be particularly interesting.

Consequences - This trial will establish whether referral to the 12week SW programme plus usual care is an effective intervention to prevent cessation-related weight gain. If so, we will seek to establish whether weight control comes at the expense of a successful quit attempt in a further non-inferiority trial.

Positive results from both these trials would provide a potential solution to cessation-related weight gain which could be rolled out across England within SSS to better meet the needs of quitting smokers.

SP068

Risk factors for scald injury in pre-school children: a case-control study

Mital Shah, Denise Kendrick, Laila Tata, Elizabeth Orton
The University of Nottingham, Nottingham, UK

Scald injury is common accounting for half of all burn injuries in pre-school children and approximately 16,000 attendances in UK emergency departments each year. The majority of scald injuries occur in children younger than 5 years where they carry the highest mortality rate. Scald injury is associated with significant physical and psychological morbidity and has economic ramifications. The majority of scald injuries are preventable. The National Institute of Health and Clinical Excellence guidelines outline strategies for reducing injuries by targeting those households at greatest risk with interventions including safety advice, home safety assessments and installation of safety equipment. Although some risk factors for the most severe scalds have been identified using secondary care data, these may not be generalisable to all medically-attended scalds. This study therefore aims to identify risk factors for medically-attended scalds using data routinely available in primary care to enable targeting of preventive interventions in the community.

Using a matched case-control study design, data were collected from The Health Improvement Network (THIN) between January 1988 and November 2004. Cases were children with a first occurrence of scald injury under 5 years of age, matched with up to 10 controls from the same GP practice, also under 5 who did not have a scald injury. Child, maternal and household risk factors for injury that were identified from the literature and available in THIN were assessed.

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A total of 986 cases and 9,240 controls were identified. Multivariable analysis showed that male sex was associated with increased odds of scald injury (odds ratio (OR) 1.34, 95% confidence interval (CI) 1.17-1.54). The odds of scald injury showed an n-shaped relationship with child age, with the greatest risk at 1-2 years (OR 2.40, 95% CI 2.05-2.81) when compared with those under 1 year. Higher birth order was associated with increasing odds of scald injury (test for trend p<0.0001). Older maternal age at childbirth was associated with a decreasing odds of scald injury with children of mothers age 40 years and over having the lowest odds of scald injury when compared with children of teenage mothers (OR 0.32, 95% CI 0.16-0.64). Children living in single adult households had increased odds of scald injury compared to two adult households (OR 1.26, 95% CI 1.08-1.46) and increasing socioeconomic deprivation was associated with an increasing odds of scald injury (test for trend p<0.001).

Teenage pregnancy, single adult households and increasing socioeconomic deprivation are important risk factors for scald injury in children under 5 years. Our study shows that children at risk of scald injury can be identified from routine primary care data and primary care practitioners can use this information to target evidence based safety interventions, including referral for home safety assessments and safety equipment schemes.

SP069

Patient Travel to Primary Care: What are the impacts on carbon emissions?

Liz Andrews[1], David Pearson[1,2], Charlotte Kelly[1], Laura Stroud[1]
[1]University of Leeds, Leeds, Yorkshire, UK, [2]Hull York Medical School, York, Yorkshire, UK

The Problem - The Climate Change Act of 2008 committed the UK Government to an 80% reduction in its greenhouse gas emissions (below 1990 levels) by 2050. The NHS aims to reduce its carbon footprint by similar levels (NHS, 2011). Patient journeys to and from primary care have not been planned to consider their environmental impact. The authors identified a gap in the literature on travel to and from primary care (Isaacson, Kelly and Pearson, under review). No systematic study of the carbon footprint of patient journeys in primary care, nor any systematic approach to examining the evidence of reducing these carbon emissions, was identified.

The approach - This project was supported by an NHS Flexibility and Sustainability Fund allocation and given NHS Ethical approval (Ref: PR 12/YH/0042). The study compared three different methods for calculating the carbon footprint of patient travel to a GP practice using a case study in West Yorkshire and then undertook a series of focus groups to explore the issues identified. The first method developed by the project involved patients completing a detailed survey of their journeys to and from the surgery, and healthcare staff providing postcode data from home visits. Carbon emissions were calculated using ArcGIS mapping and carbon emission factors. This method was then compared to the two options available for the RCGP carbon footprinting tool, which provides a spreadsheet for a GP to measure the carbon emissions of patient travel by either: 1) Determining how many patient appointments are at the GP practice and apply the 'UK average' distance carbon footprint. Or 2) Patients report travel mode and estimate how many miles they travelled.

Findings - Meeting the NHS carbon emission targets will require profound changes in our approaches to healthcare and measurement of carbon outcomes. This project will examine to what degree the methods described above are comprehensive in accounting for the carbon emissions from patient travel and consider individuals' experiences, their views on climate change and the environmental impact of travelling to see the doctor, and highlight potential ways of reducing the patient journey carbon footprint.

Consequences – **The Sustainable Healthcare Research and Education Group at Leeds (see references)** seek to develop educational activity, expertise and research into the effects of climate change on health and healthcare systems. There is scope in this project to consider accurately the distance individuals are travelling to visit their GP, and to identify potential solutions to cutting carbon emissions whist maintaining access to the practice. Future work might include extending the research to include other practices; a cohort study of patients perhaps based on particular patient groups (e.g. cardiovascular disease); possible intervention study aimed at changing behaviours, or action research working with previously selected practices/patient samples.

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SP070

Towards a better understanding of the relationship of functional literacy and numeracy with health.

Gillian Rowlands[1], Paul Roderick[0,2], Graham Moon[0,2], Simon Fraser[0,2]
[1]London South Bank University, London, UK,[2]University of Southampton, Southampton, UK

The Problem - Functional health literacy (HL) is increasingly recognised as an important and potentially modifiable mediator of health inequalities and patient outcomes. Educational attainment is one of the key drivers of HL and measures of attainment, for example defined as levels of highest qualification or years of fulltime education, are often used to define socio- economic status and have been shown to be associated with a variety of health inequalities. More specific educational attributes that relate to HL are functional literacy (FL) and functional numeracy (FN). These were both measured in the 2003 Skills for Life Survey (SFL). In the SFL report there was descriptive analysis of their inter-relationship, and their relationships with standard socio-economic measures and health measures (self reported health, presence of limiting conditions). However further work is needed to explore further the combined relationships of FL and FN with such health measures, unadjusted and adjusted for potential confounders. This paper will present results from such an analysis on the SFL survey.

The approach - The 2003 SFL was a representative sample of adults aged 16-65 living in private households in England. Sampling used postcode sector as the primary sampling unit stratified by Region and indices of deprivation and ethnicity. Data were collected by interviewer-led questionnaire. Standard levels of FL and FN were derived (entry levels 1-3, levels 1 and >=2). There were also questions on self reported health status (SRHS: 18% had poor or fair health) , the presence of limiting longstanding conditions (LLTI: prevalence was 23%) and specific details on conditions such as diabetes and heart disease .

The response rate from eligible addresses was 59% (n=8730), of these 7517 have data on both FN and FL. We investigate the association of FL and FN individually and in combination with SRHS and prevalence of LLTI and for the exemplar condition of diabetes, unadjusted and adjusted for potential confounders (age, gender, ethnicity, other measures of SES) though recognising some of these might be on causal pathways)

Findings -

This is research in progress: findings will be presented.

Consequences - The study findings will give a better understanding of how FL and FL are related to health. This will help to identify the characteristics of people experiencing poorer health through low basic skills, and to identify ways for doctors and the NHS to improve services for this under-served population.

SP071

Seasonal trends of labyrinthitis in the UK - A THIN database study

Tina Sedani, Michelle Hards, Mary Thompson, Lauren Brown
CSD MR UK, London, UK

The problem: Labyrinthitis is an inflammation of the inner ear which can lead to loss of balance as well as other distressing vestibular symptoms. Labyrinthitis is commonly caused by a viral infection but can also be caused by a bacterial infection. There may be a seasonal trend in labyrinthitis as seen with conditions such as influenza or hay fever. This study evaluates seasonal trends of labyrinthitis in the UK using primary care data from The Health Improvement Network (THIN).

The approach: Records were identified from all permanently registered patients in 532 GP practices across the UK from the THIN database. All GP contacts, contacts related to labyrinthitis and contacts related to hay fever were counted for each season between 2002 and 2010. The percentage of contacts related to

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labyrinthitis was calculated by season according to gender and age band and compared with the percentage of contacts related to hay fever.

Findings: Between 2002 and 2010 the percentage of GP contacts related to labyrinthitis steadily declined from 0.08% to 0.06%. There was no apparent pattern of seasonality for labyrinthitis. Overall, in winter the mean percentage of contacts related to labyrinthitis of 0.068% (standard deviation [SD]: 0.008), in spring 0.066% (SD: 0.008), in summer 0.067% (SD: 0.008) and in autumn 0.066% (SD: 0.007). By contrast, there was a clear seasonal trend in the percentage of contacts related to hay fever: in winter the mean percentage of contacts related to hay fever was 0.08% (SD: 0.01), in spring 0.54% (SD: 0.06), in summer 1.02% (SD: 0.20) and in autumn 0.10% (0.01). Further investigation into seasonality of labyrinthitis by gender and age did not reveal any patterns.

Consequences: There was no clear pattern of seasonality for labyrinthitis whereas, as expected, the seasonality of hay fever was clearly evident. It may be the case that labyrinthitis does not appear to be seasonal as it can be caused by either a viral infection, which may occur more in cold weather, or a bacterial infection, which may occur more in warm weather. Further research could characterise the patients affected by labyrinthitis.

SP073

Effects of polymorphisms in inflammatory and immune response genes on adverse respiratory outcomes from exposure to outdoor air pollution: a systematic review

Seema Vawda, Rafif Mansoor, Andrea Takeda, Sally Kerry, Chris Griffiths, Robert Walton
Barts and The London School of Medicine and Dentistry, London, UK

The Problem - Air pollution is a major threat to health, having both short-term and long-term effects. The adverse effects caused by high levels of pollutants vary between individuals and it is thought that genetic variation plays a key role in these differences. Existing evidence suggests that certain variants of inflammatory and immune response genes are linked to a greater susceptibility to adverse respiratory effects caused by exposure to air pollutants.

The approach - This review aims to identify all previous studies on genes modifying the inflammatory and immune response to outdoor air pollutants and to present an overview of the genetic effects.

Methodology followed HuGeNet guidelines and screening, quality assessment and data extraction were carried out independently by two reviewers. Inclusion criteria were based around 3 components: genes, pollutants and outcomes and any study design was considered for inclusion.

Findings - Six observational and two intervention studies met inclusion criteria and were included in the review. Six studies showed at least one significant gene-pollutant interaction. Meta-analysis was not deemed possible due to variations in genes, pollutants and outcomes reported. Varying and conflicting trends were obtained, with three genes; TNFα (tumour necrosis factor alpha), TLR4 (toll-like receptor 4) and TGF-β1 (transforming growth factor beta 1) having the greatest influence on modifying the effects of air pollution on lung function and respiratory disease. TNF -308G>A modified the effect of ozone and NO2 on asthma and lung function; however the direction of effect varied between studies. Various TLR4 SNPs (rs1927911, rs10759931, rs6478317) modified the effect of particulate matter and NO2 on asthma and asthma symptoms. TGF-β1 -509C>T also modified the effect of air pollutants on asthma. The remainder of the genes showed negative results.

Consequences - The associations observed for TNFα, TLR4 and TGF-β1 have biological plausibility, supporting the presence of gene-pollution interactions; however the small number of studies reduces the validity of the results. Larger studies with improved reporting are needed to confirm these findings.

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Theme: Organisation/delivery of primary health care

SP074

Exploring GPs' experiences across six countries of a near patient test and/or communication skills training as techniques to decrease inappropriate antibiotic prescribing for acute cough.

Sibyl Anthierens[1], Sarah Tonkin-Crine[2], Nick Francis[3], Jochen Cals[4], Lucy Brooks-Howell[3], Patricia Fernandez-Vandellos[5], Jaroslaw Krawczyk[6], Carl Llor[7], Lucy Yardley[2], Samuel Coenen[1], Theo Verheij[8], Herman Goossens[1], Paul Little[2]
[1]university of Antwerp, Antwerp, Belgium, [2]University of Southampton, Southampton, UK, [3]University of Cardiff, Cardiff, UK, [4]University of Maastricht, Maastricht, The Netherlands, [5]Hospital Clinic de Barcelona, Barcelona, Spain, [6]Medical University of Lodz, Lodz, Poland, [7]University Rovira i Virgili, Tarragona, Spain, [8]University Medical Center Utrecht,, Utrecht, The Netherlands

The problem - GRACE INTRO, an internet based training programme on communication skills and the use of a C-reactive protein (CRP) near patient test, has shown to help reduce unnecessary antibiotic prescribing for acute cough by general practitioners (GPs) in a randomised controlled trial (RCT) in six European countries. The aim of this study performed alongside the INTRO RCT was to identify success factors or barriers of using communication training and CRP testing in their daily clinical practice by exploring GPs' experiences.

The approach - 87 semi-structured interviews were carried out with GPs who had taken part in the INTRO RCT. Interviews were carried out in Belgium, England, the Netherlands, Poland, Spain and Wales. Interviews were transcribed verbatim and translated into English where necessary. Analysis followed techniques from thematic and framework analysis.

Findings - Our findings suggest that GPs from all countries see benefits for themselves and their patients of using the communication skills as well as the CRP test; however some report problems in implementing the CRP test in practice. GPs report that both types of intervention are complementary and use them in different ways in practice, but stress that each only partially influences prescribing.

Consequences - Communication skills and CRP testing are experienced as acceptable and complementary techniques by GPs across multiple European countries. GPs identify problems concerning the implementation of techniques suggesting benefit from further support for the implementation of both techniques in daily practice and from tailoring this support to different countries.

SP075

Exploring patients' experiences across six countries of GP consultations using a near patient test and/or patient booklet when presenting with acute cough.

Sarah Tonkin-Crine[1], Sibyl Anthierens[2], Jochen Cals[3], Nick Francis[4], Patricia Fernandez-Vandelloz[5], Jaroslaw Krawczyk[6], Carl Llor[7], Lucy Yardley[1], Samuel Coenen[2], Theo Verheij[8], Herman Goossens[2], Paul Little[1]
[1]University of Southampton, Southampton, UK, [2]University of Antwerp, Antwerp, Belgium, [3]University of Maastricht, Maastricht, The Netherlands, [4]University of Cardiff, Cardiff, UK, [5]Hospital Clinic de Barcelona, Barcelona, Spain, [6]Medical University of Lodz, Lodz, Poland, [7]University Rovira i Virgili, Tarragona, Spain, [8]University medical Centre Utrecht, Utrecht, The Netherlands

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The Problem - GRACE INTRO, an internet based training programme, teaching communication skills, supported by a patient booklet, and the use of a C-reactive protein (CRP) near patient test, has shown to help reduce unnecessary antibiotic prescribing for acute cough by general practitioners (GPs) in a randomised controlled trial (RCT) in six European countries. Patient satisfaction with the use of these techniques has not been explored. The aim of this study performed alongside the INTRO RCT was to explore patients' experiences of consultations using a CRP test and/or patient booklet when presenting with acute cough.

The Approach - 62 telephone interviews were carried out with patients who had taken part in the INTRO RCT. Interviews were carried out in Belgium, England, the Netherlands, Poland, Spain and Wales. Interviews were transcribed verbatim and translated into English where necessary. Analysis followed techniques from thematic and framework analysis.

Findings - Patients accept the use of new techniques used in their consultations. Patients appear to favour the patient booklet in providing information on their illness and report gaining extra knowledge from their consultations. Most patients appear to experience the CRP test purely as a tool for the GP although some report finding the test particularly reassuring.

Consequences - Using a booklet to help explain prescribing decisions may help to increase patient satisfaction whilst simultaneously providing education which may help to decrease future consultations for the same condition. The use of a CRP test may encourage patients to consult for minor illnesses again in the future.

SP076

Time series analysis of the impact of an intervention to improve C diffogenic antibiotic prescribing in Tayside, Scotland.

Virginia Hernandez Santiago, Bruce Guthrie, Peter Davey
University of Dundee, Dundee, Angus, Scotland, UK

THE PROBLEM - Inappropriate use of antimicrobials is related with adverse health outcomes, including rising antimicrobial resistance and healthcare associated infections, such as C difficile.

As a result of increasing C difficile infection rates in Scotland, antibiotic improvement activities to restrict antibiotic use were done at both local and national levels. In October 2008, local antimicrobial prescribing recommendations were changed in Tayside to reduce the use of broad spectrum antibiotics. In 2009, the Scottish Government introduced a new Health Efficiency and Access to Treatment target for Clostridium difficile associated disease (CDAD) for NHS Scotland, which was aimed at reducing the rate of CDAD by at least 30% among patients aged 65 years old or over in two years' time. For this purpose, three new national quality indicators of antimicrobial prescribing were introduced, one of which consisted of decreasing seasonal variation in quinolone use to less than 5% in primary care, since quinolones should not be used for treatment of respiratory infections.

The aim of this study was to analyse changes in antimicrobial prescribing practices in Tayside, before and after the intervention.

THE APPROACH - We analysed quarterly community antimicrobial prescribing data for all prescriptions for high risk antimicrobials for CDAD (quinolones, clindamycin, co-amoxiclav and cephalosporines, known as 4C antibiotics), in total and by type, for all Tayside residents, from 2004 to 2010. Patients were stratified by age in 3 different groups: under 5, 5 to 64 and 65 years old and older. We carried out a segmented regression analysis of interrupted time series to analyse changes in trend and significance levels before and after the intervention, allowing controlling for autocorrelation and seasonality.

FINDINGS - This analysis shows a significant decrease in trend and change in level in the total 4C antibiotic use, ($p=0.013$ and $p=0.044$ respectively) with a large intended decrease of more than 50% after the intervention, which is similar to other national Scottish data. The largest fall has been in quinolone use, although we have also identified similar significant change in patterns in the other types of high risk antimicrobials.

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The greater use of 4C antibiotics was observed in the over 65s. However, older people and moreover care home residents had the largest decline in 4C prescribing after the intervention, which was found highly significant ($p<0.001$).

However, this has been largely balanced by progressive increases in doxycycline, trimethoprim and nitrofurantoin prescribing.

CONSEQUENCES - There have been major changes in antimicrobial prescribing in Tayside in response to a successful policy intervention at national and Board level. This has led to large falls in targeted 4C antimicrobials, but partly balanced by increases in other. This creates now an opportunity to examine if these changes in prescribing have translated into any changes in resistance rates.

SP077

An exploration of email for consultation between clinician and patient in English general practice: interview study

Helen Atherton[1], Carl Heneghan[1], Yannis Pappas[3], Elizabeth Murray[2]
[1]University of Oxford, Oxford, UK,[2]University College London, London, UK,[3]City University, London, UK

The Problem - Email is a popular and commonly used method of communication, though not widely used in the healthcare setting. In England, policy has pushed for the introduction of email as a method of consultation in general practice. However at present, there is very little evidence available on its use in the English general practice setting. There is some evidence that it is in use by GPs to communicate with patients, though this use has not been explored. The aim of this study was to explore experiences and opinions of patients using email consultation with clinicians in general practice with a view to understanding how email is used, and to identify barriers and facilitators to this use.

The approach - Semi-structured interviews were conducted with 14 patients, 11 GPs and one practice manager. Interviews were transcribed and analysed using a thematic approach.

Findings - Patients described how much they value the doctor-patient relationship. They desire continuity of care with the GP. Email consultation arises where there is an existing relationship, and provides a way to maintain continuity. Patients describe having concerns about accessing the GP, specifically in obtaining an appointment with the GP of their choice. Email provides a direct access to the GP, allowing patients to bypass reception. GPs are satisfied that email provides the patient with access that they feel may otherwise be lacking. Email consultation brings other benefits to both GPs and patients, providing personalised convenient care and having useful characteristics, such as its written format. Despite these benefits both patients and GPs encounter difficulties in using email, and these concern the lack of regulation around how to use email consultation. As a result both apply the social norms from their previous experience of participating in the general practice consultation to their use of email to try and counter the uncertainty. However this uncertainty still presents a barrier to any more extensive use of email for consultation.

Consequences - Email consultation lacks a regulatory framework in general practice, which makes it difficult to use. There are no existing good practice guidelines for GPs to draw on in delivering care via email. This is of consequence where GPs and practices are already offering email as a method of consultation to patients and wish to do so as safely and effectively as possible. Formal guidance on how to approach email consultation use is required if this communication method is to progress safely.

SP078

Patients who call emergency ambulances for 'primary care' problems: how are decisions made?

Matthew Booker, Sarah Purdy
University of Bristol, Bristol, UK

The problem - Emergency ambulance use continues to rise disproportionately with demand for alternative urgent care services. Despite a broad range of unscheduled care pathways, people often resort to calling an emergency ambulance for problems that could be appropriately managed by a timely contact with primary

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care. Even with increasingly sophisticated clinical decision-aid software and clinician-aided triage, such calls often still result in the highest priority (potentially life-threatening) response. This is an inefficient way to manage urgent primary care problems, and further compounds the fragmentation and duplication within the health infrastructure. How people appraise their options and undertake the decision-making process 'in the heat of the moment' when faced with evolving unanticipated urgent care needs is poorly understood. With the increased emphasis on primary care to rationalise patients' use of non-GP urgent care services, a detailed understanding of how and why people make these decisions is vital.

The approach - Semi-structured in-depth interviews were conducted with 16 patients who had called a '999' emergency ambulance for a primary care-related health problem, in the Great Western Ambulance Service catchment area. Patients were identified at the time of the treatment episode by a primary care clinician acting as an observer with front-line ambulance crews. A purposive sampling method was used to recruit a variety of acute conditions that would usually be managed in a primary care setting. Interview transcripts were analysed thematically, and a hierarchy of themes developed.

Findings - The key themes centre on lay perceptions of risk, which are often out of proportion to the clinical condition. Callers often did not understand where the remit of one service finished and another began. Callers often perceived primary care responses as 'too routine' for their problem, citing actual or perceived issues accessing advice from their usual healthcare source. Patients can find the urgent care infrastructure confusing, and are conflicted about where they would feel 'safe' being treated. Many patients undertake very logical urgent care decision-making processes, but ones which are based on service infrastructure misconceptions.

Consequences - There is a need for clearer education about the roles, remits and limitations of the options available to patients met with an unanticipated urgent care need. However, there is also a need for increased flexibility in the response to a request for urgent advice or treatment. Individual lay perceptions of risk may be distorted and magnified, particularly following a 'failed' contact with other urgent care services prior to the ambulance call. The perception appears to be one of a dichotomous health system, offering either 'routine' or 'emergency' care services with no middle ground. Increased perceived flexibility between primary care and emergency care infrastructures may enable this patient group to be managed more efficiently in the community without service duplication.

SP079

Clinical commissioning: feasibility and acceptability in general practice

William Brooks, Henry Smithson
University of Sheffield, Sheffield, South Yorkshire, UK

The problem - Successive governments have sought to give primary care clinicians a role in the commissioning of health services. This includes GP Fundholding in the 1990s, Primary Care Groups and Trusts from 1999, and Practice Based Commissioning since 2005. The current coalition government plans to reform the commissioning architecture of English health services. Pressure from stakeholder groups, recommendations from the NHS Future Forum and political debate have resulted in several amendments to the Health and Social Care Bill. Success of the current commissioning reforms still depends heavily on the engagement of professionals in general practice. We are assessing the feasibility and acceptability of clinical commissioning in general practice.

The approach - A literature review covering 4200 sources has been completed using established criteria for systematic review. This draws on traditional bibliographic databases, independent health policy think-tanks and stakeholder publications. The literature review informed development of an interview topic guide. Individual interviews with a maximum variability sample of General Practitioners, Practice Nurses, and Practice Managers working in a major English city were digitally recorded and transcribed verbatim. Data were managed using QSR NVivo software and analysed using the framework method, with results subjected to independent verification and member checking.

Findings - Top-level themes derived from the literature as an *a priori* framework and interviews include: interactions with clinical practice, operational considerations and ethical considerations. Sub-themes under interactions with clinical practice include the clinician-patient relationship, prescribing, referrals and inter-

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professional relationships. Sub-themes under operational considerations include time demands, skill mix, finances, governance and the timescale for transition. Sub-themes under ethical considerations include rationing, incentives, conflicts of interest, and professional identity.

Consequences - The results reveal a wide spectrum of personal views; being of interest to commissioners and policy makers at local, regional and national levels as well as the primary care community at large. Commissioning embraces health and the health professions, politics, management, leadership, law, ethics and sociology. Commissioning is connected to both the wider health reforms and the wider financial climate. The data from this study form the basis for a survey instrument, which will allow an assessment of the generalisability of these findings and the monitoring of clinical engagement with commissioning in general practice.

SP080

ESTEEM: A Study of Telephone Triage in General Practice - A Trial Update

John Campbell[1], Nicky Britten[1], Colin Green[1], Tim Holt[5], Val Lattimer[4], David Richards[6], Sue Richards[1], Rod Taylor[1], Chris Salisbury[2], Emily Fletcher[1], Raff Calitri[1], Vicky Bowyer[3], Katherine Chaplin[2], Jamie Murdoch[4], Anna Varley[4]
[1]Peninsula Medical School, Exeter, [2]University of Bristol, [3]University of Warwick, [4]University of East Anglia, Norwich, [5]University of Oxford, [6]University of Exeter, UK

The problem - Telephone triage in general practice is increasingly being adopted as one method to manage ever burgeoning demand. Many practices offer different types of GP- or nurse-led systems as a way of offering patients fast access to primary care. A small number of UK based trials of primary care triage have been conducted but methodological limitations have left uncertainty about the benefits and costs of a triage management system. The NHS Institute for Innovation and Improvement has promoted a GP-led triage model despite the lack of a robust evidence base. It is clear, therefore, that a large-scale experimental study is required to determine the efficacy of both GP-led and nurse-led triage models.

The Approach - A multi-centred, pragmatic cluster randomised controlled trial has been designed to assess the clinical and cost effectiveness of GP-led telephone triage and nurse-led computer-decision-supported telephone triage, compared to usual care for patients requesting same day consultations with a GP in general practice. Across all four sites practices are recruited and randomly assigned to one of the three trial arms (GP-led triage, nurse-led triage, or usual care), with randomisation stratified by site (Exeter, Bristol, Warwick, Norwich), practice size (small, medium and large) and deprivation level (deprived vs. not deprived). The primary outcome is a count of patients' primary care contacts made during a four week window following their initial same day consultation request. Power calculations showed that 42 practices (clusters) with an average of 500 patients per practice needed to be recruited. Additionally, we need to achieve a sample of at least 11,253 patients who agree to case notes review (CNR).

Findings - Here, we present an update on the current state of the trial with respect to practice and patient recruitment and the proportion of patients who have agreed to CNR (where the primary outcome data will be extracted).

The trial is almost two-thirds of the way through. 360 practices have been approached to consider participating in the trial. 97 gave positive responses and 41 practices have been recruited and randomised (GP triage=13, nurse triage=14, usual care=14). So far, 13,248 patients have been identified as eligible for the trial. Of these, 12,625 (95%) patients were given the opportunity to consent to CNR. 2,855 (23%) patients have declined consent leaving 9,770 (77%) available for CNR. So far 3,619 (37%) CNR's have been completed.

Consequences - The rate of practice and patient recruitment is good and in-line with expectations. Agreement to CNR is excellent and is likely to exceed our original target of 11,253. ESTEEM trial data will be available within the first half of 2013, and should provide a definitive guide informing the use of triage in UK primary care.

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SP081

Evaluation of Referral Management Interventions

Jonathan Cox[1,2], Bharathy Kumaravel[2], Nick Steel[1]
[1]*Norwich Medical School, Norwich, Norfolk, UK,* [2]*NHS Norfolk & Waveney, Norfolk, UK*

The Problem Six groups of GP practices have implemented referral management in Norfolk since 2006, including three Referral Management Centres that began after 2010 as part of a Quality, Innovation, Productivity and Prevention (QIPP) initiative. Previous research into the effectiveness of referral management interventions is generally of low quality, with weak evidence that peer review, educational activities and structured guidelines can improve the appropriateness of referrals. Similar interventions were used in Norfolk referral management schemes. The Referral Management Centres used referral data collection, GP triage, feedback and education, and the other groups mainly used peer review by GP. The aim of all the groups was to reduce inappropriate referrals to secondary care and variations in care.

This abstract describes an evaluation of referral management in Norfolk. The aim was to assess whether the rate of GP-referred outpatient attendance changed after the introduction of referral management for each practice group.

The Approach The 6 groups ranged in size from 2 to 25 practices (32,314 to 206,074 patients). For each group the directly age standardised rate of GP-referred first outpatient (OP) attendances was calculated for each month from April 2009 (when reliable and comparable data were first available) to Jan 2012, using outpatient and registered patient data provided by NHS Norfolk & Waveney. An equivalent rate was calculated for England using data from the NHS Information Centre (OP attendances) and the ONS (populations).

Statistical process control (U-charts) was used to assess variation in attendance rates after referral management began. Control limits were defined for each group using three standard deviations fitted around the mean attendance rate in the year preceding referral management. Standard criteria define sustained change as a series of eight or more consecutive points on one side of the mean or two out of three consecutive points beyond control limits.

Findings The duration of observations after referral management began ranged from 9 to 27 months. The three Referral Management Centres in Norfolk had been operating for 9, 17 and 18 months. Since the start of referral management, three groups (including one Referral Management Centre) showed a sustained increase in the attendance rate.

The three remaining groups showed no sustained change in attendance rate. In comparison, the attendance rate for England also showed no sustained national change in the outpatient attendance rate over an equivalent period of time.

Consequences None of the different approaches to referral management in Norfolk reduced the outpatient attendance rate over 6-27 months. This contrasted with previous weak evidence that similar interventions were effective. However, it is possible that a delayed effect may be seen and longer-term monitoring is recommended if the intervention is continued. This evaluation did not examine effects on measures other than OP attendances.

SP082

Reducing healthcare inequities: Identifying local solutions to local problems

Beenish Hanif[1], Tim Doran[2], Norman Stein[3], Sarah Thew[3], Iain Buchan[1]
[1]*Northwest Institute for Biohealth Informatics,University of Manchester, Manchester, M13 9PL, UK,* [2]*School of Community Based Medicine, University of Manchester, Manchester, M13 9PL, UK,* [3]*North West e Health, University of Manchester, Manchester, M13 9PL, UK*

The Problem: In the United Kingdom, inequalities in health and healthcare persist despite repeated national, cross-cutting initiatives to reduce them. The current changes to the NHS under the 2012 Health and Social

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Care Act will result in general practitioners (GP) taking a central commissioning role for local health services. This effectively devolves the responsibility for tackling inequalities to local healthcare commissioners. To perform this role GPs will require detailed information on how well local healthcare service provision maps to need. Our objectives were to benchmark and track inequalities in order to assist GPs in making the effective commissioning decisions.

The approach: We used demographic, socioeconomic and health service data from Salford Primary Care Trust for 55 general practices, including performance data for Quality and Outcomes Framework (QOF) indicators and area-assigned components of deprivation from the Index of Multiple Deprivation (IMD) 2010. The multiple factors considered were grouped into demographic, health and social characteristics and multivariate statistical techniques were used to cluster similar practices along these axes. A qualitative study involving in-depth interviews will examine GPs' perceptions of local healthcare inequalities and their practice's positioning within the clusters.

Findings: Poorer health outcomes were generally associated with higher levels of material deprivation, but some practices appear to achieve better health outcomes than expected given the socio-economic characteristics of their patients. In order to understand these findings in more detail, we will present results from a qualitative study involving in-depth interviews with GPs which: adds further validation to the practice profiling statistics; examines the gaps between measured and perceived inequalities in primary care provision by general practices; seeks to explain differences in health outcomes for practices with similar population profiles; and examines GP's needs with respect to the presentation of equity information in order for it to be useful in commissioning.

Consequences: The content and presentation of information on healthcare equity intended to support commissioning decisions will be underpinned by public health and informatics evidence. In turn this will lead to more accurately and usefully informed GP commissioning.

SP083

Pharmacists' perspectives on the feasibility of the provision of alcohol screening and brief advice to women attending for emergency hormonal contraception: a pilot study

Sally Brown, Emily Henderson, Christina Dobson, Catherine Nixon
Durham University, Stockton on Tees, UK

The problem - Excessive drinking contributes to health and social problems, including sexual risk taking. Young people who drink, and people who binge drink, are more likely to have unprotected sex, to contract STIs, and have an unplanned pregnancy. Screening and brief interventions (SBI) in primary care can be effective in reducing harmful and hazardous drinking, and are recommended by the Department of Health for use in pharmacies as an opportunity to provide advice to populations not otherwise seeking it. However, there is as yet little evidence of the long term effectiveness of SBI delivered in pharmacies in reducing alcohol consumption.

The approach - NHS County Durham and Darlington piloted the delivery of SBI to women seeking emergency hormonal contraception (EHC) in community pharmacies. This study evaluated the acceptability of delivering and receiving SBI by pharmacists and their clients, and evaluated the effectiveness of SBI thus delivered.

This paper presents the findings relating to the uptake and delivery of the pilot by pharmacists. We interviewed a purposive sample of pharmacists who had undertaken training in use of the AUDIT tool and delivery of SBI; the sampling was based on level of participation, size of pharmacy and geographical location. Face to face interviews using a semi-structured questionnaire were recorded, transcribed, and analysed using Framework Analysis.

Findings - Uptake by pharmacists of the opportunity to offer the screening service was low, despite the enthusiasm and encouragement of the Local Pharmacy Committee. Pharmacists' attitudes towards screening were generally positive, although there were organisational obstacles to providing the service such as lack of time, unfamiliarity with the tool, and pressure of competing demands in a busy pharmacy. Some felt uncertain about engaging clients in conversation about a sensitive topic. In addition, rather than screening all women

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requesting EHC, some pharmacists chose not to screen some women because they were perceived as "not the type" to drink too much.

Consequences - At a time when pharmacists are being encouraged by the Department of Health to offer more health promotion services to their clients, the implication is that many will find it difficult or unattractive to develop these services. The fees offered were not considered to be a major incentive; although they may have been set too low to be effective, it was felt by some pharmacists that some form of incentive was necessary as they were being asked to take on more work. Rather than a purely financial motivation, participating pharmacists were motivated by feeling that they were "making a difference" and enjoying the opportunity to help people rather than "just hand out tablets".

SP084

A postal questionnaire for reducing proton pump inhibitor prescriptions

Callum Stevenson[2], Jack Hollinghurst[1], Ruth Darlow[1], Nick Cooper[2]
[1]Catherine House Surgery, Totnes, UK, [2]Peninsula Medical School, Plymouth, UK

The Problem: Proton pump inhibitors (PPIs) are effective in easing symptoms of gastro-oesphageal reflux disease (GORD) and are frequently prescribed in primary care. Time pressures of a general practice consultation can lead to patients remaining on PPIs long term when they are no longer by symptomatic. Inappropriate use of PPIs results in a financial cost to the NHS can increase patients' susceptibility to osteoporosis and Clostridium difficile infection in those who are hospitalized.

The approach: We audited patients in a medium sized general practice, constructing a list of patients with a repeat prescription for a PPI.

We reviewed the history of these patients to attempt to find out the indication for the prescription and to see if they had had a review of their medication in the last 12 months.

We sent out a short questionnaire to assess patients' suitability to come off or reduce their PPI. Patients identified as suitable, who had not had a medication review in the last 12 months, were sent out a second letter asking them to consider a two-week trial without their PPI and to report if their symptoms returned. A return slip was enclosed. If they indicated in their first questionnaire that they were taking regular non-steroidal anti-inflammatory drugs or aspirin then we asked them to attempt a reduction to 10mg per day if they were not symptomatic.

Patients were to be excluded if they had a diagnosis of Barrett's oesophagus.

Findings: We found that 246 patients at the practice were being prescribed a PPI which equated to 10% of registered patients.

191 (77%) returned the questionnaire, of which 90 (47%) reported themselves asymptomatic of GORD. 11 of the asymptomatic patients reported taking regular NSAIDs.

32 patients were sent a second questionnaire, 22 responded. 19 said they were prepared to trial stopping the PPI. 10 said they remained asymptomatic and were happy to stop the PPI. 11 were asked if they would attempt to reduce their dose, 4 responded, 2 chose not to try to reduce the dose, 2 agreed to try a lower dose which they both tolerated and did not require reintroduction of a higher dose.

Consequences: This audit showed that a proportion of patients prescribed PPIs unnecessarily.

It also showed that a postal questionnaire could be an effective way to reduces prescription of these. This is important as it will reduce prescribing costs and reduce unnecessary risk to the patients.

The cost saving per year as a result of this was £258.

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SP085

Data Linkage for Pharmacovigilance: Views of Healthcare Professionals on the secondary use of administrative NHS data

Yvonne Hopf[1,2], Christine Bond[1], Jill Francis[3], John Haughney[1], Peter Helms[2]
[1]University of Aberdeen,Centre of Academic Primary Care, Aberdeen, UK,[2]University of Aberdeen, Department of Child Health, Aberdeen, UK,[3]University of Aberdeen, Health Services Research Unit, Aberdeen, UK

The Problem - Maximising patient safety, including through pharmacovigilance, is essential. Paediatric pharmacovigilance is a recognised priority. There is widespread use of medicines off-label in children and a recognised vulnerability to adverse drug reactions. Current systems of pharmacovigilance have deficiencies. Improvements have been suggested, such as facilitating the detection of adverse drug reactions through data linkage. Increasingly, routinely collected clinical data are kept electronically and the use of CHI numbers (unique patient identifiers used throughout the Scottish NHS) provides a mechanism for linkage. The views of healthcare professionals on the linkage of NHS data for pharmacovigilance purposes in children have not been explored; this work explores the acceptability of linking routinely collected healthcare data to inform the design of a new system for pharmacovigilance in children.

The Approach - A mixed methods study was conducted involving interviews with a purposive sample of professional stakeholders, focus groups with purposively selected frontline healthcare professionals (analysed using Framework analysis and a three-round Delphi survey with a random sample of healthcare professionals (nurses, pharmacists and doctors with an interest in paediatric medicine) in Scotland. The survey was structured using the Theoretical Domains Framework. Results were triangulated across the three arms of the study. Ethical approval was granted by the North of Scotland Research Ethics Service.

Findings - Interviews (n=23) identified issues with security, anonymisation and legal challenges that should be addressed prior to implementation. Recommendations included information to and involvement of the public as well as strict control of access to the data by vetting and imposing meaningful sanctions. Focus group participants (n=22, 6 groups) additionally identified potential issues with the feasibility of the planned data linkage as well as latent liability issues from results dissemination. Participants focused less on legal issues anticipating that standard governance protocols and current laws would be satisfied. The Delphi survey initially covered all the issues identified in the preceding work but after three rounds that retained items on which there was consensus, interest focused on professional standards, requirements for linkage and the use and form of potential feedback. The proposed data linkage was perceived as positive and necessary, with participants highlighting the benefits for research and for patients.

Consequences - The development of a paediatric linked database has support from professional stakeholders and healthcare professionals in Scotland. The proposed data linkage was perceived as addressing a gap in current knowledge. No insurmountable issues were identified, but a range of issues and concerns should be addressed prior to implementation. Front-line health professionals, ultimately responsible for collecting the data, saw feedback as a strong motivator for engaging with the project. The data from this study will be supported by and cross-referenced to a parallel study investigating the views of the public.

SP086

Embracement protocol: primary care response to spontaneous demand, a complex manner of overcoming inequity.

Vitor Hugo Lima Barreto[1,2], Mirella Barata[1], Thayse Brito[1], Sophie Park[3], Cinthia Vasconcelos[0]
[1]Universidade Federal de Pernambuco, Recife, Pernambuco, Brazil,[2]Prefeitura da Cidade do Recife, Recife, Pernambuco, Brazil,[3]University College London, London, UK

The idea: Primary Health Care in Brazil has been structured by the expansion of the Health Family Strategy, since 1997. Although the access to health care services has increased, the population of each health team still overwhelms its assistance capacity. To deal with this problem, the Humanization Policy guarantees

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access through a strategy of demand management called the User Embracement. The User Embracement reorganizes the working process of the health team making it possible to deal with the high level of population demand. Several protocols have been developed to help professionals define priority users in health spontaneous demand settings. In general, these were developed in emergency service settings, focusing upon the users' physical conditions. The tool considers individual risk factors in relation to socioeconomic class, gender, ethnic group and age. These address social vulnerability, one of primary health care´s main targets. A worldwide known emergency protocol, the Manchester Protocol, has been widely implemented in the emergency services in Brazil. Some cities have considered its use in Primary Health Care despite professionals' disapproval. The Embracement Protocol proposes a specific instrument developed for the complex primary care context. Why it matters: The new protocol considers individual, social and programmatic vulnerabilities, with the help of computer software, to define priority users during the shifts the health team establishes to respond to spontaneous demand. The software, developed by a federal public university, enables the health teams to modify the variables considered and their weight on the overall priority definition, in accordance to their local situation. Next steps: The protocol will be tested in volunteer health teams throughout Brazil and will undergo possible adjustments in three month periods. Discussion: Most protocols developed for spontaneous demand assistance will only consider individual risk factors. Risk factors are historically related to population control. The concept of vulnerability will consider socioeconomic factors which are intimately related to human inequities. These vulnerabilities when considered in public policies can promote empowerment and entitlement. There are several computer systems being developed for the health care assistance, but not many are in accordance to the necessities of Primary Health Care. The Embracement Protocol software can be attached to these systems and consider variables not previously included. The Embracement Protocol proposes an escape from over-simplification of the user's particular condition in order to face the inequities encountered in primary care settings, which need to be overcome. Risks: The health teams may have trouble running the software and should be trained beforehand.

SP087

Referrals for surgery, surgical pre-assessment and hospital discharges: perspectives from General Practitioners across NHS Scotland

Matt-Mouley Bouamrane, Fiona Smith, Frances Mair
University of Glasgow, Glasgow, UK

The Problem - The estimated number of surgical procedures in the U.K. is in excess of 8 million per year. The NHS Modernisation Agency Pre-operative Assessment (POA) project estimated that a majority of theatre cancellations were directly related to patient factors. A recent report by the National Confidential Enquiry into Patient Outcome and Death (NCEPOD) suggested that patients undergoing surgery are increasingly older, with complex morbidities and requiring optimum preoperative planning. It emphasised the importance of high-quality POA to ensure the early identification and effective clinical management of "higher-risks" patients, in order to reduce surgical mortality rates.

The approach - Using the Medical Research Council Complex Intervention framework we have: (i) conducted a systematic review of processes of pre-assessment in elective surgery, (ii) visited at least 1 POA service in all 14 territorial health-boards of Scotland, interviewing key stakeholders and (iii) conducted interviews with GPs across NHS Scotland, collecting their perspectives on referral processes, patient management in secondary-care and post-operative discharge.

Findings - We collected a wide range of perspectives on referral processes, yet we identified several important patterns. GPs felt that referral decisions were typically reached through an informed discussion and in consensus with the patients. The reasons cited for referrals were to avail of a specialist's expertise for testing, a diagnostic or treatments not available in primary care. Many GPs declared using referral guidelines where clear protocols existed. All referrals were processed electronically and GPs felt it provided substantial advantages over letter referrals. On the other-hand, the feed-back from secondary care was perceived as varied. One consistent complain was the lack of information on outpatient appointments, both a source of anxiety for patients and additional workload for practices. GPs reported minimal interaction with POA services. Some GPs showed willingness to provide assistance to POA services while other resented being delegated tasks by these services. Discharge information was generally considered the most inconsistent overall. The lack of standardisation of discharge documents was a cause for concern. Important delays

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before receiving full discharge letters were reported and it was not unusual for GPs to rely on the patients themselves for feed-back on surgery.

Consequences - An important communication gap exits between primary and secondary care practitioners throughout the patient surgical pathway. Substantial misunderstandings of where important patient information resides are common and result in information elucidation and tasks duplication. Our research, along with recent concerns raised by the NCEPOD report on surgical outcomes, suggests that this communication gap needs to be bridged as a matter of priority. It will take a concerted effort from all stakeholders to optimise the transitions and effectiveness of processes at the interfaces between services to deliver the continuity of care necessary for a safer integrated surgical pathway for patients.

SP088

The Health and Social Care Bill: the patient perspective

Tatum Matharu[1], Kerin Hannon[2], Helen Lester[1]
[1]*University of Birmingham, Birmingham, UK,* [2]*University of Manchester, Manchester, UK*

The problem: Arguably one of the most controversial set of health proposals in decades, the Health and Social Care Bill has faced significant hostility during its passage through Parliament, from politicians and health professionals. However, there has been relatively little attention paid to the perspective of patients. Lacking a defined and recognised voice that can be channelled into the system, a small percentage of the voting public has been forced onto its feet, engaging in protest activity that has had minimal impact. This research uncovers and explores the views of ordinary people, specifically long-term users of the National Health Service, presenting their understanding of the Bill 'on the ground'.

The approach: We undertook serial semi-structured interviews with 54 patients, who were purposively selected on age, gender and diagnosis, from QOF chronic disease registers in 15 practices across England. Participants were aged between 32-90 years (mean age 64), and 46% were male. They were initially interviewed during Spring 2011, following the publication of the original health White Paper. Two-thirds agreed to be interviewed a second time, in early 2012, to enable a longitudinal analysis of the patient perspective.

Findings: We found a measured resistance to proposed changes. Most patients praised their experiences of the NHS, though they felt powerless to voice this as well as their concerns. At time 1, significant concern was voiced regarding GPs' abilities to perform their new commissioning role and impact on patient advocacy roles, though this was moderated in the later interviews, in which patients welcomed GPs' local and medical knowledge into the commissioning process over excessively expensive managerial costs at PCT and SHA level. However, patients predicted that this layer of management would be replicated to a degree because GPs may lack the skills and certainly the time to commission when they should be focussed on their primary duty of patient care. Similarly, there was hesitant acceptance of the notion of 'any qualified provider' over the earlier version of 'any willing provider' but there was marked opposition to the raising of the hospital private patient cap. Interestingly, there were few worries voiced about proposed changes to the role of the Secretary of State (a major health professional concern). Overall, however there was significant concern about a creep towards privatisation.

Consequences: These interviewees gave thoughtful longitudinal accounts based on decades of NHS use. They were not fearful of change *per se* but were opposed to a perceived change simply for its own sake. They felt the current standard of health care was good but were willing to think about and accept changes to the NHS. Listening to the voices of ordinary patients may still be useful in implementation of the Health and Social Care Act.

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SP089

Acceptability and effectiveness evaluation of a tailored web- and SMS text-message based facilitation of smoking cessation in primary care: the iQuit in Practice trial

Felix Naughton[1], James Jamison[1], Sue Boase[1], Melanie Sloan[1], Hazel Gilbert[2], A. Toby Prevost[3,1], James Brimicombe[1], Stephen Sutton[1]
[1]University of Cambridge, Cambridge, UK, [2]Royal Free and University College Medical School, London, UK, [3]King's College London, London, UK

The problem: Computer-tailored smoking cessation interventions providing behavioural support can be effective in increasing abstinence rates among smokers (Lancaster and Stead, 2004). However, it is not known whether such digital interventions might be an appropriate adjunct to the smoking cessation support delivered in primary care. The aim of this trial was to assess the feasibility, acceptability and effectiveness of a web and SMS text-message based intervention when used by smoking cessation advisers delivering 'level 2' smoking cessation advice (funded by NSPCR)

The approach: A randomised controlled trial where smokers receiving smoking cessation advice at their GP surgery were randomised to receive either the iQuit programme, which provides a tailored advice report and a 90-day course of tailored text-messages, or usual care only. The initiation of the iQuit programme was undertaken by nurses and healthcare assistants during their initial routine smoking cessation appointment. Participants were followed up routinely at 4-weeks and by postal questionnaire at 8-weeks and 6-months after enrolment assessing acceptability and smoking outcomes.

Findings: Thirty-two practices took part in the trial. In total, 602 participants were recruited between the two trial arms. 53% of the sample were female and 68% smoked their first cigarette within 30 minutes of waking. Follow up will be completed by July 2012. Acceptability and effectiveness analyses will be presented. The primary effectiveness estimate is based on a between-group comparison of 2-week point prevalence abstinence at 8-weeks follow up. Secondary smoking outcomes include 3-month sustained abstinence at 6-months follow up and CO verified cessation at 4-week follow up (routine assessment).

Consequences: The potential of the iQuit programme will be discussed with respect to its acceptability to patients and healthcare professionals and likely effectiveness. Augmenting 'level 2' advice with a computer-tailored intervention may be particularly appropriate given that routine advice is primarily focused on pharmacotherapy rather than behavioural support. The ever increasing complexity of the general practice setting, however, creates new challenges in engagement and training for the implementation of digital behaviour change interventions.

SP090

Community Pharmacists' views on the safety features and alerts in Patient Medication Record (PMR) systems

Oluwagbemileke Ojeleye[1], Anthony Avery[0,2], Matthew Boyd[1]
[1]Division of Social Research in Medicines and Health, University of Nottingham, Nottingham, UK, [2]Division of Primary Care, University of Nottingham, Nottingham, UK

The Problem: Patient Medication Record (PMR) systems are used in community pharmacies in the United Kingdom (UK) for recording details of prescriptions dispensed; producing labels for dispensed items and checking medications for potential clinical hazards and errors. Many of these systems have some safety features, similar to general practice computer systems. To date there has been little research on the use of PMR systems, their safety features and alerts to support practice; and how they are included in the work processes in the pharmacy. Furthermore there has been speculation that safety features are often bypassed.

The approach: Semi-structured interviews were conducted with six practicing community pharmacists between January and March 2012. Each interview lasted between 30-45 minutes and aimed to explore pharmacists' views, opinions and experiences of PMR systems and their functionality, focusing on safety features and alerts. Interviews were audio-recorded, transcribed verbatim and an initial thematic analysis

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carried out. The study was reviewed by the University of Nottingham, Medical School Research Ethics Committee and was given a favourable opinion.

Findings: Pharmacists expressed varying opinions about the safety features that a PMR system should have. They expressed a desire to use PMR systems' safety features and alerts efficiently, but highlighted many challenges which they currently face in doing so. One pharmacist remarked, '*I actually did an audit on those warnings that come out to see which ones are really interactions and which ones are not... most of them weren't actually significant interactions...*' (P1). They all reported that PMR systems are useful but present too many insignificant alerts during the dispensing process, leading to automatic cancellation of the alerts.

Concerns regarding the handling of alerts by support staff were raised. One pharmacist proposed that, '...*if there is an interaction, a major interaction, the system should, if it's a dispenser that is doing it, then the system should not allow you to proceed until you've actually keyed in...something to say you've authorised this*...' (P2). The pharmacists reported that it is almost impossible for them to check every on-screen alert in a busy dispensary when they are mainly checking prescriptions. Pharmacists also reported that support staff may fail to inform them about important alerts and as a result, they may not be aware that an important alert has been cancelled.

Consequences: These results suggest that some pharmacists do not perceive all of the drug interactions presented as being important. This suggests that more work needs to be done to investigate the quality of the alerts and perhaps consideration needs to be given to grading alerts based on the level of importance. It may also be necessary to explore role-based response to alerts to ensure that important alerts are validated and authorised by pharmacists.

SP091

A qualitative investigation of disinvestment within the NHS

Leila Rooshenas, Amanda Owen-Smith, Jenny Donovan, William Hollingworth
University of Bristol, Bristol, UK

The Problem - There is little or no predicted growth in NHS expenditure forecast for the next 5 years. This presents an immense challenge as the NHS attempts to respond to ever-increasing demands. Furthermore, the NHS is on the verge of substantial transformations, as primary care clinicians move to the forefront of making funding decisions. Primary Care Trusts (PCTs) currently prioritise which services they commission from finite funds. Given the economic outlook, ways to save money, including opportunities for disinvestment, should be high on the agenda for current and future commissioners. Disinvestment refers to restricting or reducing funding from existing health services that are deemed ineffective or inefficient. However, previous research shows that there is a lack of theoretical or evidence based frameworks to guide disinvestment decisions. A project run by the University of Bristol has introduced a new tool that incorporates benchmarking, evidence-synthesis and consensus- building to guide disinvestment decisions. This tool is being 'road tested' by two PCTs that serve socio-demographically contrasting populations.
This study aims to investigate how NHS decision makers respond to funding constraints, with particular emphasis on exploring the barriers and facilitators of the proposed disinvestment tool's success. This will assist in the refinement of the disinvestment tool, which could be used by future Clinical Commissioning Groups (CCGs). The study will also identify money-saving lessons that can be adopted by CCGs as they embark on their new duties.

The Approach - The study uses an ethnographic approach. Current commissioning groups within the PCTs 'road testing' the disinvestment tool are being observed in meetings in order to: a) develop an understanding of how money-saving decisions are made, b) investigate current engagement with disinvestment, and c) explore how the proposed disinvestment tool works in practice. Semi-structured, face to face Interviews with purposefully selected members of the commissioning groups are accompanying observations. Purposeful selection of members is being guided by our intention to capture views from a maximum range of professional roles. Interviews will focus on: a) members' expectations of the success of the disinvestment tool; b) attitudes to disinvestment in general; c) views on the best ways to save money in the NHS, and d) reflections on the barriers and facilitators for the disinvestment tool's successful future use.
Observed meetings and interviews are being audio recorded, transcribed in full, and subjected to thematic

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analysis. Conversational analysis techniques will be used to analyse select parts of meetings that are relevant to the study aims.

Findings - We are currently in the process of data collection and analysis. Study findings will be available by October 2012.

Consequences - The findings of this study can be used by primary care clinicians participating in newly formed CCGs, to assist them in making difficult funding decisions.

SP092

An audit of oral nutritional supplement (ONS) prescribing at a general practice in South-East London

Seeta Seetharaman
King's College London, London, UK

The problem - Community expenditure on oral nutritional supplements (ONS) to support malnourished patients has grown substantially in recent years. However London audit data on prescribing practices have shown ONS to be 'inappropriate' in 57–75% cases due to incomplete nutritional assessment of patients prior to prescription and poor monitoring of patients using these products. This study assessed the appropriateness of ONS prescribing at a medical practice in South East London and examined strategies to promote cost effective prescribing, particularly for patients in residential care.

The approach - An EMIS database search was performed to identify all patients registered at the practice over the age of 18 years who were receiving ONS within a 4 month period (1st July 2011 - 1st November 2011). Sixty-five patients were identified and their original consultations and prescriptions evaluated.

Findings - Assessment of patients prior to prescribing sip feeds was variable. Prior to prescription, all 24 patients in residential care were scored by care home staff using the Malnutrition Universal Screening Tool (MUST). No formal malnutrition assessment was recorded prior to prescription for any of the 41 patients living at home. For 4/41 (10%) of patients living at home, there was no BMI on record and 10/41 (24%) had a last recorded BMI of >25. One third of the 21 patients who were on long term ONS (more than 12 months), were originally placed on ONS during an inpatient hospital stay. Clear indications for prescribing sip feeds were only recorded for 34/65 (52%) patients and explicit nutritional goals were not identified in any of the patient's practice records.

There was no evidence of food alternatives (e.g. food fortification methods) being used prior to prescription of supplements, either for patients at home or in residential care. The majority (91%) of patient records contained clear instructions on the dose and quantity to be used and switching to more cost effective brands (e.g. Fortisip to Complan) was observed for 7/65 patients over the test period.

Consequences - To ensure more targeted prescription, MUST should be used to assess malnutrition risk prior to ONS prescribing. Patients who are not at risk of malnutrition but desire ONS should be provided with appropriate information on over-the-counter options and food fortification. Furthermore patients already on ONS, particularly those discharged from hospital on ONS, need reviewing to avoid inappropriate continuation and aid switching to cost effective products. There are a number of factors contributing to lack of nutrition in an acute setting (e.g. illness, unfamiliarity or dislike of food available), which do not apply after return home.

SP093

Health promotion practice

Alla Sokalska
family doctor's practice, Riga, Latvia

Objective: The aim of the study is to assess whether and how active home visits help to improve AH control, a glucose level in blood and the amount of referrers to hospital.
Design:

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Within 4 months an appointed student from Riga Stradins' University visited at home180 patients. Patients with unsatisfactory AS and CD compensation were visited every day until a sign of recovery; however, others – once in a week.

Setting: A family doctor's practice, Riga, Latvia

Subjects: In total 180 patients were selected and observed. These were all patients registered in my practice. Selection criteria were age, frequency of meetings with a doctor and regularity of use of medicine prescribed.

I selected people who were over 60 years old and:

- had not made appointments to GP within the last three years,
- or didn't use antihypertensive medicaments regularly, or
- had not made appointments to an endocrinologist within the last three years.

Out of 180 patients 57 were older than 80 years old, 11 patients had not made an appointment for GP in the last three years and 43 patients had not made appointments to an endocrinologist within the last three years.

Main outcome measure: An improvement in patients' health condition due to regular observations by primary care specialist.

Results: After first visits the situation was as follows:

- 86 patients had a BP≥140/90 mm Hg
- 14 patients had a BP 140/90-159/99 mm Hg
- 58 patients had a BP 160/100-179/109 mm Hg
- 14 patients had a BP ≥180/110 mm Hg.

After four months of regular checking patients' useof antihypertensive medicine the average BP for everybody decreased to18 mm Hg.

Regarding diabetes mellitus within the range of study several cases of glucose intolerance were diagnosed:

- Increased glucose's level was found in 43 patients
- Glucoses tolerance disorder was found in 15 patients
- Suspect of DM, pancreatic was found in 2patients
- Hypoglycemia episode was found in 1 patient.

Other findings:

Also other cases of illness were diagnosed:

- Inguinal hernia and referring to planned operation- 1 patient
- Syncope's episode and its further investigation - 1 patient

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· Occurring for the first time angina pectoris and the further investigations, prescription of medicine – 3 patient

Conclusions: General practitioners can improve the service towards patients who do not want or cannot come to GP office by regular home care management.

SP094

Modeling the Paradox of Primary Care

Kurt Stange
Case Western Reserve University, Cleveland, Ohio, USA

The problem: Disease-focused research shows that generalists provider poorer quality care than specialists in individual diseases.
Yet, other research shows that generalist care is associated with better personal and population health, lower health care expenditure, better population measures of health care quality, and less inequality.
This is called the paradox of primary care.

The approach: Simulation modeling can answer questions about how complex phenomena emerge from the interaction of agents and their environment.
We are developing an agent-based model of the paradox by specifying characteristics of patients and health care system organization, and observing model outputs of functional health status.

Findings: In the first simple model, the paradox emerges as patients with multiple health conditions initially are healthier when cared for by specialists, but over time become healthier when cared for by generalists, as treatment side-effects are reduced and treatment effectiveness increases from the effects of care integration. Ongoing model expansions that will be presented at the meeting will add the effects of: varying ratios of generalists and specialists; generalists making specialist care more effective by selective referral; the association of generalist supply on access to care, preventive services, and health promotion; integrating, personalizing and prioritizing health care. As time allows, further model expansion will examine the cost and equity of care and neighbourhood effects.

Consequences: Understanding the mechanisms behind the paradox of primary care can help to refine critical primary care functions that are under-valued by disease-focused quality measures, and can be used to optimize the design of health care systems to maximize value, equity, and personal and population health.

SP095

Implications of Different Manifestations of Primary Care for Local Health Communities

Kurt Stange
Case Western Reserve University, Cleveland, Ohio, USA

The problem: Local Health Communities (LHCs) are a potential solution to the burgeoning problems of multimorbidity, fragmented health care, and complexly-related social, environmental and behavioural determinants of health. Making sense of LHCs and coordinating their work in light of diverse approaches to primary care is a challenge.

The approach: Using the Ealing Clinical Commissioning Group diabetes coordination project as a case study, and drawing on related work in progress in Cleveland, Ohio in the US, we analyzed the care integration opportunities of LCTs using the international framework of primary care organization identified by Geoff Meads.

Findings: Each organizational type of primary care presents unique challenges and opportunities for care integration.

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Extended general practice and franchised outreach practices contain the greatest opportunity for personalizing care of the whole person, but requires active partnership with other health care system and community resources to foster population health.

Managed care enterprises and reformed polyclinics contain structures that foster vertical integration of disease care, but typically lack horizontal integration across multimorbid conditions and the social and environmental determinants of health.

District health systems and community development agencies are well-suited to whole systems approaches to both vertical and horizontal integration of care, but require additional work to personalize the care of individuals.

Consequences: The local adaptability of LHCs and primary care represents a great strength for advancing the health care and health of people and populations. A strategic approach can begin with identifying and building on local strengths, and developing organizational approaches to compensate for the limitations of each type of primary care organization.

SP096

Challenges in interpreting NICE guidelines for primary care

Helen Edwards[1], Nicholas Steel[1], Asmaa Abdelhamid[1], Nadeem Qureshi[0]
[1]University of East Anglia, Norwich, UK, [2]University of Nottingham, Nottingham, UK

The problem - The National Institute for Health and Clinical Excellence (NICE) develops respected evidence-based clinical guidelines, containing many recommendations for primary care (PC). In order for PC clinicians to use the guidelines effectively and with confidence, they need to be able to easily identify which guidelines and specific recommendations are relevant to their patient, and which evidence is used in what way to develop recommendations.

As part of a larger project examining the evidence base used to develop PC recommendations, we examined all NICE guidelines published in 2010 and 2011. This involved identifying the relevance to PC of each guideline, each recommendation, and the evidence base for each recommendation.

These tasks were more complicated than expected. We aimed to:

1. classify the challenges we encountered in interpreting NICE guidelines for use in PC, and

2. triangulate these challenges against AGREE II, a valid and reliable international guideline appraisal tool

3. consider how guideline development could be altered to address these challenges

The approach - Based on our experience of examining 45 NICE guidelines, we categorised the challenges we encountered prior to triangulating them against AGREE II to identify relevant domains. We purposively selected 3 guidelines to represent the range of guideline clarity, and 3 raters independently appraised each one using AGREE II. We compared the challenges identified in our initial assessment of the guidelines with scores for the 3 most relevant domains of AGREE II.

Findings - Challenges in identifying the relevance to primary care of guidelines and recommendations included ambiguous descriptions of the intended scope, and non-specific recommendations. Challenges in identifying evidence used to develop recommendations included lack of clarity in linking clinical questions with recommendations, and lack of clarity in attributing evidence to recommendations. As a consequence the evidence used to develop some recommendations could not be identified.

Three AGREE II domains identified the main challenges encountered in interrogating the guidelines: ‘stakeholder involvement’, ‘rigour of development’, and ‘clarity of presentation’.

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Consequences - The methodological challenges we faced in interpreting guidelines for the project are likely to reflect some of the difficulties experienced by clinicians in using guidelines, and limit guideline utility in clinical general practice. The NICE guidelines manual addresses many of these challenges, but it is not formatted in a way that makes it easy to use for guideline appraisal, and does not specifically address the relevance of individual recommendations to particular clinical settings.

AGREE II is already used by some guideline development groups. We suggest that AGREE II, or its relevant domains, could be used for quality appraisal of guidelines prior to publication, with particular attention to relevance for the target population, to improve applicability in practice.

SP097

Rethinking workforce boundaries: roles, responsibilities and skill mix and readiness for change in general practice

Annie Topping, Idah Nkosana-Nyawata, John Stephenson
University of Huddersfield, Huddersfield, UK

The Problem - The last 10 years has seen major changes in the way services are delivered in primary care. Skill mix, has offered many practices real opportunities for doing things differently. As the introduction of advanced nurse practitioners (ANPs) and health care assistants (HCAs) into the primary care workforce demonstrate. While workforce redesign has its critics, in a context of skill shortages, cost containment, policy reform, quality improvement and increasing volume of interventions delivered in primary care, new ways of working are becoming the norm. Yet introducing skill mix change is not without its challenges[1] A local evaluation of outcomes from ANP preparation programmes found some, although just a minority of, graduates experienced resistance to establishing their new role. The aim of this study therefore was to explore the features of those general practices that successfully accommodate and demonstrate readiness, to engage with skill mix change.

The Approach - Realistic evaluation[3]case study[4]design was used, as evaluating context is deemed as important as interventions. Seven GP practices drawn from across West Yorkshire (UK) with experience of skill mix change serving different populations (demography, geography and size) were invited and five agreed to participate. Following ethical approval a questionnaire -Team Climate Inventory [TCI-14] - was administered to all practice staff. Subsequently semi-structured interviews with ANPs, GPs, PNs, HCAs and business managers (n=24) were conducted. These were recorded, transcribed and analysed using thematic analysis. Exploratory analysis of TCI-14 data was undertaken using SPSS Version 18.0 followed by hierarchical regression modelling using MLwiN (Version 2.18) software

Findings - A total of 122 clinical and non-clinical informants from five practices completed the TCI-14. A total of 122 clinical and non-clinical informants from five practices completed the TCI-14. Mean TCI-14 scores were consistently high (50.8 - 59.0 summed across all subscales), for all practices, suggesting willingness to work collectively toward shared goals. Size of practice made no difference to mean scores. However higher mean scores were associated with proportion of non-clinical staff (p=0.026), respondents employed longer in the practices (p=<0.001) and male respondents (p=0.007). Comparison of TCI-14 with patient experience Quality and Outcome Framework (QOF) scores showed no significant association between these variables.

Qualitative data analysis suggests that the attributes that contribute to readiness to introduce skill mixing are organisational openness, transparency, commitment and staff capability. However these appear to be initiative specific, not representative of any unrestrained openness to change.

Consequences - Organisational willingness (demonstrated by TCI-14 score) may offer some indication of readiness to consider change. Yet willingness alone may not be enough to ensure successful implementation. Indeed readiness to innovate may be different from readiness to implement and be driven by different motivations.

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SP098

How much do primary care consultation rates differ by gender through the life-course: an analysis of recent trends in the UK?

Yingying Wang[1], Kate Hunt[1], Irene Petersen[2], Irwin Nazareth[2]
[1]Medical Research Council, Glasgow, UK, [2]UCL, London, UK

Background - General practice is the first point of access to health services in the UK, with 78% of those registered with a GP consulting at least once a year. There has been an upward trend in GP consultation rates over the past decade, and overall women's consultation rates are presumed to be persistently higher than men's. Similar gender patterns have been reported in other countries, but existing findings are drawn largely from self-reported survey data. This paper uses routine data to explore overall trends in consultation rates in general practice in the UK, and examines whether the consultation pattern by gender and age changes in the UK between 2000 and 2010.

Methods - This study uses data from THIN (the Health Improvement Network) database, identifying all patients permanently registered with THIN practices in the study period, and including those have been registered with practices for a minimum of 12 months. All recorded medical consultations, including face-to-face, telephone and home visits during surgery hours and out-of-hours were counted. Multiple consulting records on a single day counted as one consultation. The consultation rate is calculated as the number of consultations individuals had divided by the number of person years at observation, stratified by gender, age groups, deprivation quintiles and time period. A series of Poisson regression are applied to estimate the association between consultation rates and gender, age groups, deprivation quintiles as well as time period.

Results - A total of 143,607,235 consultations were included in the analysis. The crude consultation rate in the UK rose from 3.80 (95% CI 3.79-3.80) consultations per person-year in 2000 to 4.76 (95% CI 4.76-4.77 consultations per person-year) in 2010. Over the period 2000-2010 on average men consulted less often (consultations per person year= 3.45, 95% CI 3.45-3.46) than women (consultations per person year= 5.03, 95% CI 5.03-5.04), although female to male rate ratios decreased over the decade. The magnitude of gender difference varied across the life-course, and there was no female 'excess' in primary care consultations in early (aged under 5) and later life (aged 80 years and over). We also examined the extent of the gender difference after consultations related to reproduction and contraception were excluded. Consultation rates rose most over the decade amongst those aged 65 years and over , and there is some evidence of an emerging male 'excess' of primary care use in the elderly in recent years.

Conclusion - This study shows a steady increase in consultation rates in general practice in the UK in recent years. Overall women's consultation rates remain generally higher than men's at most ages, but these differences are not apparent at some stages of the life course.

SP099

Extending the authority to certify sickness absence beyond the medical profession: a qualitative study

Victoria Welsh, Tom Sanders, Jane Richardson, Clare Jinks, Christian Mallen
Keele University, Staffordshire, UK

The Problem - Work is generally considered good for health, and the drive to support individuals with ill-health to remain in, or make an early return to, employment is high on the Government agenda. Recent national initiatives emphasise the role of nurses and physiotherapists in supporting individuals with ill-health. These have raised concerns amongst some general practitioners (GPs) over their sickness certification role. Set within this context and the increasing trend of role extensions for nurses and physiotherapists working in primary care, the study explored the views of GPs, nurses and physiotherapists towards extending the authority to certify sickness absence beyond the medical profession.

The approach - Fifteen GPs who responded to a national survey were purposively sampled for qualification year, sex, geographical location, practice list size, nature of employment and post-graduate occupational health training. Seven practice nurses were recruited through a snowball technique to enable matched pairs

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of nurses and GPs to be studied. Six physiotherapists from local primary care trusts were recruited through snowball sampling. Semi-structured telephone interviews were recorded, transcribed verbatim and subjected to constant comparative analysis.

Findings - Practice nurses and physiotherapists generally supported the role extension concept. Some GPs supported the concept, perhaps to appear inclusive of other occupations' potential contribution to the sickness certification role. Other GPs vehemently rejected the concept. Respondents employed professional legitimacy claims to protect and maintain existing work boundaries. Several core claims were used to protect existing sickness certification roles or to justify role extension. First, a claim of 'condition specific legitimacy' (whereby certifiers should only authorise sickness absence for problems within their usual clinical remit) was widely used by GPs to justify restricted role extension to other occupations. Second, 'a holistic approach' was deemed necessary for sickness certification. Third, 'organisational efficiency' arguments were employed to support and reject role extension. A 'control and responsibility' theme underpinned all legitimacy claims. GPs were reluctant to relinquish control over certification and stipulated requirement of nurse and physiotherapists' adherence to certification completion guidelines to ensure system efficiency and appropriate practice and to maintain a degree of control over the process.

Consequences - Role extension in sickness certification is not simply a matter of addressing organisational obstacles including training, workplace restructuring and resource allocation. Role extension is a complex task that requires an understanding of specific professional responses to change in organisations, underpinned by the sociological theories of professions, professional boundaries and professional hierarchies. This has significant consequences for the acceptability of primary care role extension where tasks traditionally performed by doctors are extended to non-medical health professionals. Further exploration of the sociological aspects is required to aid planning and implementation of future primary care role extension, including the task of sickness certification.

SP100

Quality of care for people with diabetes better for physical co-morbidity but worse for mental health co-morbidity

Ning Yu[1], Stewart Mercer[2], Bruce Guthrie[1]
[1]University of Dundee, Dundee, UK, [2]University of Glasgow, Glasgow, UK

The problem - The management of people with multimorbidity poses increasing challenges for health care systems, which remain largely configured for the care delivery of single-disease. Quality of care is generally better for people with multiple conditions compared to those with only one, possibly because higher consultation rates provide more opportunities to deliver care. However, most studies have not distinguished different types of co-existing morbidity. The aim of this study was to examine quality of diabetes care by co-morbidity count and by count of co-morbid physical and mental health conditions.

The approach - Data on the presence of 40 morbidities and quality of diabetes care was extracted for 58,593 people with type 2 diabetes registered with 314 general practices in Scotland. Two 'all or none' composite measures were created, defined as whether or not a patient received all four specified processes (HBA1c, BP, cholesterol and smoking recorded in the previous 12 months) or achieved all four specified intermediate outcomes (HBA1c≤7.4%, BP≤140/80mmHg, cholesterol≤5.0mmol/l, not smoking). Co-morbidity was defined in two ways: first, as a simple co-morbidity count (the approach taken by most previous studies); second, as a separate count of the number of 'concordant' physical conditions (eg angina), the number of 'discordant' physical conditions (eg COPD), and the number of mental health conditions. Associations were examined with logistic regression, adjusting for age, sex and social deprivation.

Findings - 65.7% of patients received all four processes in the previous year, and 13.1% achieved all four intermediate outcome targets. Increasing co-morbidity was associated with better quality of care in a stepwise manner (for 5 or more co-morbidities vs none, process composite adjusted OR 1.34, 95%CI 1.18-1.36; outcome composite adjusted OR 1.35, 95%CI 1.21-1.50). Concordant physical comorbidity was also associated with better process and outcome quality, but there was only a weak positive association with the number of discordant physical conditions, and mental health co-morbidity was associated with worse quality of care (for 2 or more mental health co-morbidities compared to none, process composite OR 0.87, 95%CI 0.82-0,93; outcome composite OR 0.82, 95%CI 0.75-0.89).

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Consequences - Despite high quality on individual measures, reliable delivery of processes and intermediate outcomes in type 2 diabetes is relatively poor. As previous studies have shown, co-morbidity is associated with better quality of care. However, this broad association conceals differences between different types of co-morbidity. 'Concordant' co-morbidity is associated with better quality of care, but associations with 'discordant' co-morbidity are weak, and mental health co-morbidity is associated with worse quality of care. Improving quality for people with physical-mental health co-morbidity is a key challenge for health services.

Theme: Cancer

SP102

Incidence and drug treatment of emotional distress after cancer diagnosis: a matched case-control study

Christine Bond[1], Franciska Desplenter[3], Margaret Watson[1], Chris Burton[2], Peter Murchie[1], Amanda Lee[1], Karen Lefevre[1], Gert Leakeman[3], Stephen Simoens[3]
[1]University of Aberdeen, Aberdeen, UK, [2]University of Edinburgh, Edinburgh, UK, [3]University of Leuven, Leuven, Belgium

The problem - Individuals with a cancer diagnosis are confronted with physical, psychological and coping challenges and have an increased susceptibility to emotional distress.

The aim of the study was to describe, in the year after a diagnosis of breast, lung, colorectal, upper gastro-intestinal, prostate, melanoma, gynaecological and urological cancer, the (a) incidence of anxiety, depression and excessive alcohol use; and (b) nature and duration of prescribed treatment.

The approach - A matched case control study (by gender, age and practice) was conducted using routine primary care data from 173 general practices in Scotland provided by the Primary Care Clinical Informatics Unit, University of Aberdeen. The study period was 2005-2010. A presumptive diagnosis of emotional distress was based on prescription and/or diagnostic code data. Patients with emotional distress in the year prior to the index date of cancer diagnosis were excluded. Incidence of emotional distress was compared for cancer patients compared to controls. Prescriptions for psychotropic drugs for six months after the diagnosis were also described in terms of drug group, volume and treatment duration. Conditional logistic regression was used to compare the incidences, Chi Square to compare the proportion of psychotropic drug users, and Mann-Whitney U to compare the quantity and duration of prescriptions. North of Scotland Research Ethics committee advised that ethical approval was not required.

Findings - In total, 7,298 cancer cases and 14,596 matched-controls were identified. Overall, 1135 (15.6%) cases and 201 (1.4%) controls met criteria for emotional distress (odds ratio 13.7, 95%CI 11.6 to 16.1). When comparing cases with controls, the odds ratio for the incidence of anxiety and/or anxiolytics was 14.32 (95%CI 11.23 to 18.26) (537 (7.4%) cases versus 84 (0.6%) controls); for depression and/or antidepressants 13.84 (95%CI 11.24 to 17.03) (713 (9.8%) cases versus 112 (0.8%) cases); and for excessive alcohol use and/or disulfiram/acamprosate 4.07 (95%CI 2.57 to 6.46) (55 (0.8%) cases versus 27 (0.2%) controls). Psychotropic drugs were prescribed for 1066 (14.6%) cases and 161 (1.1%) controls in the six month period after initial diagnosis. Amongst cases, the total prescribing volume and duration was significantly higher (p=0.017) and longer (p=0.003) for anxiolytic; and smaller (p=0.041) and shorter (p=0.002) for antipsychotic drugs.

Consequences - A higher incidence of emotional distress was observed in cancer patients compared with their matched controls. The results of the excessive alcohol use should be interpreted with caution due to low patient numbers. Antidepressants and antipsychotics may also have been prescribed for supportive therapy (e.g. pain and nausea). Health professionals should be aware of the greater need for the management of emotional distress at any time in patients with cancer.

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SP103

Does time to diagnosis and treatment affect survival in oesophageal cancer? A retrospective analysis of the cancer pathway in Northeast Scotland.

Elizabeth Delaney, Sophie Pirie, Peter Murchie, Phil Hannaford, Russell Petty
University of Aberdeen, Aberdeen, UK

Problem: Survival from oesophageal (including gastro-oesophageal junctional) cancer in the UK is worse than elsewhere in the developed world. Scotland has the highest incidence in the UK (age-standardised incidence at 11.5 per 100,000 compared with 9.6 per 100,000 overall) and highest annual mortality (11.2 per 100,000 compared with 8.7 per 100,000 overall). Poorer UK survival has been attributed to more advanced stage at diagnosis with longer diagnostic and treatment intervals are possible explanations, although the real reasons remain unknown.

The approach: A retrospective observational study was conducted and measured the pathway from duration of symptoms to first treatment, and to survival or death, in all patients diagnosed with oesophageal cancer in Northeast Scotland over a one year period from September 1st 2008 until 31st August 2009. 132 patients with oesophageal cancer were identified. Analyses to identify factors related to improved survival included Kaplan Meier survival analysis, the Log-Rank test and the Cox proportional hazards model.

Findings: Most patients (n=101, 76.5%) presented with advanced (stage III and IV) disease. The most common documented presenting symptom was dysphagia (n=91, 68.9%). Duration of symptoms prior to referral was the longest interval in the pathway (median 60 days). Over 80% of patients seen by a GP were referred urgently to secondary care. Patients with advanced disease had a shorter treatment interval (time between histological diagnosis and treatment) than those with earlier disease (stage I and II). Overall survival benefit was associated with a longer total scheduling interval (time between GP referral and treatment).

Consequences: Patients with oesophageal cancer wait a considerable amount of time before being referred to secondary care. However, the relationship between time intervals on the diagnostic and treatment pathway, and survival is complex. Further research is required to explore the factors associated with more advanced stage at diagnosis and possible avoidable delays, and quantify their impact on survival from oesophageal cancer.

SP104

Exploring diagnostic delay among lung, gastro-oesophageal and breast cancer patients using the Revised Andersen Model of Total Patient Delay as an analytical framework.

Christina Dobson, Greg Rubin
Durham University, Durham, UK

The Problem: The UK has significantly poorer cancer survival rates than comparable European countries. It has been demonstrated that diagnostic delay results in poorer outcomes. The Revised Andersen Model of Total Patient Delay (RAMTPD) defines key time intervals on the diagnostic pathway for cancer. The framework comprises four intervals (appraisal, help-seeking, diagnostic and pre-treatment), marked by discrete events, within which specific processes can be identified. Patient factors, healthcare provider and system factors, and disease factors can potentially affect the diagnostic process at any point. The RAMTPD is a theoretical framework which has yet to be applied in the interpretation of a dataset. **The Approach:** Free-text reports from GPs of avoidable delays in the diagnosis of lung, gastro-oesophageal, and breast cancer were extracted from the dataset of the RCGP National Audit of Cancer Diagnosis in Primary Care. We obtained reports for 498 lung cancer cases, 251 gastro-oesophageal cancer cases and 379 breast cancer cases. Data were categorised using the RAMTPD as an analytical framework. **Findings:** The RAMTPD enabled effective thematic categorisation of data, in relation to time intervals and contributory factors. For all cancer sites the majority of delay occurred within the diagnostic interval (92% of lung cancer cases; 93% of gastro-oesophageal cancer cases; 67% of breast cancer cases). In order to enable a more detailed analysis of the data, the framework was expanded by further unpacking the diagnostic interval. Processes in the diagnostic interval (appraisal, investigation, referral and appointment) became ‘sub-intervals', within a diagnostic ‘meta-interval'. The pre-treatment interval was removed as it was considered not relevant with this

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dataset which focused upon diagnostic delay. Contributory factors were adapted to comprise point of delay (primary or secondary care), 'cause' of delay (patient, practitioner or system) false negative investigations and disease factors. Analysis using this extended framework showed that among lung patients, the greatest causes of delay were primary care (PC) appraisal (18.7%), false negative investigations (12.4%) and PC investigations (12.0%). For gastro-oesophageal patients inappropriate PC referral (i.e. routine not urgent) (29.1%), PC appraisal (10.6%) and system-related investigation delay (9.6%) were the most common causes of delay, while for breast patients, help-seeking (32.7%), inappropriate PC referral (19.3%) and system-related appointment delay (11.3%) were the greatest causes of delay. **Consequences:** Breaking down the diagnostic interval of the RAMTPD into its component factors allows a more meaningful analysis of GP-reported causes of avoidable delay in cancer diagnosis, highlighting key issues which would have otherwise remained concealed.

SP105

The risk of childhood cancer with symptoms presenting in primary care: a population-based case-control study

Rachel Dommett[1], Teresa Redaniel[1], Mike Stevens[2], Richard Martin[1], Willie Hamilton[3]
[1]University of Bristol, Bristol, UK,[2]Bristol Royal Hospital for Children, Bristol, UK,[3]4Peninsula College of Medicine & Dentistry, Exeter, UK

The problem: Diagnosis of childhood cancer is a once in a lifetime event for a general practitioner (GP). Guidelines describing symptoms in children that should alert GPs to consider cancer have been developed, but without any supporting primary-care research. We aimed to identify symptoms and signs in primary care which might strongly alter the likelihood of childhood cancer, to assist GPs in their selection of children for investigation for possible cancer.

The approach: We performed a population-based, case-control study using electronic primary care records in the UK General Practice Research Database. 1,267 children aged 0-14 years diagnosed with childhood cancer were matched to 15,318 controls. We identified clinical features associated with subsequent diagnosis of cancer using conditional logistic regression, and estimated likelihood ratios and positive predictive values (PPVs) for each.

Findings: Twelve symptoms were associated with PPVs of ≥ 0.04%, which represents a greater than tenfold increase in prior probability. The six with the highest PPVs were pallor (odds ratio, OR=84; PPV=0.41%; 95% CI:0.12%,1.3%), head and neck masses (OR=17; PPV=0.30%(0.10,0.84), masses elsewhere (OR=22; PPV=0.11%(0.06,0.20), lymphadenopathy (OR=10; PPV=0.09%(0.06,0.13), symptoms/signs of abnormal movement (OR=16; PPV=0.08%(0.04,0.14), and bruising (OR=12; PPV=0.08%(0.05,0.13). When these symptoms are combined with at least 3 consultations in a three month period, the probability of cancer is at least 13 in 10,000.

Consequences: We identified 12 features of childhood cancers, each of which increased the risk of cancer at least tenfold. These symptoms, particularly when combined with multiple consultations, warrant careful evaluation in general practice. The results will be fed into the ongoing revision of the 2005 NICE referral guidance.

SP106

Quantification of the risk of uterine cancer in symptomatic primary care patients

Sarah Walker, Chris Hyde, William Hamilton
Peninsula College of Medicine and Dentistry, Exeter, Devon, UK

The Problem: Uterine cancer is the fourth most common cancer in UK women with approximately 7500 cases annually. Incidence of uterine cancer is rising in postmenopausal women but five-year survival rates have improved to more than 75%.

The approach: This project quantifies the risk of uterine cancer in symptomatic patients in primary care in order to improve the selection of patients referred for further investigation.

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2,732 patients aged ≥40 years, diagnosed with uterine cancer between January 2000 and December 2009, and 9,537 age, sex and practice matched controls were selected from the General Practice Research Database, UK. All clinical features previously associated with uterine cancer were identified in the year before diagnosis.

Exclusion criteria for cases and controls were: uterine cancer before January 2000; sarcomas; metastatic cancer to the uterus; hysterectomised women and those without a GP consultation in the year before diagnosis of the case.

Conditional logistic regression was the main analytical method. We estimated positive predictive values for single, combined or repeated clinical features.

Findings: Seven features were found to be both common and significantly associated with cancer: post menopausal bleeding, excessive menstrual bleeding, irregular menstrual bleeding, vaginal discharge, haematuria, abdominal pain and anaemia.

73% of cases had at least one of the above features before diagnosis. PPVs increased for patients with excessive, irregular or post-menopausal bleeding, coupled with multiple and repeated symptoms. PPVs without abnormal vaginal bleeding were low.

Consequences: Post menopausal bleeding is a very strong predictor of uterine cancer in primary care, with a PPV of 7.0%. All patients aged 60 or over with vaginal bleeding warrant further investigation. Haematuria accompanied by other features can represent a moderate risk of uterine cancer (although this may be misattributed vaginal bleeding) Further investigation may be required if urological investigations are negative.

SP107

Pro-active cancer care in primary care: a feasability study

Marilyn Kendall[1], Bruce Mason[1], Natalie Momen[2], Dan Munday[3], Roberta Lovick[1], Stella MacPherson[1], Euan Paterson[1], Paul Baughan[1], Paul Cormie[1], Peter Keihlmann[1], Amanda Free[1]
[1]University of Edinburgh, Edinburgh, UK, [2]University of Cambridge, Cambridge, UK, [3]University of Warwick, Warwick, UK

The problem: Two million people in the UK currently live with cancer and this is expected to reach four million by 2030. There is little research available which tests a primary care model of supporting this growing population. Consequently we aimed to test the feasibility of active follow-up of patients in primary care from cancer diagnosis onwards while they also received usual hospital followup.

The approach: A two phase, mixed methods, action research approach. Working with a group of patients and general practitioners (GPs), we developed an electronic Cancer On-going Review Document (CORD) , covering physical and psycho-social issues. This was piloted in the 6 practices of the GPs working with the research team, then rolled out for use in 7 additional GP practices.

Its use was evaluated through: quantitative review of patients' records; qualitative interviews with patients, family carers and health professionals; and documentary analysis of the completed CORDs. Records data was extracted for quantitative analysis through SPSS. The interviews were recorded, transcribed and entered into NVivo for thematic analysis.

Findings: The records and CORDS of 107 patients from 13 practices were examined, and 45 interviews conducted.

Case notes showed variable face to face and telephone contact with primary care during the year following diagnosis. CORDs were started for 54% of new cancer diagnoses, but used usually only once (range 1-9 times). When used they prompted clear and often graphic documentation of multi-dimension needs and understanding.

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Interviews with professionals affirmed they perceived an important role for primary care in on-going care and support of patients with cancer and their families. Most liked the CORD document, feeling it helped to structure consultations better and cover areas they might otherwise omit. However most completed it only for the initial Cancer Care Review, and were cautious about completing the sections which went beyond the usual physical notes, or discussing the review openly with patients. To make it easier to use and avoid duplication the CORD needs to be better integrated within the various primary care IT systems

Interviews with patient and family carers revealed that few were aware of this increased documentation, but valued on-going care and support from primary care, which they perceive to be accessible, and able to offer holistic care, close relationships, and an important co-ordination role

Consequences: Active follow-up of cancer patients *based in primary care*, is feasible in the UK although there are barriers around training and incentivisation. The CORD proved unobtrusive and patient-centred, promoting continuity of care and holism. If more on-going care for cancer patients is to be delivered in the community in a chronic disease model this template may be useful, but needs to be better integrated and incentivised within practice IT systems.

SP108

Early mortality from colorectal cancer: an exploratory study using national datasets

Amy Downing[1], Eva Morris[1], Steven Oliver[2,3], Paul Finan[1], John Wilkinson[3], Una Macleod[2]
[1]University of Leeds, Leeds, UK, [2]Hull York Medical School, York, UK, [3]Northern & Yorkshire Cancer Registry and Information Service, Leeds, UK

The problem: Research shows that the UK fairs poorly in comparisons of colorectal cancer survival, with lower survival immediately after diagnosis accounting for much of the variation. This study uses data within the National Cancer Data Repository (NCDR) to compare patients who survive or die within 1 month, 3 months, 6 months or 1 year of diagnosis in terms of patient, tumour and treatment characteristics.

The approach: Data on cases of colorectal cancer diagnosed in England between 2006 and 2008 were extracted from the NCDR. Cases were split into the following groups according to their survival time after diagnosis: 0-30 days, 31-90 days, 91-180 days, 181-365 days, >365 days. Logistic regression was used to investigate the odds of death within 1 month and one year (having survived the first month) of diagnosis

The findings: Of the 91,980 cases, 9.9% died within 1 month, but the majority (68.9%) survived for over a year. Analysis of those early deaths demonstrates that of those dying within one month of diagnosis, 56% of people dying were 80 or more years old; 60% of early deaths present initially as emergency cases to hospital, and at least 50% of patients who die within one month received no active treatment. Mean age at diagnosis decreased from 79 years in those dying within 30 days to 69 years in those surviving at least 1 year. Females were more likely to die within 30 days, whereas males were more likely to die in subsequent time periods. Patients living in more affluent areas were least likely to die within 30 days and most likely to survive 1 year. A higher proportion of patients dying early were diagnosed with colon cancer (compared to rectal cancer). Patients dying within the first year were more likely to be diagnosed with Dukes D tumours (32.7% compared to 8.4% in those surviving 1 year) although the proportion with unknown stage was also higher in those dying earlier. Surgery was performed in 32.9% of those dying within 30 days, increasing to 87.6% in those surviving 1 year.

The consequences: These preliminary results show clear differences between patients dying early and those surviving at least 1 year. More work is needed to clarify contact with primary care prior to diagnosis but these findings raise issues for primary care practice; in particular GPs need to be alert to older patients with bowel symptoms and initiate urgent referral to avoid emergency presentations.

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SP109

The influence of socioeconomic status and comorbidity in head and neck cancer survival: A systematic review

Elsie Makachiya, Frank Sullivan, Mary Wells, Colin McCowan
Population Health Sciences, University of Dundee, Dundee, UK

The Problem: Head and neck cancer is the 5th most common incident cancer and has been found to be the 6th leading cause of cancer deaths in the world. Head and neck cancer (HNC) commonly have complex comorbidities as most patients are diagnosed at aged 50+.

Socioeconomic status also contributes to this complexity as research shows people from poorer backgrounds die younger and have higher levels of disease compared to their affluent counterparts. Both socioeconomic status (SES) and comorbidity have been found to influence the incidence of HNC in patients. It is however unknown how both these factors in combination affect survival.

The approach: A systematic review of comorbidity and/or SES in HNC survival was conducted to find out what empirical evidence existed. A reproducible search of MEDLINE, EMBASE, LILACS, SciELO, ISI Web of Science, and CINAHL was conducted. The review included observational studies that focused on survival outcomes as detailed in the flowchart.

Study quality was assessed and data abstraction was done using a specially adapted format. Analysis was done in two phases; high quality papers which focused on distinct stage of HNC were reviewed initially followed by those that discussed a broad spectrum of disease with both these study types being reported using narrative synthesis.

Findings: No individual studies looked at how both factors together affect survival. All primary research studies focused on each factor independently and in most comorbidity studies adjustment was made for the confounding effect of SES making its potential contribution to survival outcomes unclear. Although both factors independently appeared to reduce survival prospects, the changing epidemiology of HNC brings this issue into sharp focus.

Consequences: This may lead to a better understanding of the challenges of HNC in patients from deprived background with comorbid disease. There has been a change in survival rates in the UK between deprived and affluent groups and although improvements are being observed in both groups, in order to explain the survival disparities, it appears now that, research has to ascertain whether the survival differences are due to deprivation or to comorbidity. Confirmation of these results will be sought through use of linked datasets to examine differences in presentation of cancer, levels of co-morbidity and prognosis based on SES.

Search results

Potentially relevant studies identified and screened for retrieval (n=2 067)

Studies excluded, with reasons (n=421 duplicate results)

Studies retrieved for more detailed evaluation (n=1062)

Studies excluded based on inclusion criteria (n= 899)

Studies included based on inclusion criteria (n=158)

Studies excluded with reasons (n= 5 duplicates)

Potentially appropriate studies to be included in the narrative synthesis (n=163)

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Studies withdrawn, by type (n= 1 case control study)

Studies obtained from citations (n= 22)

Studies included in narrrative synthesis (n=179)

SP110

Earlier Diagnosis of Cancer in Primary Care: assessing the usability and impact of a cancer Risk Assessment Tool (RAT)

William Hamilton[1], Una Macleod[2], Tanimola Martins[1], Trish Green[2], Greg Rubin[3]
[1]Peninsula College of Medicine & Dentistry, Exeter / Devon, UK,[2]The Hull York Medical School, York, UK, [3]Durham University, Durham, UK

The Problem: The National Institute of Clinical Excellence (NICE) guidelines designed to aid referral of suspected cancers to the `fast track' - two weeks wait (2ww) referral system may have created a two-tier system. NICE-qualifying patients potentially receive prompt investigation and diagnosis whereas non-NICE-qualifying patients get a slower service. These latter patients may contribute to the UK's relatively poor cancer performance. A series of coloured charts dubbed `Risk Assessment Tools' (RATs) for estimating the risks of cancer among symptomatic patients have been published: we evaluated them in this study.

The approach: This study aimed to describe the usability of lung and colorectal RATs within primary care clinical practice and the consequent utilisation of health care resources. 614 general practitioners (GPs) from seven Cancer Networks across England were recruited to utilize the RATs for six months. Data on investigations (Chest X-rays and colonoscopies) were collated, during and for six months prior to the study. Descriptive analysis (by cancer site) was completed for patients' demographics, symptoms, RAT usage, percentage risks, and investigations, and non-parametric tests for comparisons.

Findings: The total number of RATs completed exceeded the target (2,720 vs 1,600). The commonest symptoms for colorectal cancer were diarrhoea and rectal bleeding; in lung, it was cough. The percentage risk in patients investigated was significantly higher than in those not investigated ($p<0.0001$, rank sum test). Approximately 1,200 lung RATs were accompanied by additional 300 Chest X-Rays, which in turn led to 100 extra 2-week chest clinic appointments, and 50 extra new diagnoses of lung cancer. For suspected colorectal cancer, 1,500 RATs were accompanied by 300 extra 2-week referrals, 270 extra colonoscopies, and 10 more cancers.

Consequences: GPs will use clinical decision aids in cancer. The effects on investigations and identification of cancers are modest. Little change is seen in colorectal cancer identification. However, for lung cancer additional cancers may be identified, including potentially curable ones.

SP111

Patterns of use of health service and prescription drug use in the five years leading up to a cancer diagnosis: a case-control study

Peter Murchie, Mark Goodard, Margaret Watson, Karen Lefevre
University of Aberdeen, Aberdeen, UK

The Problem - Gastrointestinal (GI) cancers represent a large health burden and are one of the leading causes of cancer-related death. The survival rate for GI cancers in the United Kingdom is lower than in many other European countries, and significantly worse than Japan. GI cancers often present with vague, non-specific symptoms that could be attributable to other, less serious illnesses. This results in delays from the time of a symptom first being recognised to a definitive diagnosis, from both the doctor and the patient. The focus of current NICE guidelines is almost entirely on alarm symptoms. This could be damaging as alarm symptoms are almost universally indicative of more advanced disease stage . Here we present early consultation data from a case control study of primary care use in the 5 years leading up to a GI cancer diagnosis.

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The Approach - A retrospective, matched, case-control study. Data from the PCCIU (Primary Care Clinical Informatics Unit) database has been collected on 4542 GI cancer cases and 13626 age and gender matched controls. Total contacts and contacts by year in the five years prior to a diagnosis of GI cancer have been calculated and compared using the Mann Whitney U test. Analysis is ongoing and more data will be available in the final presentation.

Findings - The analysis of this project is ongoing and the full results will be available for presentation in October. Here we present interim results with respect of median numbers of total primary care consultations in the five years leading up to a diagnosis of GI cancer.

Median contacts in Year -5: Cases 3 vs Controls 1 (P value, Mann Whitney U <0.001)

Median contacts in Year -4 Cases 4 vs Controls 2 (P value, Mann Whitney U <0.001)

Median contacts in Year -3 Cases 6 vs Controls 3 (P value, Mann Whitney U <0.001)

Median contacts in Year -2 Cases 9 vs Controls 5 (P value, Mann Whitney U<0.001)

Median contacts in Year -1 Cases 11 vs Controls 6 (P value, Mann Whitney U <0.001)

What it Means - Preliminary results reveal that those diagnosed with GI cancer consult more frequently than matched controls in each of every one of the five years prior to be diagnosed with GI cancer. Analysis of data on referrals to secondary care and use of prescription drugs in the five years prior to diagnosis are ongoing. These early data suggest that analysis of an individual's recent pattern of service use could have utility in improving the conversion rate of urgent suspected cancer referrals.

SP112

What do cancer patients want from their follow-up? A discrete choice experiment (DCE) study to investigate preferences for cancer follow-up amongst people with breast, prostate, colorectal cancer and cutaneous melanoma.

Marta Pietrucin-Materek, Peter Murchie, Terry Porteous, Mandy Ryan, Philip Hannaford
University of Aberdeen, Aberdeen, UK

The problem - The number of people in the UK diagnosed with a form of cancer is increasing. Oncology clinics have to cope with a burden of newly diagnosed patients, those on treatment and those who have finished their treatment and entered a period of follow-up care. Little is known about what elements of cancer follow-up are important to patients. Although follow-up appointments currently take place in doctors-led hospital outpatient clinics, results of different studies suggest (including our preliminary qualitative interviews) that patients accept alternative ways of cancer follow-up (by their GP, a Specialised Nurse, over a telephone or via a web camera). By applying a discrete choice experiment (DCE) we will be able to assess what the important characteristics (attributes) are important to patients in the provision of cancer follow-up services. To best of our knowledge it will be the first study that applies a DCE approach to investigate preferences for follow-up care amongst four cancer groups.

The approach - Discrete choice experiments (DCEs) are attribute based stated preference method for preference assessment and benefit evaluation. They are rooted in random utility theory (RUT), a branch of economic theory. DCEs take into account both health and non-health outcomes and process attributes (waiting time, location) of a service under evaluation. DCEs are based on the assumption that any good or service (cancer follow-up) can be described by its characteristics (attributes) and the value that an individual places on the good or service, will depend on the levels of these attributes.

Attributes with associated levels have been identified from literature and qualitative interviews that took place in Grampian, Scotland between June and October 2011. These include: health care provider, continuity of care, frequency of the visits, duration of the appointment, length of follow-up period, counselling, additional services, and cost per visit.

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Findings - The work is in progress. We believe that by applying this method of preference assessment we will be able to answer the following questions:

- What characteristics of cancer follow-up care are most important to people who have had cancer?
- What trade-offs do people make between these characteristics?
- Do preferences differ according to the characteristics of the participants and/or site of their cancer?
- What are respondents willing to pay for different models of follow-up care?

Consequences - This study will predict the most important characteristics of cancer follow-up care for patients from Grampian, Scotland. Therefore, results from this study may be used to set out priorities and determine the optimal configuration of cancer follow-up services in the future.

SP113

Clinical features of kidney cancer in primary care

Elizabeth Shephard[1], Sally Stapley[2], Richard Neal[3], Peter Rose[4], Fiona Walter[5], Willie Hamilton[1]
[1]Peninsula College of Medicine & Dentistry, Exeter, UK, [2]University of Bristol, Bristol, UK, [3]Bangor University, Wrexham, UK, [4]University of Oxford, Oxford, UK, [5]University of Cambridge, Cambridge, UK

The problem: Kidney cancer accounts for over 100,000 deaths annually worldwide. UK incidence rates have more than doubled in the last forty years. In the UK, no screening is available, so diagnosis depends on investigations of symptoms: only visible haematuria has been studied in primary care but not all patients present with this symptom. We aimed to identify and quantify all clinical features of kidney cancer in UK primary care. It is hoped this will improve the selection of patients for investigation and therefore reducing the human and economical impact of this disease.

The approach: 3179 patients aged ≥40 years, diagnosed with kidney cancer January 2000 to December 2009, and 14,091 age, sex and practice matched controls, were selected from the General Practice Research Database, UK. We identified all clinical features previously associated with kidney cancer. This features list was supplemented by patient-reported symptoms taken from online kidney cancer support group websites. These clinical features were identified in our patient groups in the year before case diagnosis. Analysis used was conditional logistic regression. We estimated the positive predictive values for kidney cancer for single, combined and repeated clinical features in patients aged ≥60 years.

Findings: Cases consulted their GP more frequently than controls in the year before diagnosis: median 16 consultations (interquartile range 10-25) vs. 8 (4-15): $p<0.001$. Seven features were independently associated with kidney cancer: visible haematuria, odds ratio 38 (95% confidence interval 30-50), fatigue 1.6 (1.3-2.0), raised inflammatory markers 3.0 (2.6-3.4), low mean corpuscular volume (MCV) 2.8 (2.1-3.6), low haemoglobin 2.6 (2.2-3.0), high liver function tests (LFT) 1.5 (1.3-1.7), and raised blood sugar 1.3 (1.2-1.5). The positive predictive values for patients aged ≥60 years will be available at the time of the conference. Reliance on the quality of electronic data recording was the main study limitation.

Consequences: Visible haematuria is the commonest and most powerful predictor of kidney cancer in primary care, and warrants investigation in patients >40. This supports the current NICE guidelines. However, the presence of additional significant clinical features is new and can be fed into the current re-write of the NICE guidelines. There is a need for improved diagnostic methods for those patients whose kidney cancer presents without visible haematuria.

A urological RAT (risk assessment tool), comprising the combined risk factors for kidney, bladder and prostate cancers, will be available at the time of the conference.

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SP114

Clinical features of oesophago-gastric cancer in primary care

Sal Stapley[1], Tim Peters[1], Richard Neal[3], Peter Rose[4], Fiona Walter[5], William Hamilton[2]
[1]University of Bristol, Bristol, UK, [2]Peninsula Coll of Med & Dentistry, Exeter, UK, [3]Bangor University, Wrexham, UK, [4]University of Oxford, Oxford, UK, [5]University of Cambridge, Cambridge, UK

The Problem - There are over 14000 new diagnoses of oesophago-gastric cancer annually in the UK. Adenocarcinomas account for 96% of stomach cancers and 72% of oesophageal tumours and rates of oesophageal adenocarcinomas in white men in the UK are the highest in the world.[1 2] Studies reporting symptoms of oesophago-gastric cancer are mainly from secondary care and show wide variations in the sensitivity and specificity of alarm symptoms.[3] Primary care studies focusing on a single symptom such as dysphagia or dyspepsia suggest this may miss 40% of current oesophago-gastric cancers and diagnosis will be delayed until symptoms of advanced cancer develop.[4-5]

The approach To identify and quantify the features of oesophago-gastric cancer in primary care. A case-control study was designed using electronic primary care records of patients aged ≥40 years in practices contributing to the General Practice Research Database, UK. Cases with primary oesophago-gastric cancer were matched with five controls on age, sex and practice. Putative features of oesophago-gastric cancer were identified in the year before diagnosis. Odds ratios (OR) were calculated for variables independently associated with cancer using conditional logistic regression. Positive predictive values (PPV) were calculated for consulting patients.

Findings 7,481 cases and 32,882 controls were studied. Sixteen features were associated with oesophago-gastric cancer (all p<0.001). These were: dysphagia,OR 140(95% confidence interval (CI)113,173); reflux,5.7(4.8,6.8); abdominal pain,2.6 (2.3,3.1); epigastric pain,8.8(7,11); dyspepsia,6(5.1,7.1); nausea or vomiting,4.9 (4,6); constipation,1.5(1.2,1.7); chest pain,1.6(1.4,1.9); weight loss,8.9(7.1,11.2); thrombo-cytosis,2.4(2,2.9); low haemoglobin,2.4(2.1,2.7); low mean cell volume,5.2 (4.2,6.4); high inflammatory markers,1.7(1.4,2); raised hepatic enzymes,1.3 (1.2,1.5); high white cell count,1.4(1.2,1.7); high cholesterol,0.8(0.7,0.8). PPVs for patients aged ≥55 years were above 5% in several combinations of symptoms. In patients <55 years all PPVs were <1%. The previously reported association with low cholesterol was also exhibited.

Consequences - Symptoms of oesophago-gastric cancer described in secondary care were also diagnostically significant in primary care, plus we identified important associations with several new features. The results can help in rewriting guidance for upper GI endoscopy.

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Theme: Long term conditions

SP115

Geo-demographic profiling to examine non-attendance at diabetic clinics in an Inner London Borough

Desiree Campbell-Richards
Newham University Hospital NHS Trust, Plaistow, London, UK

The problem - During the course of a research project a non-attendance rate of 40 percent at outpatient diabetic clinics (community and hospital based) was identified. Concern regarding these figures was not isolated to the researcher but resonated within the multi-disciplinary diabetes team and led to an audit of attendance.

In 2008, the Health Care Commission highlighted that diabetes mortality and emergency admissions rates in Newham were higher than the England average whilst the York and Humberside Public Health Observatory 2010 listed Newham as having the 3rd highest estimated total diabetes prevalence in England. Seventy percent of Newham's population are from an ethnic minority group. In comparison to the national average, Afro-Caribbean and South Asian communities have a significantly higher prevalence of Type 2 Diabetes. Anecdotally, non-attendance has been attributed to limited English proficiency, poor health literacy and the impact of deprivation on health seeking behaviours within the local community.

The diabetes landscape for Newham is very worrying and therefore it was felt that undertaking a robust analysis of routinely collected data could provide much needed insight into attendance trends.

The approach - Diabetes attendance data was obtained from the local hospital's Health Intelligence department for the period 2004-2009. The dataset consisted of the location of outpatient clinics and the scheduled appointments for doctors, specialist nurses and dieticians. The patient anonymous demographic data comprised of age, gender, ethnicity and residential postcodes. Firstly, attendance per clinician and clinic location was explored. Secondly, the relationship between attendance, geo-demography and deprivation was examined. Local deprivation profiles were determined by the Indices of Deprivation 2007.

The data were analysed utilising SPSS by means of descriptive statistics, contingency analyses and logistic regression.

Findings - The analyses demonstrated that between 2004-09, overall non-attendance ranged between 23 and 25 percent. Several statistically significant factors were identified such as;

- Women were more likely to attend appointments than men,
- The geographic location of clinics is a determinant of attendance,
- Asians (Pakistani and Bengali) are significantly less likely to attend appointments than whites
- Patients residing in the least deprived local areas are more likely to attend appointments than those in more deprived locations.

Consequences - Conducting this analysis has generated a valuable insight into diabetes attendance within an inner London borough. However, in order to gain a more in-depth understanding of attendance, further work will be conducted in collaboration with geographers to undertake mapping and visualisation. A qualitative study will also be conducted to explore the drivers and barriers to diabetes outpatient attendance locally.

Geo-demographic profiling is a useful tool which facilitates health intelligence and helps to explain variations in health determinants, outcomes or services.

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SP116

The White Coat Effect is greater for doctors than nurses: a systematic review and meta-analysis

Christopher Clark, Rod Taylor, John Campbell
Peninsula College of Medicine & Dentistry, Exeter, Devon, UK

The Problem - The White Coat Effect describes the rise in blood pressure above patients' normal levels commonly associated with clinic or surgery visits. Studies suggest that the magnitude of the white coat effect is greater when doctors measure blood pressure than when nurses do. Reviews have found that nurse-led care in hypertension achieves lower outcome blood pressures compared to usual care, and nurse led care in hypertension is becoming the predominant model in primary care despite a limited evidence base. If blood pressures measured by nurses are systematically lower than doctors' readings the evidence for superior outcomes in nurse led care could be re-interpreted as evidence of the white coat effect in action. Therefore we undertook this review to establish the magnitude of any difference in white coat effect between doctors and nurses.

The approach - We undertook a systematic review and meta-analysis. We searched Medline and Embase up to 1st September 2011 using the text words "white coat" for any study reporting blood pressures measured by doctors and nurses. Additional citations were identified from reference lists of included texts, specialist journal collections and personal archives. We included studies that reported blood pressures measured by doctors and nurses at the same visit. The primary outcomes were differences in mean systolic and diastolic blood pressures measured by nurses and by doctors. Study quality was assessed using a modification of the Cochrane Criteria and an overall risk of bias judgment made. Differences in means were calculated and data pooled using RevMan to derive summary estimates using a random effects model and the impact of study risk of bias was assessed by sensitivity analyses.

Findings - Searches and other sources identified 1761 unique citations; 30 were selected for full text assessment and 15 contributed data to the meta-analyses. Pooled data from 14 studies showed mean systolic blood pressure was 8.5 mmHg (95%CI 4.7 to 12.3) lower when measured by nurses than by doctors. The difference was 4.8 mmHg (2.5 to 7.1) lower for 6 studies at low or uncertain risk of bias compared with 10.2 mmHg lower (5.1 to 15.2) for other studies. For diastolic blood pressure mean nurse measurements were 4.2 mmHg (2.5 to 5.9) lower overall; 1.5 mmHg (4.7 lower to 1.7 higher) for studies at low or uncertain risk of bias compared with 5.5mmHg (3.7 to 7.3) lower for other studies.

Consequences - The white coat effect is smaller for blood pressure measurements by nurses than for those made by doctors. The differences demonstrated are large enough to potentially confound studies showing superior outcomes for nurse-led care compared to usual care in hypertension. Consequently future studies of nurse-led interventions should include an independent outcome assessment of blood pressure to minimise bias.

SP117

Inter-arm blood pressure difference and survival in a general population without pre-existing disease: The aspirin for asymptomatic atherosclerosis trial

Christopher Clark[1], Rod Taylor[1], Isabella Butcher[2], Angela Shore[1], John Campbell[1], Gerald Fowkes[2]
[1]Peninsula College of Medicine & Dentistry, Exeter, Devon, England, UK, [2]Centre for Population Health Sciences, Edinburgh, Scotland, UK

The Problem - We have shown that a systolic inter-arm difference in blood pressure is associated with peripheral vascular disease and increased cardiovascular and all-cause mortality. These findings derive from populations with multiple cardiovascular risk factors including a proportion with pre-existing cardiovascular disease. They are, therefore, already receiving full treatment for secondary prevention of cardiovascular disease. We have also demonstrated that a systolic inter-arm difference is associated with reduced survival in a primary care cohort of patients with hypertension but no pre-existing cardiovascular disease. Such patients could be offered further assessment for peripheral arterial disease and appropriate primary prevention strategies to reduce their risk of cardiovascular events. Since our data were only derived from one

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small rural practice, further studies of cohorts more representative of the general population are needed to establish whether these findings can be generalised.

The approach - The Aspirin for Asymptomatic Atherosclerosis trial was an intention-to-treat double-blind randomized controlled trial that enrolled 3350 men and women aged 50 to 75 years living in central Scotland, free of clinical symptoms or a pre-existing diagnosis of cardiovascular disease, with a low ankle-brachial index (<0.95). At recruitment systolic brachial blood pressure was measured in both arms. Subjects were randomised to 100mg aspirin or placebo and followed prospectively for ten years. For this pre-defined post-hoc analysis the inter-arm blood pressure difference was calculated and its association with survival differences explored using Kaplan-Meier analysis. Cox proportional hazard ratios were calculated, with and without multiple logistic regression to adjust for potential confounding variables.

Findings - Based on a single pair of recruitment blood pressure measurements, 1280/3350 subjects (32%) had an inter-arm difference >10mmHg and 553 (17%) a difference >15mmHg. There were 362 deaths from all causes including 94 cardiovascular deaths. For an inter-arm difference >10mmHg the unadjusted hazard ratio (HR) for cardiovascular death was 1.6 (95%CI 1.1 to 2.4), and the fully adjusted HR 1.5 (1.0 to 2.2). There were 764 (23%) subjects with hypertension; for this subgroup inter-arm difference >10mmHg was associated with increased all cause mortality with HR 1.6 (1.1 to 2.5) and cardiovascular mortality with HR 3.0 (1.3 to 6.9) after adjustment.

Consequences - In this population without pre-existing clinical cardiovascular disease, a systolic inter-arm difference >10mmHg is associated with increased cardiovascular mortality over a ten year period. For patients with hypertension there is also an increased risk of all cause mortality. This supports our hypothesis that an inter-arm difference in blood pressure may be an early sign of peripheral vascular disease, and may identify a population at increased risk who could benefit from further vascular investigations. Where such assessments confirmed peripheral arterial disease, targeted lifestyle interventions to reduce cardiovascular risk and progression of peripheral vascular disease could be offered.

SP118

Investigating the determinants of lifestyle change for patients with coronary heart disease: a qualitative study

Judith A Cole[1], Susan M Smith[2], Nigel Hart[3], Margaret E Cupples[1,3]
[1]UKCRC Centre of Excellence for Public Health Northern Ireland (NI), Queen's University Belfast, Belfast, UK, [2]Royal College of Surgeons in Ireland, Dublin, Ireland, [3]Department of General Practice and Primary Care, Queen's University Belfast, Belfast, UK

The Problem - Patients with coronary heart disease (CHD) are at high risk of a further vascular event. However, whilst healthy lifestyles are of benefit in preventing CHD, outcomes from secondary prevention initiatives, aiming to promote lifestyle change, remain sub-optimal. This study aimed to explore in detail patients' perceptions of factors affecting lifestyle change within one such secondary prevention initiative, the SPHERE Study, which was an RCT of an intervention tailored to individuals' needs and implemented in primary care.

The Approach - Semi-structured interviews were conducted with 44 individuals in 15 purposively selected general practices from the SPHERE Study. Participants with CHD were selected to include those who succeeded in improving physical activity levels and fibre intake and those who did not. We also selected a range of ages and rural/urban location. Informed by previous literature, we asked questions about patients' experiences of barriers and motivators to lifestyle change.

Data collection and analysis, using a thematic framework and the constant comparative method, were iterative, continuing until data saturation was achieved.

Findings - We found that patients' perceptions of factors affecting lifestyle change linked to four main themes. (1) Barriers - included social pressures such as perceived inability to refuse presents of chocolates, boredom, co-morbidities and reported lack of prompting by health professionals. Spouses sometimes discouraged change by perceived nagging or bullying. (2) Motivations - included regular professional contact, fears for their health, encouragement of family and friends, and the responsibility of owning and walking a

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dog. (3) Beliefs could stimulate change or prevent it. Beliefs that a healthy lifestyle would yield benefit facilitated change, whereas a belief that lifestyle would have no benefit, sometimes linked to a perception that participants were 'too old' to change, did not. (4) Information - that was clearly understood supported change but participants reported confusion and uncertainty relating to inconsistent or inadequate information.

Overall, patients, including those who did not improve their physical activity or diet, spoke more about incentives than barriers, suggesting a level of denial or unwillingness to admit difficulties and failure.

Consequences - Patients experience many challenges in implementing lifestyle change, despite health professionals' attempts to help them overcome these. Challenges for future lifestyle modification strategies within secondary prevention include listening to patients' concerns, identifying their personal problems, devising ways of responding to these and fitting healthier practices into their daily lives, helping them overcome boredom and convincing them of their ability to change. Future research should focus on testing new strategies designed to boost lifestyle change, discovering how targets are more likely to be successfully met and finding ways to improve patients' understanding of the importance of physical activity and diet.

SP119

Using simple telehealth in primary care to reduce blood pressure: a service evaluation

Elizabeth Cottrell[1], Ruth Chambers[0,2]
[1]Keele University, Staffordshire, UK, [2]NHS Stoke-on-Trent, Staffordshire, UK

The Problem - Hypertension is common and dangerous but inadequately managed. New, effective methods of management are required. This project evaluates the use of an innovative, simple, interactive blood pressure (BP) management intervention for six months. Patients text BP readings to a secure server (‘Florence'), receive automatic responses and their GPs review the results. This project investigates how efficiently and acceptably this intervention improves BP control, reduces morbidity and reduces use of healthcare services.

The approach - Local practices recruited intervention patients between April and October 2011 if: 1) patient has chronic kidney disease (CKD) stage 3 or 4 with BP persistently >130/85mmHg or 2) patient is >50 years old (without CKD stages 3, 4 or 5) with BP persistently >140/90mmHg despite prescribed antihypertensive medication. Practice staff trained intervention patients to measure BP and submit readings to Florence. Three hypertensive controls per intervention patient underwent usual clinical care. BP readings, comorbidities, healthcare usage and demographic information were collected by practice staff at baseline and regularly for six months. Qualitative data regarding patient experiences was obtained via Florence, telephone, case studies and patient group discussion.

Findings - 124 intervention and 364 control patients were analysed. At final data collection, 31 patients had not yet completed the full programme, 19 patients had used Florence for six months and average use of Florence was 78 days among remaining intervention patients. Control and intervention patients were well matched for age, gender, antihypertensive medications prescribed and comorbidities. However, intervention patients had significantly greater baseline BP (146/86mmHg vs 136/80mmHg). Greatest BP reductions were among hypertensive intervention patients without CKD, in whom significant reductions in systolic BP from baseline of -10 to -16mmHg were observed over six months. Reductions were continually greater among intervention patients compared with controls but only reached statistical significance in months one and two. Intervention patients had significantly more BP readings and more changes in medication (0.4 vs. 0.2 changes per control patient) over 6 months but no significant difference in average eGFR, healthcare usage or rate of falls. No patients had stroke or hip fracture. Patients were satisfied with Florence (average score 4.8/5.0), thought it easy to use, valued its 24-hour availability, appreciated not having to leave home, believed their understanding of hypertension was improved and felt supported and more in control.

Consequences - Simple telehealth is acceptable and effective in reducing patients' BP. Practices used the system pragmatically, rather than strictly adhering to inclusion criteria. For future implementation, patients could be targeted to maximise BP reductions. However, broader use could improve diagnostic accuracy and accessibility for patients for whom mobility and/or lifestyle issues prevent regular attendance. Prolonged follow-up is required to identify longer-term consequences of improved BP control such as healthcare usage and morbidity.

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SP121

Interventions to improve adherence to antihypertensive medications after stroke/TIA: A systematic review and meta-analysis.

Anna De Simoni[1], Wendy Hardeman[1], Jonathan Mant[1], Andrew J Farmer[2], Ann Louise Kinmonth[1]
[1]Department of Public Health and Primary Care, University of Cambridge, Cambridge, UK,[2]Department of Primary Health Care - University of Oxford, Oxford, UK

The Problem - A meta-analysis of 147 randomised trials demonstrated that lowering systolic blood pressure (SBP) by 10 mm Hg or diastolic blood pressure(DBP) by 5 mm Hg reduces incidence of stroke by a third, regardless the presence or absence of vascular disease and hypertension prior to treatment.

However adherence to antihypertensive medications after stroke remains suboptimal.

Two Cochrane reviews of 128 trials demonstrated a range of non-pharmacological interventions which were successful in improving control of blood pressure and adherence to antihypertensive treatment in patients with primary hypertension.

There have been no systematic reviews of interventions to improve adherence to blood pressure lowering medications following stroke.

The approach - A systematic review of English and non-English articles was performed using MEDLINE, EMBASE, CINHAL, BNI, PsychInfo. Bibliographies of the identified studies were searched and clinical experts contacted for additional studies.

Search terms included stroke/TIA, Adherence/Prevention and Hypertension.

Inclusion criteria included documented stroke/TIA, an intervention to improve adherence to antihypertensive medications and outcome measurement of blood pressure or antihypertensive adherence.

Independent extraction of articles by 2 authors using standardised data extraction forms, including study quality assessment.

Random effect meta-analysis was performed to estimate the effect of interventions on blood pressure.

Findings - Nine studies were eligible. The methodological quality of included studies varied. All studies tested multi-factorial interventions that had broader aims than simply improving adherence to antihypertensives. Education on disease and drug treatment was a consistent intervention component.

A meta-analysis of 6 studies suggested that multi-factorial programmes were effective at reducing blood pressure, although not all single interventions were effective, and there was a moderate level of observed heterogeneity (I^2= 67 and 47% for SBP and DBP, respectively). Overall, patients in the intervention group had a standardized mean difference in SBP of -5.3 mm Hg (95% CI -10.2 to -0.4, P<0.05), and in DBP of -2.5 mmHg (-5.0 to -0.1, P=0.05).

No significant effect on adherence was found, but this was only reported in three studies.

Consequences - We found no evidence of effective strategies to improve adherence to antihypertensive treatment in people with stroke. However multifactorial non-pharmacological interventions can lower blood pressure after stroke/TIA. It is not clear which component(s) of the interventions account for this. Further research could test/develop single component interventions and/or adapt effective interventions from primary prevention to this group of patients.

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SP122

Whose review is it? The function of the routine review for patients with long terms conditions: a qualitative study

Jessica Drinkwater[1], Cheryl Hunter[2], Peter Salmon[3], Alexandra Stenhoff[3,2], Susanne Langer[3], Elspeth Guthrie[2,1], Carolyn Chew-Graham[1]
[1]University of Manchester, Manchester, UK, [2]Manchester Mental Health and Social Care Trust, Manchester, UK, [3]University of Liverpool, Liverpool, UK

The Problem - The routine review is an increasingly important part of routine care and management of patients with long-term-conditions (LTCs) in UK general practice. This coincides with a shift in health policy towards supported self-management of LTCs and improving the quality of primary care through the Quality and Outcomes Framework (QOF). However, little is known of patients and health care professionals (HCPs) perceptions of routine reviews and their purpose.

This study forms part of an NIHR-funded research programme CHOICE (Choosing Health Options in Chronic Care Emergencies), which aims to develop and evaluate an intervention to reduce UC use whilst improving patient care. This study aims to explore the role of routine primary care consultations in influencing patient decision-making around healthcare use.

The Approach - A qualitative study design was adopted. Patients with one or more of the following LTCs - asthma, coronary heart disease (CHD), chronic obstructive pulmonary disease (COPD), and diabetes - were recruited into the study from GP practices in North West England. Consultations between consenting patients and HCPs (GPs and practice nurses) were audio-recorded, and tape-assisted recall used to conduct interviews with HCPs and patients. Interviews and consultations were recorded and transcribed verbatim. Data were analysed using an integrative framework approach, involving cross-case and within-case analysis.

Findings - 18 routine reviews for LTCs have so far been audio-recorded. Interviews examining the function of routine reviews have been completed with 21 patients and 6 HCPs (3 GPs and 3 practice nurses).

Interim analysis suggests that the routine review is primarily seen as an opportunity to check the current health status of the patient, and make adjustments to medication, with the metaphor of an "MOT" employed by both HCPs and patients. Some patients saw reviews as an opportunity to gain reassurance about their health and to discuss other problems. However patients described attending reviews to "co-operate" with HCPs, and found the experience of review and the tests involved stressful, with limited opportunity to discuss other problems. HCPs suggested that they could educate the patient and influence future behaviour within the review consultation, but there was little evidence of this activity in the recorded consultations, which tended to be bio-medically focused, aimed at achieving QOF targets, and retrospective in nature with little forward planning.

Consequences - Health policy stresses the importance of routine reviews as an opportunity for encouraging self-management and behaviour change. With limited time and increasing demands on routine reviews, our results suggest reviews take a biomedical focus with priority given to achieving QOF targets. If HCPs are to address behaviour change, routine reviews need to incorporate more prospective care planning involving patients, and reduce the focus on retrospective checking.

SP123

Primary Care-based diabetes prevention in Australia

James Dunbar[1], Abirami Jayawardena[1], Greg Johnson[2], Karen Roger[3], Amy Timoshanko[2], Benjamin Philpot[1], Erkki Vartiainen[1,4], Tiina Laatikainen[1,4], James Best[5], Edward Janus[1,6]
[1]GGT UDRH, Flinders and Deakin Universities, Warrnambool, Victoria, Australia, [2]Diabetes Australia - Victoria, Melbourne, Australia, [3]The Allen Consulting Group, Melbourne, Australia, [4]National Institute for Health and Welfare, Helsinki, Finland, [5]Melbourne Medical School, The University of Melbourne, Melbourne, Australia, [6]Department of Medicine, The University of Melbourne, Melbourne, Australia

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The Problem - In the Australian state of Victoria, over 250,000 people live with type 2 diabetes. A further 70 cases are diagnosed a day. Another 1.2 million Victorians are in the high risk category for developing type 2 diabetes. Randomised controlled trials have found that progression to type 2 diabetes in high risk individuals can be prevented through structured lifestyle behaviour change programs. Feasibility in the Australian setting was tested in the Greater Green Triangle Diabetes Prevention Program (GGT DPP).
In 2007, the state of Victoria established the first systematic, primary care-based type 2 diabetes prevention program in the world. The Life! program aims to counter the growing type 2 diabetes epidemic by introducing a systematic Victoria-wide infrastructure for large scale delivery of type 2 diabetes prevention. General Practitioners play a central role within the program by helping patients to assess their risk for type 2 diabetes and subsequently referring at risk patients to a primary care based program providing there has been no previous diagnoses of diabetes.
The approach - Life! is a primary care-based behaviour change intervention predominantly comprising six group sessions over eight months. Potential participants visit their General Practitioner who assesses their risk for type 2 diabetes using the AUSDRISK tool. Participants' pathology results are analysed to rule out undiagnosed diabetes. Baseline clinical and anthropometric data from participants, used for program evaluation is recorded on a central database.
The Victorian Department of Health funded Diabetes Australia Victoria (DA-Vic) to implement the program. Experience of the Greater Green Triangle diabetes prevention implementation trial was used for intervention design, workforce development, training and infrastructure. DA-Vic's Evaluation and Development Committee brought together policy makers from the Department of Health, implementation staff from DA-Vic and academic experts in diabetes prevention. Public and private sector providers nominated staff to be trained as facilitators. The training program included a self learning period, two days' face-to-face skills training, and annual review days.
Findings - Approximately 15,000 participants have been referred to Life! courses run by 247 facilitators employed by 148 providers. Although there was a high dropout rate between the fifth and sixth sessions, those completing six sessions lost an average of 2•5 kg weight (p<0•001) and waist circumference of 3•8 cm (p<0•001). There was good reach to low socio-economic groups. Based on changes in waist circumference, there was an imputed reduction of 36% in the risk of progression to diabetes.
Consequences - This is only the second reported, large-scale primary care-based diabetes prevention program in the world. Its impact is attributable to applying available evidence for the systems design of the intervention, and collaboration between primary care providers, policy makers, implementers and evaluators using the principles of continuous quality improvement.

SP124

The development of a registry for people who self monitor and manage their own oral anticoagulation

Jennifer Baker, David Fitzmaurice, Ellen Murray
University of Birmingham, Birmingham, UK

The Problem: Studies of patient self monitoring of oral anticoagulation have shown that it is a viable alternative for some patients. A central register could provide a valuable tool in ensuring the safety and effectiveness of patient self monitoring whilst also providing a valuable research tool in terms of characterising those patients who self-monitor most effectively. However, if an electronic central register is to be compiled the feasibility of people who self monitor entering their data onto such a register must first be evaluated.

The Approach: A graphical user interface (website) has been developed onto which participants have entered their anticoagulation data. The participants were recruited via an advertisement placed in each of the following: a magazine, an e-newsletter and on two websites. Some participants were contacted directly via personal emails. Participants completed an online consent form and initial questionnaire which collected demographic and epidemiological information, as well as previous anticoagulation data. Data on INR control, thrombotic and bleeding complications; regimen changes, including interruptions and dose adjustments were collected for 1 year. Participants were sent weekly e-mail reminders should they fail to enter their data. There was an email and telephone helpline available to participants. At the end of the study all participants were asked to complete a feedback questionnaire and a number of participants were randomly selected to download their INR results directly from their point-of-care devices and send them to the research team.

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Findings: Forty -five participants were recruited from across the UK. Participant's ages, at time of consent, were between 26 to 83 years (40% of participants were aged between 60 -69). More men than women joined the study (68.9% males vs. 31.1% females). Participants reported the following reasons for taking warfarin: Mechanical Heart Valve (47.7%), Atrial Fibrillation (25%), Pulmonary Embolism (11.4%), Deep Vein Thrombosis (9.1%), Antiphospholipid syndrome (4.5%) and other (2.3%). The length of time participants had been self testing, when they joined the study, varied from less than 1 year to greater than five years. n = (52.3%) twenty five of the participants also self managed their warfarin doses. The data collected during the year will be analysed to evaluate participant's compliance and accuracy.

Consequences: The characteristics of those recruited are varied. This project has demonstrated that it is feasible for people who self monitor to enter their data onto an electronic central register. We hope to develop it in to a national and international registry for patient self monitoring. If successful it may be possible to use this methodology to collect information in other areas of medicine.

SP125

Global Anticoagulant Registry in the FIELD (GARFIELD): a snapshot of atrial fibrillation in the UK

David Fitzmaurice[1], Ellen Murray[1], Patricia Apenteng[1], Richard Hobbs[2], Ajay Kakkar[3]
[1]University of Birmingham, Birmingham, UK, [2]University of Oxford, Oxford, UK, [3]Thrombosis Research Institute, London, UK

The Problem - Atrial fibrillation (AF) is the most common heart rhythm disorder, affecting 1-2% of the global population. AF is an independent risk factor for stroke and a significant predictor of mortality; up to 3 million people worldwide have a stroke related to AF every year. The objective of the GARFIELD Registry is to describe the real-life treatment patterns in newly diagnosed AF patients with at least one additional risk factor for stroke.

The Approach - GARFIELD is an observational, international registry of newly diagnosed AF patients with at least one additional, investigator-defined, risk factor for stroke. The registry aims to enrol 50,000 prospective patients and 5000 retrospective patients in five independent, sequential cohorts. The study is designed to enrol consecutive eligible patients at participating sites, thereby capturing unselected patients treated in everyday care settings. Enrolled patients are followed up for 2 years.

Of the 10,627 cohort one participants, 397 were enrolled in the UK. All UK participants were recruited from the primary care environment and are representative of those receiving long-term AF management in the UK. The UK study team innovatively adapted the global study to primary care, and is the only country recruiting solely from this setting.

Findings - These results are from the baseline data from 394 UK patients enrolled in cohort one.

Over half of the patients (57%) were diagnosed with AF in the primary care setting, with 23% diagnosed in cardiology. Patients were mostly older people (mean 75±9 years), with 60% aged >75 years and 27% aged between 65 and 74 years.

The risk of stroke was high in newly diagnosed patients, with 56% having $CHADS_2$ score ≥2, and 90% having CHA_2DS_2-VASc score ≥2. The use of anticoagulants in patients at risk of stroke was low: anticoagulants were not prescribed in 43% of participants with a $CHADS_2$ score ≥2 and in 46% of those with a CHA_2DS_2-VASc score ≥2. Corresponding data from the global cohort (mean age 70±11 years) were 32% and 35%, respectively. Overall, 37% of the patients received aspirin (71% alone and 29% with an oral anticoagulant) compared with 27% (64% and 36%, respectively) for the global cohort.

Consequences - Recent guidelines for stroke prevention in AF recommend the use of anticoagulants in eligible patients who score ≥2 with the $CHADS_2$ and CHA_2DS_2-VASc risk-stratification schemes. Baseline analysis of cohort one UK data indicates that the use of oral anticoagulants in patients at risk of stroke is notably lower in the UK compared with the global GARFIELD data. These findings suggest the underuse of anticoagulation, thereby leaving patients at risk of stroke. Analysis of the reasons why VKA are not used in these patients will clarify the optimal use and implementation of anticoagulants to prevent stroke.

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SP126

Does the evidence used in NICE guidelines for the treatment of heart failure in primary care reflect a primary care population?

Robert Fleetcroft, James MacKay, Nicholas Steel
Norwich Medical School, Norwich, UK

The problem - The extent to which NICE (National Institute for Health and Clinical Excellence) guideline recommendations relevant to primary care are based on research conducted in a primary care-relevant population has recently been questioned. This is important because the effectiveness of treatment may depend on the severity of the underlying condition. Heart failure is a common chronic condition and it is a significant cause of mortality and morbidity. One study identified 69% of patients with heart failure in a primary care population as having mild to moderate failure, grade I-II New York Heart Association classification (NYHA), whereas the majority in secondary care have severe failure (NYHA III-IV). We aimed to determine whether the NICE recommendations are supported by the evidence for a primary care population.

The approach - We reviewed the recommendations for the pharmacological treatment of heart failure in NICE CG108 using a validated two stage assessment process and determined which of these were relevant to primary care. For each recommendation, we reviewed the key supporting RCT evidence with inclusion criteria of mortality outcomes, >500 patients in each arm and stratification of severity of heart failure by NYHA classification. For each drug we compared mortality reduction (intervention vs. placebo) separately for patients in NYHA classes I-II (mild to moderate symptoms), and classes III-IV (severe symptoms). We calculated ORs (odds ratios) for mortality and used meta-analysis when more than one study was identified.

Findings - We identified 29 RCTs of which 4 met the inclusion criteria, two including beta blockers (metoprolol and bisoprolol) and one each for angiotensin converting enzyme inhibitors (ACE, enalapril) and angiotensin receptor blockers (ARB, valsartan).

For beta blockers and patients with NYHA class I-II heart failure, the combined OR for mortality was 0.74 but not significant (95% CI 0.50-1.11). For patients with NYHA class III-IV heart failure, the combined OR was 0.62 (95% CI 0.53-0.74).

For ACE inhibitors and patients with NYHA class I-II heart failure, the OR for mortality was 0.79 (95% CI 0.64-0.97). For patients with NYHA class III-IV heart failure, the combined OR was 0.85 (95% CI 0.65-1.12).

For ARBs and patients with NYHA class I-II heart failure the OR for mortality was 0.94 but not significant (95% CI 0.78-1.05). For patients with NYHA class III-IV heart failure the OR was 0.85 (95% CI 0.75-0.94).

Consequences - Key supporting evidence used to develop NICE recommendations for primary care failed to demonstrate effectiveness for beta blockers or ARBs in populations relevant to primary care. This could lead to inappropriate treatment of patients in whom there is no proven benefit, which is an unnecessary burden for patients and cost to the NHS. Guidelines for primary care should be based on research in populations relevant to primary care.

SP127

Is achievement of the cholesterol targets in English primary care related to the use of higher cost statins?

Robert Fleetcroft[1], Peter Schofield[2], Martin Duerden[3], Mark Ashworth[2]
[1]Norwich Medical School, Norwich, UK, [2]Kings College, London, UK, [3]Betsi Cadwaladr University Health Board, Conwy, UK

The problem - Statins are effective at reducing mortality and morbidity in secondary prevention. There is a fourteen fold difference in the cost of the five currently available statins at the recommended dose, and one 'NHS better care, better value' indicator specifies that at least 79% of all statins prescribed should be low cost. However it is not known whether the choice of statin is associated with cholesterol achievement at the population level. We aimed to investigate the practice level relationship between the achievement of

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cholesterol quality indicators in patients with heart disease, stroke and diabetes and the prescribing of low cost statins.

The approach - We constructed a summary cholesterol quality indicator score for each practice by dividing the total number of patients achieving the target for cholesterol control of ≤ 5 mmol/L in stroke, diabetes and heart disease by the total number of patients on those registers. We constructed a 'low cost statin' ratio score by dividing the numbers of defined daily doses of simvastatin and pravastatin by the total numbers of defined daily doses prescribed for all statins. We performed correlations and linear regression modelling of retrospective cross-sectional survey data with potential explanatory variables.

The findings - 7909 (97.7%) general practices in England had complete sets of data for analysis. Mean practice cholesterol quality indicator score was 73.7% (s.d. 6.0) and mean practice 'low cost statin' ratio was 41.5% (s.d. 16.8). Practices using a higher proportion of the low cost statins were less successful in achieving cholesterol targets in patients with stroke, diabetes and heart disease. An increase of 10% in the prescribing of low cost statins was associated with a decrease of 0.46% in the cholesterol quality indicator score (adjusted β coefficient -0.046, $p<0.001$). Practice characteristics associated with higher achievement of cholesterol control were those with older populations, higher volumes of statin prescribing, training practices and practices with older populations.

Consequences - Greater use of low cost statins was statistically associated with a significant lower achievement of cholesterol quality indicator scores. However this relationship was clinically small, as the prescribing of more expensive statins explains just over 7% of the variation in achievement of cholesterol targets. The main limitations of our findings are that as an observational study it does not demonstrate causation, and that as an ecological study associations at practice level may not apply to individuals. Although low cost statins were associated with poorer cholesterol control, this disadvantage may be offset by the cost advantage. Our findings suggest the continuing use of the low cost statin performance indicator should be re-evaluated in terms of cost-effectiveness.

SP128

Does the effect of smoking cessation support delivered by text message support vary according to smokers chances of quitting?

Caroline Free, Pablo Perel
LSHTM, London, UK

The problem: The aim of the txt2stop trial was to assess the effects of mobile phone based text messaging support for smoking cessation on biochemically verified quitting at six months. The text message support more than doubled smokers chances of quitting, although the absolute increase in quitting was low (10.7% txt2stop versus 4.9% control, relative risk 2.20, 95% CI 1.80 to 2.68 $p<0.0001$). Smoker's characteristics can influence their chances of quitting. The effects of text messaging support might vary according to smoker's chances of quitting.

The approach: We aimed to conduct an exploratory analysis of the characteristics of smokers influencing quitting in the txt2stop trial and the effect of the txt2stop intervention according to smokers' chances of quitting. 5,800 smokers who were willing to make a quit attempt were randomly allocated using an independent telephone randomisation system, to a mobile phone text messaging smoking cessation programme (txt2stop), comprising motivational messages and behavioural change support, or to a control group that received text messages unrelated to quitting. The system automatically generated intervention or control group texts according to the allocation. The primary outcome was self-reported continuous abstinence bio-chemically verified at six months. We used univariate and multivariate analysis to identify the characteristics of smokers that predicted quitting. Smokers were then divided, according to those characteristics, into those with a low (0-3%), medium (3.1-7%) or high (>7%) chance of quitting. We examined the effect of the txt2stop intervention in each of these subgroups. Heterogeneity in treatment effect across subgroups was assessed with X^2 tests. All analyses were by intention to treat.

The findings: 2,915 smokers were allocated to the txt2stop intervention and 2,885 were allocated to the control group. Primary outcome data were available for 5,524 (95%) participants. In the multivariate analysis: age(16-18, 19-34 >34), type of work (manual/ non manual), previously using a service of medication to

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support a quit attempt (yes/no) and some items from the Fagerstrom nicotine addiction score: smoking when sick(yes/no), number of cigarettes smoked per day (1-10, 11-20, 21-30,>30) and having difficulty refraining from smoking in places where smoking is forbidden (yes/no) were statistically significant predictors of quitting. The effect of the txt2stop intervention in those with a low (0-3%), medium (3-7%) or high (>7%) chance of successfully quitting was relative risk (RR) 3.7(95% confidence intervals (CI) 2.1-6.5), RR 1.9 (95% CI 1.5-2.5) and RR 2.14 (95% CI 1.4-3.3) respectively, Chi squared test 4.2, p 0.124 for heterogeneity.

The consequences: There is no evidence that the effect of the txt2stop intervention differs according to smokers chances of successfully quitting. Health care providers should consider offering information about the availability of text message support to any smoker wanting to quit.

SP129

Prognostic value of the ABCD^2 clinical prediction rule - a prospective cohort study

Rose Galvin[1], Penka Atanassova[2], Nicola Motterlini[1], Tom Fahey[1], Borislav Dimitrov[1]
[1]Royal College of Surgeons in, Dublin, Ireland,[2]Medical University of Plovdiv, Plovdiv, Bulgaria

The proble - The ABCD^2 clinical prediction rule was derived to assist clinicians with the timely and appropriate management of individuals with transient ischaemic attack (TIA). The ABCD^2 rule is a 7 point summation of clinical factors independently predictive of stroke risk. These factors include age, clinical features such as motor impairment and speech disturbance, duration of symptoms, history of diabetes and hypertension. The purpose of this cohort study is to validate the ABCD^2 rule in a Bulgarian setting at 7 days, 90 days, 1 year and 3 years after TIA.

The approach - Patients were included if they presented to the emergency department with symptoms of a first TIA in Plovdiv, Bulgaria. Consecutive TIA patients were registered prospectively. Baseline data and the clinical examinations including the ABCD^2 scores were documented by the study neurologists. Determination of the ABCD^2 risk score was performed in a manner identical to that reported by the developers of the score. The elapsed time from the episode to registry was less than 48 hours. All statistical analysis is completed using STATA (Version 12). Descriptive statistics, summary estimates of sensitivity and specificity and risk ratios (RRs) with 95% confidence intervals (95% CI) are presented. Categorisation of ABCD^2 scores into three groups (0-3 points, 4-5 points and 6-7 points) is done as in the initial ABCD^2 publication.

The findings - From January 2002 to December 2005, 89 patients were enrolled to the study. The mean age of patients was 63 years (+/- 12 years). Fifty-nine percent (n=53) of the study population was male. There were 13 subsequent strokes observed in the cohort of patients. There was no incident of stroke within the first 7 or 90 days after TIA. Seven strokes occurred within the first year (low risk n=1; intermediate risk n=3; high risk n=4) and six further strokes within three years (low risk n=2; intermediate risk n=1; high risk n=3). The risk of stroke increased according to the increase of the score ($p<0.001$). At one year following stroke, the ABCD^2 rule is more useful at ruling out stroke in those at low risk, with a greater summary sensitivity estimate [0.86 (95% CI 0.42 - 1.00)] than specificity [0.48 (95% CI 0.36 - 0.59)]. When using the original derivation study as a predictive model, the ABCD^2 rule tends to over predict risk of stroke at 7 and 90 days across all three risk strata of risk.

The consequences - These results demonstrate that the likelihood of having a stroke increases as the ABCD^2 trichotomised score increases. Our findings are also in keeping with a previous systematic review that demonstrates that the ABCD^2 rule over-predicts occurrence of stroke in the three risk categories at 90 days.

SP131

A systematic review of whether people with Diabetes mellitus experience less chest pain when having a myocardial infarction (MI).

Melvyn Jones, *UCL, London, UK*

The problem - People with diabetes mellitus (DM) are more likely to have a myocardial infarction (MI) compared to people without diabetes and they have a higher mortality from their myocardial infarctions. DM autonomic neuropathy may lead to reduced pain perception and so under recognition of symptoms as

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anginal/ infarction pain by the patient and their clinician. This might have important implications as there may be delay in seeking assistance; as early treatment of MI reduces both morbidity and mortality. There is conflicting research in this area.

The approach - Standard methods including searches of Pubmed / Embase using MOOSE criteria for meta analysis of observational data. Searches and data extraction were done by 2 people independently. Data was meta-analysed.

Findings - Searches identified 1566 abstracts, 19 meeting our full criteria. Authors used a variety of classifications of symptoms such as absence of chest pain (CP), and typical /atypical (T/AT) classification. Nineteen papers identified patients with CP /no CP symptoms during an MI, those with DM having an odds ratio (OR) for CP during MI of 0.74 (0.62 to 0.89 n=471,723 I^2 91%). However, one study dominates the review with 20 times the study size of all other studies and substantially contributes to this finding. Conversely three studies reported using T/AT showed a non significant increase in DM having typical symptoms OR 1.68 (0.91-3.11 n=492 I^2 0%).

Eight papers identified other non pain symptoms such as increased breathlessness among DM (OR 1.33 (1.17-1.50 n=6069 I^2 0%). For other symptoms, we found slightly less extra cardiac pain (arm, neck pain 4 studies n=47264 studies (OR 0.78 0.68 to 0.90 I^2) but no impact on sweating (7 studies OR 0.98 (0.86-1.13 n=4300 I^2 0%).

Consequences - Patients with DM experience less CP, and more non pain symptoms such as breathlessness during their MI. This raises important issues for patients with DM (education about their disease) and their clinicians. As primary care clinicians are in frequent contact with this group attempts to change (lower) the threshold for referral to secondary care could be explored, which is problematic in the current NHS climate. Limitations of the review include significant study heterogeneity, issues around recruiting on the basis of CP (selection bias), identifying patients who are admitted to hospital (survivor bias) and failure of studies to address gender, age and morbidity disparities between groups.

SP132

Beliefs about medicines among patients with cardiovascular disease: do socioeconomic factors and degree of risk influence beliefs?

Humera Khan[1], Satnam Virdee[1], Kate Fletcher[1], Sheila Greenfield[1], Jonathan Mant[2]
[1]University of Birmingham, Birmingham, UK, [2]University of Cambridge, Cambridge, UK

The Problem - Cardiovascular disease (CVD) is the number one cause of mortality and morbidity worldwide. Disease risk management includes combining interventions and implementing them according to level of risk. It is imperative that patients take their medications as directed if they are to receive the optimum benefit. Different levels of CVD risk could affect individual perceptions about the benefits and harms of medicines and therefore impact on compliance. The aim of this study is to determine whether beliefs about medication vary by degree of CVD risk or socioeconomic factors.

The Approach - Participants were patients from 19 general practices in Birmingham, UK. Eligible patient s were identified either through screening and computer searches. All eligible patients were sent a Beliefs about Medicines Questionnaire (BMQ). General beliefs in relation to background variables, such as sex, diabetes, ethnicity and smoking status were explored with independent t-tests and ANOVA testing. Differences between degree of risk and socioeconomic factors were analysed by logistic regression.

Findings - A BMQ was sent to 4530 patients. 2794 (62%) of patients returned a completed questionnaire and were included in the analysis. Beliefs were investigated in four groups: high CVD risk, existing CVD risk with history of CVD event, high CVD risk currently not on medication and high CVD risk currently on medications. Analysis is ongoing, however preliminary results show that people currently taking CV medications have a stronger belief that medicines are more necessary compared to groups not on medication. Similar beliefs were observed for the general harm of medications in all four groups, and also regardless of degree of risk. All groups also had a strong belief that medications were overused. Full results will be presented at the conference.

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Consequences - Differences in people's beliefs about medicines affect compliance, this is especially important in high risk groups. If significant differences are detected, it is important to better inform the risks and benefits of medications to patients in these risk groups to ensure compliance and therefore effective disease management.

SP133

Managing stroke risk in patients with atrial fibrillation across south and east London

Rohini Mathur[1], Elizabeth Pollara[2], Sally Hull[1], Peter Schofield[2], Mark Ashworth[2], John Robson[1]
[1]Barts and the London School of Medicine and Dentistry,Queen Mary, University of London, London, UK, [2]Department of Primary Care & Public Health Sciences, Kings College London, London, London, UK

Problem - Atrial fibrillation (AF) is the most common cardiac arrhythmia with prevalence increasing rapidly with age from 0.7% in people aged 55-59 years to 18% in those over 85 years of age. Currently in the UK, it is estimated that around a million people are affected by AF. AF is the single most powerful risk factor for stroke and can increase risk fivefold. Risk scores such as the CHA2DS2VASc can help determine stroke risk and guide appropriate treatment. Many studies report substantial under-treatment with oral anticoagulants in patients at high risk for stroke and in ethnic minority groups.

Approach - Clinical, demographic, and prescribing data for all patients with AF were extracted from a primary care database of over 1 million patients combining general practices across south and east London. The ethnic breakdown of the entire database was 35% White, 21% South Asian, 17% Black African/Caribbean, 6% other and 22% unknown. A retrospective analysis of warfarin prescribing trends was conducted using data from 2008-2011. A cross-sectional study using 2011 data investigated the prevalence of atrial fibrillation, stroke risk as defined by the CHA2DS2VASc score and ethnic differences in the management of AF with anticoagulation by age, gender, and ethnic group.

Findings - The cross sectional study identified 6,646 patients with AF, an age adjusted prevalence of 0.67% (1.2% White, 0.4%, 0.2% South Asian). 81% of the AF population were at high risk of stroke as defined by the CHA2DS2VASc score, 53% of this group were on warfarin. After stratifying by stroke risk- Black patients were significantly less likely to be prescribed warfarin compared to White patients (Adjusted OR 0.83, CI 0.70-0.98). Adjusted odds ratios indicate that men have significantly reduced odds of being prescribed warfarin, the odds of prescription increase significantly with age. The longitudinal study revealed persistent under prescribing of warfarin amongst Black patients with no change over time.

Consequences - Prevalence of AF is highest in the White population. Though 81% of AF patients are at high risk, only 53% are on warfarin. Despite a lower prevalence of AF, ethnic minority groups are at higher risk of stroke using the CHADS2VASC2 score. However, they are persistently under prescribed warfarin for stroke prevention. Computerised alerts for CHA2DS2VASc scores are available on primary care systems and should be used in routine practice. Practitioners need to be aware of the increased risk of stroke in ethnic minority patients and potential under prescribing of anticoagulation in these groups.

SP134

Evaluation of a Community-based Diabetic Retinopathy Screening Initiative

Sheena Mc Hugh[1], Claire Buckley[1,4], Katie Murphy[2,4], Sue Doherty[3,4], Gabrielle O Keeffe[5,4], Elizabeth Keane[5,4], Maria Horgan[2], Mark James[4], Ciaran Coughlan[4], Ivan Perry[1], Joe Moran[2], Diarmuid Quinlan[4], Colin Bradley[1]
[1]University College Cork, Cork, Ireland, [2]Diabetes in General Practice (DiGP), Cork, Ireland, [3]Association of Optometrists Ireland, Ireland, Ireland, [4]Diabetes Services Implementation Group, Cork/Kerry, Ireland, [5]Health Service Executive, South, Ireland

The Problem: In 2009, the National Clinical Care Programme for Diabetes prioritised annual retinopathy screening for people with diabetes. However at present, there is no population-based diabetic retinopathy screening available in Ireland. In anticipation of a national screening programme, a community-based

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initiative was established in the south of Ireland which utilised existing optometry/ophthalmology services. The aim of this study was to evaluate this community-based model of diabetic retinopathy screening.

The approach: A convenience sample of 32 practices was recruited from Diabetes in General Practice (DiGP), a local general practice-led diabetes initiative. An invitation letter to attend a free eye examination was sent by each practice to all eligible adult patients registered with diabetes (N=3,598). Fifteen community optometry clinics and 2 community ophthalmologists provided retinopathy screening. Process indicators and patient outcomes were recorded electronically on a database collated by Medical Diagnostic and Treatment Solutions Ltd., a software programme used by community optometrists. The screening programme was evaluated in terms of the structure, processes and outcomes and the results were benchmarked against the standards outlined in the National Diabetic Retinopathy Framework to assure the quality of the service.

Findings: Overall 30 practices took part in the screening initiative (94%). At the time of evaluation 49% of patients (n=1763) were screened following 1 invitation letter and no reminder. Fifty-seven percent of those who attended were male (n=884) and 86% had Type 2 diabetes (n=1320). Almost one third of patients attended for screening within 4 weeks of the invitation being sent (31%, n=478). The mean age of patients who were screened was 65 years (sd=13.0). Twenty-two percent of those screened during the initiative had not received previous screening (n=336). One quarter of patients had some level of retinopathy detected during screening (26%, n=395); 21% had background retinopathy, 3% had pre-proliferative retinopathy and 0.7% had proliferative retinopathy.

Consequences: This initiative has demonstrated that it is possible to address some of the current screening deficit using existing resources in the community. In the absence of a national retinopathy screening programme, the initiative will be expanded in 2012 and the results of this evaluation will be used to inform the ongoing development of the national programme.

SP135

A taboo too far? Health care provider's views on discussing sexual wellbeing with stroke patients

Ruth Mellor[1], Sheila Bailey[1], Satinder Singh[1], Richard McManus[2]
[1]Primary Care Clinical Sciences, University of Birmingham, Birmingham, UK,[2]Department of Primary Care Health Sciences, University of Oxford, Oxford, UK

The problem - Having a stroke can affect the sex lives of stroke survivors and their spouses: through reduction in libido, erectile dysfunction, reduced ability to communicate about sexual intercourse, or lowered mobility restricting sexual activity. The National Stroke Strategy recommend that sexual issues (amongst other emotional health concerns) are discussed post stroke but previous studies suggest that patients find raising the issue with health care professionals difficult. Furthermore, little is known about health care providers' views on discussing these topics with stroke patients.

The approach - Thirty in depth interviews were conducted with health care providers who work with stroke patients: interviewees included general practitioners, practice nurses, stroke ward staff, and therapists. Interviewees were asked their views and experiences of raising sexual wellbeing with stroke patients. Interviews were analysed thematically.

Findings - Initial findings suggest that it is a topic that providers did not raise with patients and was infrequently raised by patients. Some providers lacked awareness that patients might find sexual wellbeing a difficult area, nor did they see it as a priority, particularly during hospital care. Few providers took ownership for discussion of this topic. There were implicit ageist attitudes regarding which patients it would be appropriate to discuss it with. Some expressed concern that raising the topic could damage the patient-provider relationship.

Consequences - Despite the Stroke Strategy recommending its discussion, providers lack motivation to raise sexual wellbeing as an issue with patients. Therefore patients may well be lacking information they require and feel unable to ask for. The Stroke Association has developed an information sheet, which could

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be provided in an information pack. In other research we are asking patients if and how they would like such information presented.

SP136

Long-acting β-agonist prescribing in patients with asthma in primary care: a cross-sectional observational study

Daniel Morales[1], Cathy Jackson[2], Shona Fielding[3], Bruce Guthrie[1]
[1]University of Dundee, Dundee, UK,[2]University of St Andrews, St Andrews, UK,[3]University of Aberdeen, Aberdeen, UK

The problem - Long-acting β2-agonist (LABA) monotherapy is contraindicated in the management of asthma following reports of death and serious adverse events. Despite safety concerns, there is relatively little data on which people with asthma use LABA therapy, and it is uncertain how often LABA monotherapy occurs. The aim of this study was to examine patterns of LABA prescribing in people with asthma, including LABA monotherapy.

The approach - Anonymised routine health data from 315 Scottish practices was used to identify patients over the age of four with a Quality and Outcomes Read code for asthma (and no Read code for chronic obstructive pulmonary disease) permanently registered on 31st March 2007. Clinical data extracted included: age, sex, smoking status, postcode assigned deprivation (using the Carstairs score grouped into fifths) and the presence or absence of a structured primary care asthma review since 1st January 2005. Data for all asthma-related medications prescribed electronically over the previous two years, including LABAs and inhaled corticosteroids (either as a separate inhaler or in fixed-dose combination with a LABA), were obtained and the prevalence of LABA prescribing during 2006 determined. Among patients prescribed LABA as a separate inhaler (the population at risk of monotherapy), the prevalence of sustained LABA monotherapy (defined as one or more LABA prescription without inhaled corticosteroid (ICS) during the calendar year) and episodic monotherapy (defined as one or more LABA prescription without ICS 12 weeks before and 8 weeks after) was measured. Associations between LABA monotherapy and patient and practice characteristics were examined using multilevel logistic regression.

Findings - Of the 73,486 asthma patients identified, 21,284 patients (29.0% [95%CI 28.6%-29.3%]) were prescribed any LABA therapy, and 5,592 patients (7.6% [95%CI 7.4%-7.8%]) were prescribed LABA as a separate inhaler. A total of 991 patients had either episodic or sustained LABA monotherapy (1.4% [95%CI 1.3%-1.4%] of all asthmatics, 17.7% [95%CI 16.7%-18.7%] of patients prescribed LABA as a separate inhaler). Primary care asthma reviews were associated with lower rates of sustained monotherapy (OR 0.44 [95%CI 0.32-0.61]) but not episodic monotherapy.

Consequences - In this study, few people with asthma were prescribed LABA monotherapy, because most people were prescribed LABA in fixed-dose combination with an ICS. However, LABA monotherapy was not uncommon in people treated with separate inhalers. Asthma reviews were associated with lower rates of sustained LABA monotherapy but not episodic monotherapy. These findings support recent changes in UK asthma guidelines recommending LABAs in fixed-dose combination to maintain adherence with ICS.

SP137

Self management of asthma using online or computerised resources: a systematic review of quantitative and qualitative reviews.

Deborah Morrison[1], Sally Wyke[4], Euan Cameron[2], Neil Thomson[2], Alex McConnachie[3], Frances Mair[1]
[1]General Practice & Primary Care, Institute of Health & Wellbeing, University of Glasgow, Glasgow, UK, [2]Institute of Infection, Immunity & Inflammation, University of Glasgow, Glasgow, UK,[3]Robertson Centre for Biostatistics, University of Glasgow, Glasgow, UK,[4]College of Social Sciences, Institute of Health & Wellbeing, University of Glasgow, Glasgow, UK

The Problem - People with asthma are known to accept higher levels of symptoms and lifestyle limitations than they need to, often as a result of not making full use of proven treatment strategies. The promotion of self-care is a strategy known to improve asthma control, and the use of the internet is increasingly being

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considered as a tool to augment its use. This systematic review of reviews aimed to deliver a position paper on the current knowledge regarding the use of online/web-based/computerised asthma self management tools, and identify gaps in the literature, in order to inform the development of internet based self care resource.

The approach - This is a systematic review of qualitative and quantitative reviews. Databases searched included MEDLINE, EMBASE, CINAHL, PsycINFO, ERIC, Cochrane Library (including CDSR, DARE, Central, and HTA databases), DoPHER and TROPHI (both produced by the EPPI Centre), Social Science Citation Index and Science Citation Index.

The search strategy combined 3 facets of search terms: 1) online technology, 2) asthma and 3) self management/behaviour change/patient experience.

Title, abstract and full paper screening were carried out by two researchers independently using Distiller software. Data extraction, data analysis and quality appraisal were carried out using a combination of Distiller software, NVivo software and Microsoft Word. Any disagreements were resolved by discussion, with a third party where necessary.

Findings - 2077 titles were initially screened, leading to the full papers of 77 articles being examined for inclusion. Preliminary findings suggest that patients have a positive attitude towards the use of internet interventions, with some evidence of improvements in knowledge and symptom control. However there is lack of conclusive evidence about impact on objective clinical outcomes such as health care utilisation. The included interventions are often poorly described making it difficult to make recommendations regarding features of interventions such as degree of health care practitioner involvement.

Consequences - The lack of conclusive evidence provided by undertaking this systematic review of reviews illustrates the need for ongoing good quality research in this field. This review will inform the next stage of this project which involves developing an online resource for use by those with a diagnosis of asthma, to be subsequently tested in a randomised controlled trial.

SP138

State of diabetes care in unsupported unresourced general practice in Ireland; current state and future trends.

Ray O'Connor[1], Walter Cullen[1], Mai Mannix[2], Michael Griffin[1], Jean Saunders[1], Emma Kearney[1], Helen Nolan[1], Leandre Powys[1], Marese Mannion[1], Jennifer Mullen[1]
[1]University of Limerick, Limerick, Ireland,[2]Department of Public Health, Limerick, Ireland

The Problem: Structured routine care of Type 2 diabetes is about to be devolved to general practice (GP) in Ireland with no extra resources. Currently there is no research to indicate how well diabetes is managed in ordinary general practices i.e. those who are not resourced or part of a study group.

The Approach: We carried out 4 focus groups involving 64 GPs in the region to explore the barriers and facilitators to providing structured regular care to type 2 diabetic patients in GP in Ireland. This work is completed. The next step is to audit 50 such practices to see what the current state of diabetes care is. We will validate and update the most recent Regional diabetes register for each practice. We will look at processes e.g. whether structured regular care is offered in the practice as well as some outcomes e.g. BP and HbA1c levels using a nationally approved audit tool. The work will be carried out by GP trainees and medical students of the University of Limerick (UL) GP training scheme and Medical School on the practices they will be attached to during the course of their training. They will be assisted in this work by the GPs concerned as the study has been approved for study leave as well as Continuing Professional Development (CPD) points for education and audit.

Findings: The initial findings from the qualitative study shows a marked reluctance of GPs to take responsibility for care that they will not be resourced to provide. They also fear their lack of knowledge, possible litigation, inadequate space and staffing. Facilitators include the fact that many GPs are already providing this care informally and being fully computerised have the information readily to hand.

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Consequences: The data from the qualitative study shows clearly the barriers and facilitators to and expressed needs for structured diabetes care in GP in the community. The initial round of the audit cycle will provide an accurate picture of the current state of diabetes care in the region which will be indicative of the level of care in the majority of practices in Ireland currrently. The anticipated poor standard of care as well as multiple expressed unmet needs will provide evidence for an appropriate level of support for participating practices to enable them to fulfil this commitment.

SP139

A Qualitative Study looking at patient and professional views on internet-based self-management programmes for adults with type 2 diabetes

Kingshuk Pal, Charlotte Dack, Fiona Stevenson, Elizabeth Murray
UCL, London, UK

The Problem: Diabetes is one of the commonest chronic medical conditions in the UK, affecting approximately 1.9 million adults. Structured patient-education programmes reduce the risk of developing diabetes related complications fourfold.
In 2007 only 11% of people with Type 2 diabetes reported that they had been offered structured education. One way of improving access to education and self-management training is through internet-based interventions. Around 90% of people with diabetes have type 2 diabetes, many of whom will not require insulin, so might benefit from low-intensity internet-based self-management training.
Such interventions often struggle to ensure sufficient uptake and adherence. It is therefore essential that these interventions engage patients effectively and strike a balance between providing the education and training that patients need, with an interface and components that makes patients want to use them. The purpose of this work was to use qualitative methods to explore features that 1) patients would want from such interventions and 2) health-professionals thought were needed in such interventions. One such feature might be providing access to online medical records. As there is a commitment from the UK government to allow patients online access to their medical records by 2015 and we wanted to explore some of the issues that might arise around this.

The approach: We purposively recruited patients from an adult population with Type 2 diabetes. Purposive sampling was used to recruit a maximum variety sample in terms of gender, age, ethnicity, length of time of diagnosis, treatment regimen, educational attainment, internet use, presence or absence of diabetes related complications and previous experience of self-management programmes. Recruitment continued until we reached theoretical saturation.
GPs, practice nurses and community specialist diabetes nurses were recruited through the research networks represented in our team. Hospital consultants and hospital specialist diabetes nurses were recruited through the Diabetes Research Networks and contacts. Recruitment continued until theoretical saturation was reached.
Participants were then interviewed in focus-groups or where that was not possible, in semi-structured interviews. Interviews were recorded and transcribed verbatim.

Data was coded and analysed by a multi-disciplinary group in parallel with data collection. Individual researchers read and coded the data independently and emerging codes and themes were discussed in a multi-disciplinary team to reach a consensus. Coded data was organised and analysed using thematic analysis.

Findings: The important features to get right for of an online self-management intervention include presentation, tone, content and engagement. Some interesting issues also arose around the area of patient access to their medical records.

Consequences: For an online self-management intervention to be used by patients and encouraged by health professionals, it needs to have a number of key features described in this study. Online access to medical records appears to be a contentious issue for some health professionals.

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SP140

Diabetes prevention in South Asians: Exploratory study of family facilitators and barriers to dietary change.

Mandeep Bhoday, Laura Cross-Bardell, Helena Tuomainen, Sarah Rodgers, Joe Kai
University of Nottingham, Nottingham, UK

The Problem: People of South Asian origin are 4-6 times more likely to develop type 2 diabetes mellitus (T2DM) than their European counterparts. While genetic factors contribute to this increased risk, lifestyle factors, often within the context of social disadvantage, such as sedentary lifestyle, poor diet and obesity play a major and modifiable role. As part of work to develop community-informed interventions to reduce diabetes risk, we explored the ways in which South Asian families may shape diet and dietary change for family members.

The approach: We conducted an exploratory qualitative study in a disadvantaged urban setting in the Midlands, purposefully sampling people of South Asian origin at higher risk of developing diabetes (including overweight or family history) identified and recruited from inner-city GP practices. Data were generated using audio recorded semi-structured one to one interviews and group discussions with families, in participants' preferred languages, by researchers including of Sikh, Muslim and bilingual backgrounds. Interviews were transcribed verbatim and a 'Framework' approach was used to organise, manage and analyse the data.

Findings: In total, 34 people participated in 16 individual interviews and eight family-groups from Indian (13), Pakistani (17), Bangladeshi (3) and Malaysian (1) backgrounds. Eight interviews were conducted in Punjabi or Urdu. Family mediated barriers to dietary change included: *difficulties maintaining diet modification; honouring the preferences of older family members; family members unwilling to modify an unhealthy diet;* and *generational differences*. Dietary choices could not be made independently of other family members, even when they lived in separate households. The family cook could sometimes feel her opinion wasn't valued and that desirable modifications were seen as a challenge to traditional ways of cooking.

However family members could also facilitate *healthy dietary changes in the family,* and change in relation to *preventing diabetes in family members.* Participants described the importance of having a supportive spouse who could play a central role in facilitating behaviour change and highlighted "having the whole family on board". This was particularly the case when family members had diabetes, or when participants themselves had been informed of their increased risk by a GP. This had prompted diet modification within the family unit, although participants recognised that sometimes this was a slow process.

Consequences: There is increasing interest in interventions seeking to influence dietary change in at-risk communities using family oriented methods, for example, targeting the household cook. Our data highlight the considerable challenges that other family members may pose in this process. Whole family engagement may enable attempts at dietary modification to be more successful, exploiting the presence of existing diabetes or heightening awareness of increased risk of diabetes within the family to help facilitate where possible.

SP141

Factors influencing the adoption of care planning in primary care: A qualitative study of patient perspectives

Jenni Burt[1], Kelly Rowe[2], Jo Rick[2], Peter Bower[2], Nicola Small[2]
[1]The University of Cambridge, Cambridge, UK, [2]The University of Manchester, Manchester, UK

The problem: Improving the quality of care for patients with a long term condition is a global priority. In recent years there has been a shift away from the medicalisation of care towards a more patient centred approach. Care planning has been advocated by some healthcare organisations as one way of implementing this shift. Care planning involves a structured and proactive negotiation of care between patients with a long term condition and their health and social care team, and may result in a written plan recording these discussion and outlining future care preferences and expectations. Care planning aims to empower the patient by

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encouraging shared decision making, goal setting and self-management support. However, current evidence suggests there may be limited implementation of care planning in primary care.

The approach: Patients were identified from a large cohort study of care for long term conditions in primary care. Twenty eight interviews were conducted across 6 PCTs in England with patients who had one or more long term condition. Patients who indicated that they had received a 'care plan' were sent a letter of invitation to participate in the research. The interviews were semi structured and explored their long term condition, current medical consultations, and their experiences and expectations of care. An inductive analysis of interview transcripts involved reflexively coding and re-coding data into categories and themes.

Findings: Although some elements of care planning were present, consultations appeared predominantly medically orientated. Many patients were content with this approach and did not have high expectations of their healthcare providers. Drawing on the sociology of chronic illness, we propose a model of three core dimensions which interact to determine patients' preferences for a structured and proactive approach to care planning: a) their attitudes and adaption to their long term condition; b) their pereptions of the utility of health care in ameliorating the effects of their condition; and c) their experience of current care and relationships with health care professionals.

Consequences: The success of care planning in primary care is dependent on a number of interrelated factors. This has signficant implications for the delivery of healthcare for patients with long term conditions. The model suggests that barriers to care planning are significant in scope, and highlights the variability among patients in term of biographical and contextual factors that impact on the acceptability and utility of a more structured and proactive approach to care.

SP143

Development of a model to inform the design of a telehealth intervention to support patients with long-term conditions

Chris Salisbury[1], Clare Thomas[1], Louisa Budzinski[1], Shirley Large[2], Alicia O'Cathain[3], Sandra Hollinghurst[1], Glyn Lewis[1], Jon Nicholl[3], Simon Brownsell[3], Catherine Pope[4], Lucy Yardley[4], Ann Rogers[5], Alan Montgomery[1]
[1]University of Bristol, Bristol, UK,[2]NHS Direct, London, UK,[3]University of Sheffield, Sheffield, UK,[4]University of Southampton, Southampton, UK,[5]University of Manchester, Manchester, UK

The problem: There is international interest in the potential of telehealth for supporting self-management in the increasing number of people with long term conditions (LTCs). A large volume of research has evaluated the effectiveness of various telehealth interventions, but results have been mixed. What is needed is a stronger theory for how and why telehealth may be effective, to guide the development of new interventions and to generate testable hypotheses.

The approach: This work forms part of the Healthlines research programme, which aims to design and evaluate the effectiveness and cost-effectiveness of a telehealth intervention to be delivered by NHS Direct for patients with LTCs. The programme addresses two exemplar LTCs: raised cardiovascular risk and depression.

We conducted primary and secondary research in order to develop a theoretical model which could inform the design of our intervention. We conducted a realist synthesis of existing literature on telehealth, to identify what worked best, for whom, and in what circumstances. We undertook a patient survey (n=1478) to identify which patients were most interested in and had potential to benefit from different forms of telehealth. We interviewed patients with LTCs (n=38) and health professionals (n=68) in a qualitative study. We combined findings from these three studies using the PRECEDE-PROCEED model of intervention development to identify predisposing, enabling and reinforcing factors that determine engagement with telehealth. We reviewed NICE guidelines to identify important priorities to improve health outcomes for our exemplar LTCs and used systematic reviews to identify specific telehealth interventions with evidence of effectiveness to address these priorities. We also reviewed existing models of LTC management such as the Chronic Care Model. Finally we synthesised our findings in a tentative model which was refined through a consensus exercise with key stakeholders, including health professionals, patients, healthcare commissioners and academics.

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Findings: Our work crystallised two key questions: what components must an effective telehealth programme for LTCs contain, and what factors will encourage patients and health professionals to use it? We developed a model highlighting three concepts which influence patient health outcomes: effective LTC management, engagement, and telehealth integration. Effective LTC management includes support for self-management, treatment optimisation and care-coordination. Engagement incorporates both patient and health professional engagement, and acknowledges that these are inter-related. Integration highlights the need for telehealth services to support rather than duplicate existing care provision from other providers.

Consequences: Developing a model involved significant academic endeavour, but should maximise the chance that our intervention will be effective. The model will also facilitate interpretation of the results of the definitive evaluation. Furthermore, if the model proves sound, we will have demonstrated the translation of theory into a service for patients, which will make it easier to generalise the findings to other LTCs.

SP144

Supporting parents and carers in managing childhood eczema: development of a web-based behavioural intervention

Miriam Santer[1], Ingrid Muller[1], Lucy Yardley[1], Hana Burgess[1], Steve Ersser[2], Sue Lewis-Jones[3], Paul Little[1]
[1]University of Southampton, Southampton, UK,[2]University of Hull, Hull, UK,[3]University of Dundee, Dundee, UK

The Problem - Childhood eczema is very common and causes significant impact on quality of life for families, mainly due to sleep disturbance and itch. The main cause of treatment failure is thought to be non-concordance with prescribed treatment due to a variety of factors including poor understanding of topical therapies.

Web-based interventions allow information to be tailored to the user's individual circumstances and can promote effective ongoing self-management through use of reminders and advice in overcoming barriers. This paper describes the development of a web-based intervention to support families caring for childhood eczema

The approach - We followed Green & Kreuter's PRECEDE-PROCEED model to devise the intervention; i.e. state the quality of life aim; create an inventory of potential target behaviours that might influence this; and describe determinants for each of these behaviours. Our aim was to improve quality of life for families of children with eczema through better control of eczema. From the potential target behaviours, we chose to focus on regular emollient use. Determinants for regular emollient use include predisposing factors (knowledge, beliefs and attitudes, self-efficacy, behavioural intention); enabling factors (e.g. use of health care services to obtain prescriptions) and reinforcing factors (e.g. delayed improvement with emollient use means that alternative reinforcers such as tick charts may be necessary).

We drew on findings from qualitative interviews, evidence-based patient information leaflets, and expertise within the study team and patient support groups to address predisposing factors, for instance using quotes from other parents to influence attitudes and asking users to sign up to a "two week challenge" to influence behavioural intention. We used LifeGuide software to build the intervention.

Seventeen parents of children with eczema took part in ‘think aloud' interviews to provide feedback on the intervention while they were using it. We gained further feedback remotely from 3 other parents, 4 health care professionals.

Findings - Feedback was generally positive with users commenting on the simple language, and widespread use of quotes so that they felt the advice was coming to them from others in a similar situation to themselves.

Participants were less keen on the ‘tunnelling' through core information at the beginning prior to being offered a menu of choices. One participant described this as laboured (perhaps through repetition of key messages). One participant found some of the information too prescriptive. Changes were made iteratively on the basis of feedback.

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Consequences - The intervention is currently being tested in a pilot RCT with carers of children aged 5 or less with eczema being assigned three groups of 50 each: (1) usual care; (2) web intervention only; (3) web intervention plus 20 minute support session from practice nurse to support use of web intervention.

SP145

Monitoring of Long Term Prescriptions of Antidepressants: Observational Study in a Primary Care Setting

Jenny Sinclair, Isobel Cameron, Kenneth Lawton, Ian Reid
University of Aberdeen, Aberdeen, UK

The Problem - Despite an increase in the average duration of antidepressant treatment, little is known regarding the frequency of review of patients on long term prescriptions of antidepressants in UK primary care. This is demonstrated by the fact that the guidelines on the monitoring of long term courses of antidepressants are non specific.

The little evidence that exists suggests that many patients receiving long term antidepressant prescriptions are not adequately reviewed. A Scottish primary care study found that 37.5% of patients who remained on antidepressants for at least 18 months experienced an interval of more than 360 days between antidepressant review consultations.[1] Unfortunately only a small number of patients in this study were on antidepressants for at least two years resulting in a low yield of data concerning their long term monitoring.

This study aims to measure the frequency with which patients on long term courses of antidepressants (over two years) have their treatment monitored and to identify any demographic or patient clinical characteristics which are associated with the frequency of monitoring.

The Approach - A cohort of patients who have received antidepressants continuously for at least two years is being identified from four general practices which have been selected to yield a range of deprivation status. Medical records are then being examined in a random sample of patients. Data being collected include: age, gender and SIMD score of participants; start date, type, dose and indication of current episode of antidepressant therapy; number and dates of GP consultations and whether they include a documented review of antidepressant therapy; whether antidepressant prescription was acute or on repeats; dates of any dose or drug changes; previous receipt of antidepressant prescriptions; significant co-morbidities; severity of most recent depressive episode; substance misuse; receipt of non-pharmacological therapy; and referral to secondary care.

Findings - Data collection is currently underway. In order to determine whether frequency of monitoring differs with increasing treatment duration, the average duration between antidepressant reviews will be calculated for: the first three months; four to six months; seven to twelve months; and every year following the initiation of antidepressant therapy. Univariate and multivariate analyses will be carried out to assess hypothesised associations between demographic and patient clinical characteristics and the frequency of monitoring.

Consequences - The study will be using individual patient level data to provide a ‘snap shot' of how patients on long term courses of antidepressants are currently being reviewed in primary care. These results will aid in the refinement of guidelines on the monitoring of these patients.

•1. Quality in Primary Care. 2011; 19: 109-13

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SP146

There and back again: An observational study of blood pressure control along the stroke pathway.

Satinder Singh[1], James Sheppard[1], Richard McManus[0]
[1]University of Birmingham, Birmingham, UK,[2]University of Oxford, Oxford, UK

The problem: High blood pressure (BP) on admission to hospital with stroke is associated with increased risk of subsequent death and dependency. BP is elevated on the day of stroke admission but decreases even without antihypertensives during admission. However, there is little evidence to demonstrate the impact of primary care in BP control after stroke despite this being the clinical setting in which most patients will be monitored and managed. The aim of this study was to use linked patients records from across the whole stroke care pathway to establish pre/post event trends in BP and how these are influenced by management in primary care.

The approach: Patients presenting on hospital with stroke symptoms were recruited to the study. Primary care, Secondary care and ambulance records were examined for each patient and data regarding BP and antihypertensive prescription upon discharge were extracted.

Findings: We aim to collect data from approximately 350 patients recruited to the CLAHRC project between 01/11/2010 to 31/12/2011. Preliminary data from 81 patients shows that mean systolic BP rises from 147mmHg (pre-stroke) to 160mmHg (admission) but is significantly reduced to 140mmHg at the time of discharge from hospital. Post discharge, systolic BP increases to near pre-stroke levels when managed in primary care. Approximately 62/81 (77%) of patients were prescribed antihypertensive medication upon discharge.

Consequences: BP is highest at the time of admission for stroke and lowest upon discharge from secondary care. BP appears to rise after discharge from hospital when managed in the community. The reason for this is unclear; although discharge BP is not optimal it does suggest that hypertensive control is possible in patients but is not maintained in primary care. This raises the question of whether current BP targets for stroke patients in primary care should be lowered. Further data collection and analysis will reveal if better measurement and management is required in primary care immediately post discharge from hospital to prevent further cardiovascular events.

SP147

Local Health Communities for Diabetes in Ealing

Neha Unadkat[1], Raj Chandok[1,2], Paul Thomas[1]
[1]NHS Ealing, London, UK,[2]Ealing Clinical Commissioning Group, London, UK

The Problem - Ealing is a large borough in West London with a population of approximately 390,000. The prevalence of Diabetes is increasing - 6.5% in 2010 expected to increase to 9.9% by 2020 as a result of the ageing population, rise in obesity levels and a high Asian population.

Many general practices do not offer structured diabetes care. Consequently many diabetics are treated solely in hospital. Quality of care, as measured by HbA1C, emergency admission rates and retinal screening rates, is poor.

The Approach - In order to improve the situation, the Clinical Commissioning Group has developed a strategy for whole system improvements, based on the principles of **co-design** - connected sets of action learning events allow people from different backgrounds to collaborate for coordinated improvements across multiple organisational boundaries.

The central structure is a Local Health Community (LHC) – a geographic area of approx 50,000 population; it provides a **shared developmental space** where general practices and partner organisations integrate their contributions to health improvement.

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On behalf of their LHC, different practices lead different inter-organisational partnerships (e.g. for diabetes, heart failure, mental health…). The **Lead Practice for Diabetes** works with specialist diabetes colleagues to help all general practices within the LHC to provide basic (Tier One) diabetes care (including telephone support, shadowing and educational events). They also co-host Intermediate (Tier Two) clinics, for insulin initiation and diabetes complications. At Tier Two a range of other educational and coordinating functions are managed. Tier Three – hospital care – is reserved for in-patient care, and complex cases.

Monthly multidisciplinary groups meet to review the care of **risk-stratified patients and produce care plans** to pro-actively reduce risk of complications**.**

Three annual stakeholder workshops bring together a range of collaborators throughout the borough to review overall progress and agree the next stage of inter-organisational improvements – small, but synchronous changes throughout the whole system.

Lead practices for diabetes attend **educational workshops** at which they cross-pollinate ideas and learn the skills of community empowerment, alongside those leading similar initiatives.

Routinely-gathered data produce regular reports to reveal real-time impact of this activity on patient care, system cohesion and practitioner morale.

Findings - We have successfully piloted all aspects of this model to reveal that each is feasible and cost-effective. By October 2012 we will have experience of translating those discrete insights into a borough-wide innovation.

Consequences - The explosion in numbers of elderly people with multiple conditions makes it essential that primary care collaborates with other organisations. Without this the NHS will collapse as individual practitioners continue to try to do everything for everyone, often duplicating care and wasting resources through poor coordination. This project offers one way to do this, potentially reducing silo-operating that causes inefficiency and unhappiness.

SP148

Efficacy of sulfonylurea treatment at varying doses for glycaemic control in diabetes - a systematic review and meta-analysis

Anna Tochlin[1], Jennifer Hirst[1,2], Richard Stevens[1,2], Thomas Lung[3], Andrew Farmer[1,2]
[1]University of Oxford, Oxford, UK, [2]National School for Primary Care Research, Oxford, UK, [3]University of Sydney, Sydney, Australia

The Problem - Sulfonylureas are very commonly prescribed for oral treatment of diabetes. The relationship between the dose of sulfonylureas and the reduction in glycated haemoglobin (HbA1c) has not been investigated in a meta-analysis. We aim to combine head-to-head dose comparison trials in a meta-analysis to examine whether there is an effect of dose on HbA1c, and to characterise the nature of this effect.

The approach - Medline, Embase and the Cochrane Library of Registered Controlled Trials were searched and retrieved articles were screened for eligibility by two reviewers. Criteria for inclusion were randomised controlled trials of at least 12 weeks duration in which diabetes patients were treated with the same sulfonylurea, at two or more different doses. The dose needed to be kept constant throughout the length of the trial. Random effects meta-analysis was conducted comparing mean difference in change in HbA1c from baseline to the end of the trial between lower dose and higher dose sulfonylureas. Different sulfonylurea types were examined in subgroup analyses.

Findings - Searches retrieved 3531 articles, of which four trials of head-to-head comparisons of at least two different sulfonylurea doses were included. Each of the included trials reported results from 3 or more different sulfonylurea doses, giving a total of 9 comparisons (911 participants) of two sulfonylurea types: glipizide (2 trials, 5 comparisons) and glimepiride (2 trials, 4 comparisons). Pooling of results found no statistically significant evidence that higher doses of sulfonylurea reduce HbA1c more than lower doses (mean difference for glimepiride 0.16, [95% confidence intervals, CI -0.08 to 0.41], p=0.2, I^2=0%, and for

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glipizide, -0.12, [CI -0.50 to 0.25], p=0.51, I^2=23%, and the pooled mean difference 0.05, CI [-0.17 to 0.26] p=0.66, I^2=15%). Some trials used doses of sulfonylurea that would be considered high in both arms (according to the British National Formulary). We therefore conducted a sensitivity analysis excluding these trials and obtained similar results: glimepiride, mean differences 0.35 [CI -0.05 to 0.75] and glipizide, mean difference -0.10 [CI -0.58 to 0.39].

Consequences - This is, to our knowledge the first meta-analysis of sulfonylurea dose comparison trials. We have been unable to demonstrate a dose effect from this data. However, this result needs to be interpreted with caution as our analysis only included 4 trials. Moreover, there may be a therapeutic range within which an increase in dose does further reduce the HbA1c, which was not possible to examine in this review. Further trials of different sulfonylurea doses are needed to establish the dose effect of sulfonylureas.

SP149

Neuropathic pain in the community: more under-treated than refractory?

Nicola Torrance[1], Janice Ferguson[1], Ebenezer Afolabi[2], Michael Bennett[3], Michael Serpell[4], Blair Smith[1]
[1]University of Dundee, Dundee, UK, [2]University of Aberdeen, Aberdeen, UK, [3]University of Leeds, Leeds, UK, [4]University of Glasgow, Glasgow, UK

The Problem - Neuropathic pain (NeuP) has recently been categorised by the International Association for the Study of Pain (IASP) 'possible', 'probable' or 'definite', depending on access and responses to detailed neurological examination. . The best current estimates of NeuP prevalence come from studies using screening tools detecting pain with possible neuropathic features. Chronic pain with neuropathic features affects 7-8% of the general population. The proportion meeting the IASP classification of 'possible' NeuP is unknown. Similarly, the proportion experiencing significant, long-term NeuP, not responding to standard treatment are unknown. These 'refractory' cases are the most clinically important to detect, being the most severe, requiring specialist treatment. Previous research, involving an international Delphi survey of experts, defined, for epidemiological research: (1) neuropathic pain; and (2) when NeuP is 'refractory'. These defining features were incorporated into a questionnaire with the aim of exploring the epidemiology and impact in the general population.

The Approach - The study surveyed 10,000 individuals in five UK locations. Two GP practices in each locality generated a random sample of 1,000 adult patients who were mailed a questionnaire derived from the previous Delphi survey, and also containing demographic items, chronic pain identification, cause and severity questions, the SLANSS, use of pain medications, healthcare utilisation, SF-12 and EQ-5D. These data were combined to determine, for the first time in a general population study, the presence and characteristics of 'possible' and 'refractory' NeuP.

Findings - Completed questionnaires were returned by 4,541 respondents (corrected RR 47%), of whom 399 were SLANSS positive indicating the presence of chronic pain (CP) with neuropathic features and representing 8.9% of the study sample; 215 (53.9% of them) also reported positive relevant history and were categorised as 'possible' NeuP, and 98 (45%) also reported an 'adequate' trial of at least one NeuP drug. 'Possible' NeuP was associated with poorer HRQoL, more severe pain, and indices of deprivation, compared with non-neuropathic CP. The most refractory cases, as defined by the international expert definition, (positive SLANSS, relevant history, adequate trial of ≥four NeuP drugs, and (pain intensity ≥5/10 or poor HRQoL)) were represented by only 10 individuals in the study (0.2% of all respondents). More 'refractory' pain was associated with significantly poorer physical and mental health, and an increased number of visits to the GP.

Consequences - 'Possible' NeuP is relatively common, and associated with poor physical, psychological and social health. Although truly 'refractory' NeuP, as defined by international experts, is relatively uncommon, there is a severe detrimental impact on HRQoL. While a relatively low response rate prevents accurate estimates of prevalence, it is clear that there is a significant proportion of people in the community with persistent neuropathic-type pain that remains undertreated, with one or fewer adequate trials of medication.

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SP150

Conducting a Randomised Controlled Trial in Primary Care: Findings and lessons learnt from the erectile dysfunction and statin (EDS) Trial [ISRCTN66772971]

Daksha Trivedi[1], Michael Kirby[1], David Wellsted[1], Shehzad Ali[2], Geoffrey Hackett[3], Bernadette O'Connor[1], Sandra van Os[1]
[1]University of Hertfordshire, Hatfield, UK, [2]University of York, York, UK, [3]Good Hope Hospital, Birmingham, UK

The problem - Erectile Dysfunction (ED) is a common sexual health problem in men over forty years affecting their overall quality of life, and that of their partners. It is a marker for underlying vascular disease and consultation rates in primary care are low.

Aims:1. To evaluate the effectiveness and cost effectiveness of simvastatin on erectile function and quality of life in men aged forty years and over with ED

2. To highlight the experiences of participating practices in running the trial and the implications of the findings for practice and research

The approach - Men aged forty years and over with untreated ED and without significant cardiovascular risk were recruited from 10 general practices in East of England. 173 eligible men were randomised to double blind treatment with 40 mg simvastatin or placebo once daily for six months. Data were collected at baseline, mid trial and a final follow-up visit at 30 weeks.

Outcomes: erectile function, male ED-specific quality of life (MEDQOL), Euroqol (EQ-5D), cardiovascular risk and health service costs. We conducted a stakeholders' meeting at the end of the trial to discuss the trial processes, implications for patients and practice as well as sites' experiences of running this trial.

Findings - There was a non significant trend towards improving erectile function. (Mean change 1.28 versus 0.07, $z=1.1$, $p=0.27$), although a significant improvement in MEDQOL was observed (5% vs 2%, $z=2.09$, $p=.04$) in the simvastatin group compared with placebo Both 10 year cardiovascular risk and low density lipoprotein (LDL) were reduced. (CV risk, $z=-3.67$, $p<.001$; LDL, $z=-5.46$, $p<0.001$). The joint distribution of costs and QALY benefits indicates that the probability of simvastatin being cost-effective for willingness-to-pay thresholds of £20,000 and £30,000 is 86% and 83% respectively. Lessons learnt included the need for dedicated research nurses, and involving the primary care research network to support study processes at participating sites. Consistent input from the public involvement in research group provided added value.

Consequences

The subject of ED and its identification and management is an important topic, not managed optimally in both primary and secondary care. Our findings could influence urological and primary care practice and provide a basis for improving care for patient benefit by including questions on ED during routine consultations and relevant clinic protocols. Raising awareness of the links between ED and CVD provides an opportunity to provide lifestyle advice. Simvastatin improves sexual health-related quality of life. The impact on ED is uncertain but a positive trend in the study indicates that longer larger trials with more potent statins may show statistically significant improvement. Given the evidence from the trial, simvastatin has high probability (>80%) of being cost-effective in men with ED.

SP151

Under pressure: Can self-monitoring improve the detection of pre-eclampisa?

Katherine Tucker[1], James Hodgkinson[2], Clare Bankhead[1], Sheila Greenfield[2], Carl Heneghan[1], Khalid Khan[3], Louise Locock[1], Christine McCourt[4], Nia Roberts[1], Richard Stevens[1], Richard McManus[1]
[1]University of Oxford, Oxford, UK, [2]University of Birmingham, Birmingham, UK, [3]Barts and the London School of Medicine and Dentistry, London, UK, [4]City University London, London, UK

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The Problem - Raised blood pressure affects 10% of pregnancies worldwide, of which a significant proportion develop pre-eclampsia. Self-monitoring of blood pressure in pregnancy might improve detection whilst empowering women and reducing screening visits; therefore providing a cost effective intervention. This systematic review assesses current evidence for patient experience of self-monitoring, schedules for self-monitoring of blood pressure in pregnancy and thresholds for the diagnosis of both pre-eclampsia and gestational hypertension.

The approach - Medline and nine other electronic databases were searched for articles published up to, and including, February 2012 using a search strategy designed to capture all the relevant literature concerning schedules for self-monitoring of blood pressure in pregnancy, self-monitored blood pressure thresholds for the diagnosis of both pre-eclampsia and gestational hypertension and qualitative research regarding women's views on self-monitoring of blood pressure in pregnancy. Studies were included where the intervention included measurement of blood pressure in pregnancy without medical professional input. Both quantitative and qualitative data were extracted by two independent researchers and where appropriate combined with meta-analysis and meta-synthesis.

Findings - This systematic review is on-going. An initial scoping search has identified just over four hundred potentially eligible studies, and basic data have been extracted from some of these studies. While these have yet to undergo meta-analysis, preliminary analysis suggests that:

- Self-monitoring of blood pressure by pregnant subjects is feasible, popular with patients, and useful in the diagnosis and management of hypertension.
- Only one automated monitor is currently validated for use in both pregnancy and pre-eclampsia
- The establishment of clear diagnostic thresholds for home monitoring during the three trimesters of pregnancy using clinically validated monitors is a prerequisite for effective self-monitoring.

The final results will be presented at the meeting.

Consequences - This systematic review assesses current evidence for patient experience of self-monitoring, schedules for self-monitoring of blood pressure in pregnancy and thresholds for the diagnosis of both pre-eclampsia and gestational hypertension. The review provides information as to the number and timing of readings needed to provide the best estimate of blood pressure in terms of within subject variation and a best estimate of blood pressure compared to a reference standard by self-monitoring. This information will inform field work planned to assess self-monitoring blood pressure in pregnancy.

SP152

ExACT recruitment issues; lessons from a randomised trial

Jayne Tullett, Ellen Murray, Gail Heritage, David Fitzmaurice
University of Birmingham, Birmingham, UK

The Problem: Venous thromboembolism (VTE), is a common condition with an incidence of approximately 1 per 1,000 per annum causing both mortality and serious morbidity. EXACT aims to investigate the role of extending oral anticoagulation treatment for patients with a diagnosis of first, unprovoked VTE, to reduce the incidence of recurrence. Unprovoked VTE is defined as if there is no history within the previous 3 months of surgery, lower limb trauma, use of hormone therapy, pregnancy or significant immobility. The study has had problems recruiting patients for multiple reasons.

The approach: Eligible patients are identified from searches run in anticoagulation clinics in primary and secondary care, and followed up in primary care. Potential participants are given a postcard and a patient information leaflet in clinic. They are asked to return the postcard to the study team indicating whether they wish to take part and giving permission to contact their GP to check clinical eligibility. Exclusion criteria include: high risk of bleeding such as a previous major bleed; thrombocytopaenia; chronic renal failure; chronic liver disease; active peptic ulcer; patient currently on antiplatelet therapy; thrombophilia; diagnosis of active cancer.

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Findings: Recruitment rate is much lower than anticipated. Since July 2011 we have given out 585 postcards. We have so far recruited 44 patients with approx another 40 so far identified and due to be randomised into the study within the next 5 months.

Problems in recruitment have been due to:

- Delay in R&D approvals from NHS Trusts
- Treatment for VTE with long term warfarin is becoming more widespread (due to changes in clinical guidelines since study commenced)

- GP concern regarding long term warfarin due to of lack of awareness of current guidelines
- Patient concern with continuing warfarin and to attend warfarin clinics
- Resource issues within hospital clinics and GP practices in terms of time and room space to explain the study and gain consent
- Patients poor understanding at some sites of study literature.

Consequences: We have put the following processes in place

- Greater involvement from CLRNs to persuade NHS trusts to approve the study
- Provision of simplified postcards and patient information sheets that are more accessible to all populations.
- Education sessions at GP practices to discuss concerns about extended warfarin
- Research nurse attendance at anticoagulation clinics to support education of patients
- Extra sites to widen the recruitment area.

Interim recruitment data will be presented.

This presentation outlines independent research commissioned by the National Institute for Health Research (NIHR) under its Programme Grant for Applied Research Programme (Grant Reference RP-PG-0608-10073).

SP153

Would patients take a polypill to manage cardiovascular risk? An interview study

Satnam Virdee[1], Sheila Greenfield[1], Kate Fletcher[1], Jonathan Mant[0,2]
[1]University of Birmingham, Birmingham, UK,[2]University of Cambridge, Cambridge, UK

The problem - Cardiovascular disease remains the major cause of morbidity and mortality worldwide. It has been proposed that a single daily 'polypill' containing both blood pressure and cholesterol lowering agents at a fixed dose is given to all people over a specific age (55 years for example), with minimal monitoring. The polypill may also have a role in treating people with existing cardiovascular disease as it may lead to better adherence, particularly given that many such people are not currently being treated as intensively as guidelines recommend. It is estimated that a polypill strategy could prevent 80% of stroke and 88% of ischemic heart disease events, with a low risk of adverse effects although this is yet to be formally tested.

Successful implementation of a polypill strategy would require considerable engagement from patients, but to date there has been no research on the attitudes of patients' towards the use of the polypill. Here, we examine patients' attitudes towards taking a polypill for cardiovascular disease prevention.

The approach - 17 patients across nine general practices in Birmingham were purposively sampled on a range of criteria (such as age, gender, number of medications, cardiovascular risk level and socio-economic status) in order to allow a maximum variety of responses to emerge. Participants took part in a semi-structured interview using a topic guide developed from the literature. Interviews were audio taped and transcribed verbatim. The data was analysed using Framework software. A grounded theory approach was used to guide sampling, data collection and analysis.

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Findings- Patients had serious reservations about taking the polypill for primary prevention, considering it unnecessary with the potential for serious adverse effects. However, they were much more positive about its use for secondary prevention due to its convenience, although concerns about adverse effects remained. Monitoring was deemed essential; hence there was considerable scepticism towards minimal monitoring.

Consequences- The findings suggest that if the polypill is to be successfully implemented, patients would need to be convinced of the population approach to preventive medicine. Furthermore, it may be necessary to allow a degree of monitoring particularly in the early stages of implementation.

If the polypill receives positive acceptance from the population, its successful implementation could have a huge impact on the prevention of cardiovascular disease in the Western world.

SP154

The repeat prescription: an emblem of trajectory work in long term conditions.

Patricia Wilson
University of Hertfordshire, Hatfield, UK

The Problem - Policies in England aimed at long term conditions (LTC) service provision have moved at a rapid pace over recent years. However, despite the flow of policies aimed at improving the coordination and patient experience of LTC services, there is a lack of evidence of the impact on the everyday lives of patient and carers receiving LTC services. This evidence gap is significant as it is patient experience where the whole system of health care is revealed.

The approach - This paper will present findings from the second phase of a project which explored the patient experience of 4 models of coordinated LTC services within 2 PCTs. The previous phase had explored the characteristics of each service through semi-structured interviews with 15 providers and commissioners. The aim of second phase was to capture the patient experience of each service. Semi-structured interviews were conducted with 34 patients and carers receiving care from one of 4 coordinated services - diabetes; respiratory; neurological; or community matron services. Interviews were recorded, transcribed and thematically analysed.

Findings - Patient experience varied considerably between the different services. Many patients and carers reported poorly coordinated care; however these perceptions appeared to be ameliorated if they perceived that clinicians had adequate communication via IT systems. One of the most common themes from patients was the work involved in organising their repeat prescription. For the majority of patients this had to be done on a monthly basis despite their condition being relatively stable. This could involve numerous visits to the GP surgery and pharmacy, drugs not being in stock and medications running out at different times. The clear exceptions to this were patients receiving care within a case management model, where much of the work around organising and obtaining prescriptions was undertaken by the community matron.

Consequences - From the patient perspective, services could be placed on a continuum of perceived seamlessness. However, for the majority the less coordinated a service was the more work the patient and carer had to undertake themselves. Apart from the community matron model, it was through the patient's own effort that the service becomes more seamless in their experience. Emblematic of this "trajectory" work was the effort required to ensure prescribed medication was available in the home. It appeared that this work was increased if repeat prescriptions were required every month rather than a longer period. While there is substantial previous research on medicine management and wastage, some evidence on patient satisfaction with community pharmacy services, in contrast there is only limited evidence on patient experience of repeat prescribing and dispensing. This study suggests that further research is required on the relationship between patterns of repeat dispensing and patient management of medications.

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SP155

Using individual patient data (IPD) analysis to investigate the influence of expectation and preference for treatment on the course of back pain symptoms: results and challenges

Majid Artus, Danielle Van der Windt, Kelvin Jordan, Elaine Hay
Keele University, Keele, Staffordshire, UK

The problem: Patient expectation and preference for treatment are examples of factors that can influence response to treatment in patients with non-specific low back pain (NSLBP). However, the evidence on their role is inconclusive and even contradicting. We used IPD from existing trials to investigate the influence of preferences and expectations on response to treatment in patients with NSLBP and encountered several practical and methodological challenges. IPD is considered to be the gold standard for meta-analysis and examining patient related characteristics.

The objectives: To investigate the influence of patient expectation and preference on changes in pain and disability in patients receiving primary care treatments for NSLBP.

The approach: IPD of recent trials on NSLBP that included assessment of patient expectations regarding treatment or preference for treatment were sought. Outcome measures included pain severity (VAS scale or equivalent) and functional disability (RMDQ or ODQ). Initial within-trial analyses were performed, followed by meta-analysis of results. First, the association of these factors with changes in pain or disability outcome scores was studied regardless of the type of treatment provided. Next, the interaction of expectations and preference with the type of treatment was explored.

The findings: IPD of six clinical trials conducted within the last 10 years in a total of 2744 participants were obtained. Adjusted within-trial analyses and pooled analyses showed no evidence for the influence of expectation or presence of preference on the course of NSLBP symptoms. There was a trend but not significant evidence that patients who received their preferred treatment showed larger improvements compared with those who did not.

The consequences: The results would suggest that patient expectation and preference do not influence the course of back pain symptoms. However, the lack of evidence could also be explained by significant challenges associated with using IPD. These include the difficulty in obtaining the relevant datasets, variability in measures to assess or present prognostic factors and outcomes, and varying methods of analysis. The superiority of using IPD compared with published aggregated data in meta-analysis is largely limited by these challenges. These will be addressed in depth.

SP156

"What suits one person doesn't suit another": clinicians' treatment beliefs in low back pain

Alex Dima[1], Jason Ngui[1], George Lewith[1], Paul Little[1], Rona Moss-Morris[3], Nadine Foster[2], Felicity Bishop[1]
[1]University of Southampton, Southampton, UK, [2]Keele University, Keele, UK, [3]Institute of Psychiatry, King's College London, London, UK

The Problem - Clinical guidelines recommend several treatment options for low back pain (LBP), including medication, exercise, manual therapy, and acupuncture. We investigated, using qualitative methods, how clinicians think about these treatments and make clinical decisions in relation to LBP.

The Approach - We conducted semi-structured interviews with 40 clinicians from public and private sector conventional and complementary clinics (24 women, aged 25-63 years, clinical experience 2-40 years). We analysed data inductively to identify themes.

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Findings - For clinicians, treating LBP requires flexibility and individualization. Clinicians discussed a complex process of matching individual patients (perceived in terms of their medical history, clinical presentation, personal preferences, concerns, and psychosocial context) to treatments (viewed in terms of mechanisms of action, efficacy, risks, and counterindications). Treatment decisions were made within the context of clinical practice principles, professional identities and boundaries, and local organisational constraints.

Consequences - Achieving concordance between clinicians' and patients' illness perceptions and treatment preferences would need to consider the processes that shape clinicians' perceptions and preferences. Clinical guidelines are just one of many influences on clinicians' views and should be better contextualised within usual practice in order to improve uptake and implementation.

SP157

Is there a pathway between pain, sleep problems and depression?

Paul Campbell, Nicole Tang, John McBeth, Martyn Lewis, Chris Main, Peter Croft, Hannah Morphy, Kate Dunn
Keele University, Stoke-on-Trent, UK

The problem - Musculoskeletal pain is very common in the general population. While many people recover quickly and have no further difficulties, musculoskeletal pain can lead to a number of other problems, such as depression. Depression has been shown to be a barrier to recovery from chronic pain. One theoretical model suggests a pathway between pain and the development of depression through sleep problems, but their role in this pathway has not been investigated. This study prospectively tested the hypotheses that: i) having pain increases risk of sleep problems, ii) incident sleep problems in those with pain increase the risk of a new onset of depression, iii) pain interference plays a role in this pathway.

The approach - Participants were identified from a prospective cohort study of a community sample of adults aged 50 and over (n = 13,986). Participants were mailed health questionnaires at baseline and 3 years and 6 years later. The questionnaires contained the same measures of sleep problems, depression and pain interference at all time points, plus baseline information on age, gender, marital status, employment status, smoking, alcohol consumption and body weight (as possible confounders). Cox regression was used to determine whether the risk of sleep problems was higher among those who indicated the presence of pain at baseline. Further analysis was then carried out in those who reported pain at all time points (chronic pain cohort) to determine whether a new episode of sleep problems (in year 3) increased the risk of a new episode of depression (in year 6). Additional mediation analysis was carried out to investigate the role of pain interference on this pathway.

Findings - Presence of pain almost doubled the risk of sleep problems, with 45% of those with pain presence reporting sleep problems compared to 24% of those without pain; relative risk (RR) 1.91, 95% confidence interval (CI) 1.68 to 2.18. Among the chronic pain cohort, having a new episode of sleep problems at year 3 more than trebled the risk of a new episode of depression at year 6, with 10% of those who reported sleep problems developing depression compared to 3% of those without sleep problems; RR 3.21, (95% CI 1.78 to 5.79). Mediation analysis showed that pain interference played a significant but relatively minor role in the pathway between sleep and depression.

Consequences - Having pain increases the risk of sleep problems, which in turn increases the risk of developing depression. Previous clinical research has shown that the reduction of sleep problems can reduce the impact of pain and alleviate feelings of depression. Clinicians treating patients with chronic pain may wish to consider options that involve addressing sleep problems, in addition to their primary focus of pain management.

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SP158

Gout and risk of subsequent vascular disease: a retrospective cohort study

Lorna Clarson, Samantha Hider, John Belcher, Edward Roddy, Christian Mallen
Keele University, Keele, UK

The Problem - Gout is the most prevalent inflammatory arthritis in the UK, largely managed in primary care. Epidemiological studies have demonstrated an association between gout and cardiovascular disease, although whether this relationship is independent of the traditional vascular risk factors such as hypertension, hyperlipidaemia and obesity commonly found in gout patients is unclear, and our previous research has demonstrated that gout patients are infrequently screened for these cardiovascular risk factors in primary care. The association between gout and cerebrovascular and peripheral vascular disease has not been examined.

The Approach - Data from the UK General Practice Research Database were examined for 8400 patients diagnosed with gout between 1997 and 1999, matched with 39,869 age, gender and practice matched controls. All had no previous history of vascular disease. Incident cardiovascular, cerebrovascular and peripheral vascular disease was identified in the following ten years from the baseline consultation for gout, or a matched “index date” equivalent to the date of the baseline consultation for controls. Potential confounders were adjusted for. Data were analysed using Cox Proportional Hazard Modelling to produce unadjusted and adjusted hazard ratios. Results were also analysed by gender and age subset.

Findings - After adjustment, gout was associated with an increased risk of any vascular disease HR 1.28, 95%CI[1.22-1.33], any cardiovascular disease HR 1.29, 95%CI[1.21-1.37], angina HR 1.30, 95%CI[1.13-1.49], any cerebrovascular disease HR 1.21, 95%CI[1.12-1.30], stroke HR 1.21, 95%CI[1.08-1.35], TIA HR 1.28, 95%CI[1.14-1.44], and peripheral vascular disease HR 1.47, 95%CI[1.27-1.70]. This risk was greatest in women, any vascular disease HR 1.50, 95%CI[1.38-1.62], any cardiovascular disease HR 1.56, 95%CI[1.39-1.75], angina HR 1.52, 95%CI[1.18-1.94], any cerebrovascular disease HR 1.38, 95%CI[1.22-1.57], stroke HR 1.45, 95%CI[1.21-1.74], TIA HR 1.46, 95%CI[1.20-1.77], and peripheral vascular disease HR 1.80, 95%CI[1.38-2.36]. However, no significant association was found between gout and myocardial infarction.

Consequences - Gout patients (especially women) are at an increased risk of cardiovascular, cerebrovascular and peripheral vascular disease. This may reflect a reluctance in female gout patients to consult due to stigma attached to the disease, and therefore lost opportunities to minimise their risk, or may reflect the more traditional view that men are at greater risk from vascular disease and are therefore screened and managed more aggressively. These findings further underline the serious health implications that a diagnosis of gout can have and the importance of optimum management of the condition and support the introduction of screening for vascular risk factors and aggressive risk factor management in all patients diagnosed with gout, particularly women.

SP159

General practitioners' attitudes, beliefs, and expectations of sickness certification in relation to back pain and work

Jemma Cowen, Annette Bishop, Danielle van der Windt, Tom Sanders
Keele University, Staffordshire, UK

The Problem - The process of sickness certification can be frustrating and difficult for GPs (Breen et al 2007) as they have to establish patients’ expectations and agenda in the consultation, as well as facing constraints with time, the attitudes of the patients’ employers, and the challenge of addressing patients’ psychosocial problems (Breen et al 2007). In the consultation GPs ask about work and recognise the value of return to work (Pransky et al 2002) but they lack training in work issues (Wynne-Jones et al 2010, Pransky et al 2002).

It has been recommended that future research should focus on the attitudes and beliefs of the GPs involved in the sickness certification process (Wynne Jones et al. 2010).

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Aim: To assess the attitudes, beliefs and expectations of the general practitioner about the sickness certification process and their beliefs surrounding their patients' workplace when treating those with back pain.

The approach - Telephone interviews were conducted with GPs to explore their perceptions, beliefs and experiences of sickness certification. There were 11 interviews conducted with GPs from across the country. The GPs were asked questions surrounding sick certification in relation to back pain, what happens during a usual consultation with patients presenting with back pain and also whether the GP explores issues regarding the patients workplace and other work related factors.

The completed audio-recordings were transcribed verbatim. The NVivo software package was used to facilitate the data analysis. A coding framework was developed which was then applied to the remaining data sets in order to derive themes and concepts, using the constant comparative method, and to determine fit and relevance.

Findings - There were five key themes that arose from the data: a) differentiating between 'genuine' and 'non-genuine' cases; b) perceptions of the 'fit note' and its benefits and drawbacks; c) physical and psychological obstacles to recovery; d) the GP's relationship with employers; and e) the role of the GP in fitness to work assessments and sickness certifications.

Consequences - Early return to work is important in terms of physical and mental health of patients (Waddell and Burton 2006), as well as to reduce costs (Black & Frost, 2011). The results of this interview study highlight GPs' attitudes and beliefs regarding health and work, which may influence sickness certification and either facilitate or delay the patient's return to work.

Identifying ways of amending attitudes that delay return to work would be valuable in reducing the burden of work absence due to back pain.

SP160

Identifying patients with non-indexed conditions in primary care databases A worked example using chronic pain

Jens Foell, Dawn Carnes, Kate Homer, Stephanie Taylor
Queen Mary University of London, London, UK

The Problem - A huge part of the workload in primary care is dedicated to psychological conditions and pain. Psychoeducational work including education for effective self-management strategies is often delivered in group-settings. Identifying the appropriate people to participate in these treatment strategies is challenging. Group-searches in GP databases to identify the target population are complex searches. There are no single search criteria in the primary care information infrastructure. Whether it is recruitment into trials via GPs or novel ways of delivering care in the communities beyond the face-to-face consultation, selecting groups based on the information entered in databases is a considerable task.

The approach - We used an exploratory, iterative approach. The first phase involved consultations with IT specialists, practice managers and GPs to gain an understanding about the processes and issues of electronic coding. In the second and third phases, we determined the most appropriate search terms and strategies. In the final phase we tested, modified and re-tested the search strategy until it appeared appropriate under the given circumstances.

Findings - Our initial snowballing strategy established that practitioners orientate themselves in a variety of ways. Some information is searchable; other information relates to the pattern of entries and is technically not searchable. We identified three main search 'domains': prescribing, electronic coding and attendance. We found the most useful identifier for chronic pain was the use of repeat medication. Wide variations in coding terms were seen between practices and individuals. Understanding coding cultures is necessary to inform electronic searches. In the case of chronic pain, searching on repeat medication for analgesia, low dose antidepressants and carefully selected coding terms captured most relevant patients.
Consequences (What it means/why it matters?)

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Our work highlights opportunities and challenges in the use of coded data for secondary work. Areas of work without agreed definitions for coding and added value judgements about the entered information must be seen with knowledge of the circumstances in which information has been entered. These circumstances include IT factors, organisational factors and individual factors. We also identified how specialised the labour between administration, different systems of information technology and the human factor of clinicians and patients is. As a consequence of the new contract in 2004 a lot of primary care work relies on information handling. In our specific case we managed to generate an adequate search strategy which served the purpose it was designed for. On the way we became aware of the ethical dimensions of coding and the interests of the stakeholders of the therapeutic relationship, reflected in the electronic care record.

SP161

Identifying positive evolutionary selection in vitamin D related genes

Val Kuan, Adrian Martineau, Chris Griffiths, Robert Walton
Barts and The London School of Medicine and Dentistry, LOndon, UK

The problem - Vitamin D is essential for both musculoskeletal and immune function however a large proportion of people in the UK will be deficient in winter months and genetic factors may predispose to low levels.

It may be possible using genetic tests to identify those at greatest risk and offer targetted prophylaxis. Recent genome-wide association studies implicate genes involved in vitamin D transport (GC) , hydroxylation (CYP2R1) and cholesterol synthesis (DHCR7), however the precise genetic variants linked to deficiency have not yet been fully identified.

We reasoned that genes giving higher levels would have been positively selected by evolutionary forces and that finding these genes might be a way of identifying more precisely the genetic variations related to deficiency.

The approach - Phased genotype data from 1986 chromosomes from ten populations were obtained from the HapMap3 dataset. FST statistics, which measure differences in allele frequencies between populations, were calculated. Long Range Haplotype analysis evaluated the extent of linkage disequilibrium surrounding an allele for its given frequency.

Findings - FST values DHCR7 between European and African populations were above the 97th percentile. A core haplotype in the DHCR7 region showed high relative extended haplotype homozygosity compared to other haplotypes of similar frequency on Chromosome 11 (99th percentile) in Northeast Asian populations.

Consequences - DHCR7 show evidence of positive selection in European populations more than 70,000 years ago, and in Northeast Asian populations 30-50,000 years ago. Genetic markers in this gene could be used in a diagnostic test to identify people at high risk of deficiency for intensive prophylaxis.

SP162

Socioeconomic prognostic factors in low back pain primary care attenders: a prospective cohort study

Louisa Mander, Nadine Foster, Elaine Thomas
Keele University, Staffordshire, UK

The Problem - Simple mechanical low back pain (LBP) is a common reason for primary care attendance, a significant cause of disability and major cause of work absence with substantial economic cost. The time-course of LBP can be viewed as a chronic problem with relative pain free periods interspersed with acute exacerbations and recurrences. For some this leads to chronic disabling pain. Several studies have focused on determining baseline psychological prognostic factors that predict poor future outcome for LBP patients. Findings from one prospective cohort study of LBP attenders in eight general practices by Foster et al indicated a poor outcome at six months was predicted by low self-efficacy, low personal control and viewing

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LBP as a chronic problem with perceived serious health consequences. A lower socioeconomic position (SEP) has been associated higher levels of morbidity for many diseases. Previous studies have shown an association between higher levels of LBP related disability and poorer SEP.

The Approach - Using the same prospective cohort study as Foster et al data was analysed to determine if any elements of baseline SEP predicted outcome at six months. Markers of SEP included employment status, current/most recent job title to guide socioeconomic class (SEC), educational attainment and deprivation score. A good outcome, as before, was defined as a 30% or more reduction in Roland Morris Disability Questionnaire (RMDQ) at six months compared to initial presentation.

The Findings - There were significant associations between SEP and RMDQ at zero and six months. A lower SEP was related to a higher level of disability. Using risk ratios, having a manual occupation, no qualifications and being unemployed predicted a poorer outcome at six months. The risk of a poorer outcome was highest in those who were already unemployed due to lower back pain. Attenders who were employed but not performing their usual duties due to LBP had the lowest risk of an adverse outcome. Using multivariate analysis, the only SEP factor found to be significant still was being unemployed, with being unemployed due to LBP being most significant. A final multivariate analysis also included psychological factors. Being unemployed (especially if due to LBP) and viewing the LBP as chronic were the only significant prognostic factors remaining.

The Consequences - The implications of this work impact the management of LBP attenders in primary care. Findings can help inform the development and timing of targeted interventions for those with the greatest risk of a poorer outcome from LBP. In addition, preventing patients from becoming unemployed due to low back might be achievable by advising reduced work duties until their current exacerbation is resolved.

SP163

Development of the Fibromyalgia Age and Self reported Symptom Total Score (FASST score).

Kieran McGlade, Moya McAleavy, Michael Stevenson, Aubrey Bell
Queen's University, Belfast, UK

The Problem - Fibromyalgia syndrome (FMS) is a common condition with a prevalence between 0.5 and 5% and represents a high proportion of new patients at secondary care rheumatology clinics.

Studies have shown that, following a diagnosis of fibromyalgia, there is a reduction in healthcare costs (e.g. referrals and investigations), and a decrease in quantity of symptoms.

The Approach - A previous pilot questionnaire study of new patients attending rheumatology clinics suggested certain variables strongly predictive of a diagnosis of FMS. The purpose of this study was to develop the questionnaire for use as a diagnostic aid in the primary care setting.

The design was a case control study sending the questionnaire to patients with a known diagnosis of fibromyalgia (the cases) and also to patients with rheumatoid arthritis (the controls) to determine whether the questionnaire could distinguish between these conditions.

Sixteen general practices were recruited and patients identified by practice staff from the computerised morbidity records.

Chi squared tests and odds ratios were used to establish those questionnaire items associated with a diagnosis of FMS. This exercise produced four different scores: the 'Symptom Count', 'Severity/frequency score', 'Number of painful areas' and the Hospital Anxiety and Depression Score. Logistic regression was used to eliminate confounding and resulted in a two factor model ('symptom count' and 'number of painful areas') which was used to formulate a refined version of the questionnaire. This was then assessed to establish the sensitivity and specificity if used as diagnostic test.

Findings - Four hundred and forty three of 1416 questionnaires were returned (332 FMS and 112 RA). No significant associations were found with respect to educational attainment, employment status or other socio-

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demographic parameters. Fibromyalgia respondents had higher mean scores on the Hospital Anxiety and Depression scales.

A simple formula was constructed from the data, weighting those over 50 years of age and combining total number of symptoms experienced and total number of painful areas. Plotting the range of possible scores against specificity and sensitivity gave an optimal cut-off score of 45 (specificity 94.5% and sensitivity 44.8%). The area under the corresponding ROC curve was 0.837.

Consequences - Since the intention was to develop a tool that would allow patients with fibromyalgia not to be referred, high specificity rather than a high sensitivity was important. It would be better to continue to refer some patients with Fibromylagia than fail to refer a patient with rheumatoid arthritis.

Clearly blood results and clinical assessment are important and could be incorporated in the diagnostic aid. Further trials are needed but it would appear that this could be the basis of a practical computerised diagnostic aid for this important condition.

SP164

Incident consultation to general practice for ischaemic heart disease is moderated by musculoskeletal pain: Prospective findings from the North Staffordshire Osteoarthritis Project (NorStOP)

Ibrahim Natalwala, Ross Wilkie
Keele University, Arthritis Research UK Primary Care Centre, Newcastle-under-Lyme, Staffordshire, UK

The problem - Ischaemic heart disease (IHD) is a leading cause of death and a common reason for consultation to general practice. The incidence of consultation for IHD increases with age and known risk factors include diabetes, hypertension and hyperlipidaemia. Musculoskeletal pain is also common in older adults and is associated with poor outcomes, including physical disability and mortality. The aim of this prospective study was to test the hypothesis that musculoskeletal pain in addition to known risk factors increases the likelihood of consultation for IHD in adults aged 50 years and over.

The approach - A population-based prospective cohort study of adults aged 50 years and over, the North Staffordshire Osteoarthritis Project was conducted. Subjects were those who consented to medical record review, completed a questionnaire and were free of IHD at baseline (n=5503). Primary care records were used to identify the presence of risk factors (diabetes, hypertension and hyperlipidaemia) prior to baseline and incident consultation for IHD in the 6 years after baseline. Musculoskeletal pain was measured at baseline by self-report on a manikin and was classified into those reporting no, regional and widespread pain (American College of Rheumatology criteria). Logistic regression was used to examine (i) the associations between incident consultation for IHD and risk factors and musculoskeletal pain and (ii) the moderating effect of musculoskeletal pain on the association between the risk factors and incident consultation for IHD.

The findings - The mean age of subjects was 63.7 (standard deviation: 9.1 years) and 56.3% were female. 1178 had consulted for hypertension, 186 for hyperlipidaemia and 254 for diabetes in the 2 years prior to baseline. 317 (5.8%) consulted for ischaemic heart disease in the 6 years following baseline. Each risk factor was significantly associated with incident consultation for IHD (e.g. hypertension; Odds ratio: 1.5 (95% confidence interval: 1.2, 2.0)).

1942 (35.7%) had no pain, 2110 (38.8%) had regional pain and 1382 (25.4%) had widespread pain. Regional and widespread pain were associated with incident consultation for IHD (e.g. widespread pain (1.4 (1.1, 2.0)). The odds for incident consultation for IHD in those with risk factors significantly increased in the presence of pain (i.e. the odds for incident consultation for IHD in those with hypertension and widespread pain was 2.5 (1.6, 3.9)).

Consequences - Pain moderates the relationship between hypertension, hyperlipidemia and diabetes and incident consultation and highlights the need for early identification, improved treatment and prevention of pain. Further work will explore potential mechanisms for these findings to strategies that may facilitate the prevention of IHD.

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SP165

Pain Medication Use in Patients presenting to a Musculoskeletal Clinical Assessment and Treatment Services (CATS): results from the SAMBA study.

Angela Nelmes, Irena Zwierska, Samantha L Hider, Edward Roddy, Elaine M Hay
Arthritis Research UK Primary Care Centre, Keele University, Keele, Newcastle-under-Lyme, Staffordshire, UK

The Problem: Musculoskeletal conditions are common, accounting for 10% of primary care consultations and a significant proportion of referrals to secondary care. Pain is the most important concern for many patients, and current guidelines suggest a stepwise approach to medication. The musculoskeletal services framework advocates the use of Clinical Treatment and Assessment Services (CATS) at the primary-secondary care interface for such patients. The aim of this study was to investigate analgesic use in patients presenting to a CATS service.

The approach: Data was collected as part of the Staffordshire Arthritis, Musculoskeletal and Back Assessment study (SAMBA) (1): a 12-month prospective cohort study of patients referred to CATS clinics. A postal questionnaire collected data concerning analgesic use in the previous 4 weeks, (both prescribed and over the counter), along with age, gender, pain severity (VAS : 0-3= no or mild pain, 4-6= moderate pain and 7-10= severe pain) and pain location (upper limb or neck, lower limb, spinal or multisite). Data were analysed using logistic regression (SPSS version 9).

Findings: Medication data was analysed from 2166 completed questionnaires (response rate 73%). Mean age was 51.1 years (SD 15.3). 1238 (57%) were female. 1964 (91%) of patients were taking pain medication for pain, of which 1599 (74%) of patients had prescribed medication. Patients taking medication were more likely to be female (OR 2.4, 95%CI 1.8,3.2), aged over 65 (OR 2.1, 95%CI 1.4,3.3), have spinal (OR 4.2, 95%CI 2.5,6.9), multisite (OR 4.8, 95%CI 2.1,11.3) or have severe pain (OR 5.8, 95% CI 3.8,8.7). 1079 (49.8%) of patients were taking paracetamol, 1086 (50.2%) codeine, 303 (14%) tramadol, and 1334 (61.7%) traditional non-steroidal anti-inflammatory drugs (NSAIDs). Older patients (>65 years) were less likely to use traditional NSAIDs than those < 45 years (OR 0.4, 95%CI 0.3-0.6). Few patients were taking strong opiates (55, 2.5%), the use of which increased in those with severe pain (OR 7.4, 95%CI 2.8-24.3), and spinal pain (OR 4.0, 95% CI 1.7-8.9). Use of neuropathic modulators such as amitryptiline was infrequent (134 (6.2%)) but was more likely in those with spinal (OR 3.8 95%CI 2.3-6.4) or multisite pain (OR 3.2, 95%CI 1.8-6.0).

Consequences: Although prescribing for musculoskeletal pain is generally concordant with published guidelines, nine percent of patients presenting to CATS clinics are taking no analgesia, with 17% taking only over-the-counter medications. It remains possible that optimising analgesia in primary care for some of these patients could reduce the need for referral to CATS interface clinics.

References:

(1) Roddy et al. Study protocol. The Staffordshire Arthritis, Musculoskeletal, and Back Assessment (SAMBA) Study: a prospective observational study of patient outcome following referral to a primary-secondary care musculoskeletal interface clinic. BMC Musculoskeletal Disorders. 2010: 11:67.

SP166

Is glucosmaine of any use in chronic back pain?: A systematic review of randomised control trials

Reena Sodha[1,2], Naveethan Sivanadarajah[4,3], Mahbub Alam[5,3]
[1]University of East Anglia, Norwich, UK, [2]GPVTS Trainee, East of England Deanery, Chelmsford, UK, [3]Royal National Orthopaedic Hospital, Stanmore, UK, [4]University College London, London, UK, [5]Imperial College London, London, UK

The Problem: The use of glucosamine as a treatment for symptomatic osteoarthritis (OA) remains controversial. The aim of this review is to ascertain whether the use of oral glucosamine influences symptoms or functional outcomes in patients with back pain thought to be related to spinal OA.

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The Approach: Searches were performed by two reviewers independently up to March 2011 on Medline, AMED, CINHAL, Cochrane and EMBASE with subsequent reference screening of retrieved studies. In addition grey literature was searched via opensigle. Included studies were required to incorporate at least one of the Cochrane Back Pain Review Group's (CBRG) outcome measures as part of their design. Trials with participants over 18 years with a minimum of 3 months of back pain, in combination with radiographic changes of OA in the spine were included. Studies were rated for risk-of-bias and graded for quality.

Findings:148 studies were identified, after screening and meeting eligibility requirements 3RCTs (n=309) were included in the quantitative synthesis. The review found there was low quality but generally no evidence of an effect from glucosamine on function, with no change on the Roland Morris Disability Questionnaire (RMDQ) score in all studies. Conflicting evidence was demonstrated with pain scores with 2 studies showing no difference and one study with a high risk-of-bias showing both a statistically and clinically significant improvement from taking glucosamine.

Consequences: Based on current research, there is insufficient evidence to recommend the use of oral glucosamine for spinal OA, however any effect glucosamine may exert cannot be completely excluded due to the low quality of existing research.

Theme: Research methods

SP167

MRC START Collaboration: Developing a science of recruitment for RCTs

Jonathan Graffy[1], Peter Bower[2], Jo Rick[2], Anne Kennedy[2], Chris Salisbury[3], Sandra Eldridge[4], David Collier[4], Shaun Treweek[5], Paul Wallace[6], Peter Knapp[7]
[1]University of Cambridge, Cambridge, UK, [2]University of Manchester, Manchester, UK, [3]University of Bristol, Bristol, UK, [4]Queen Mary, University of London, London, UK, [5]University of Dundee, Dundee, UK, [6]University College London, London, UK, [7]University of York, York, UK

The idea: Systematic Techniques for Assisting Recruitment to Trials (START) is an MRC funded feasibility study. We aim to develop ways of testing innovative recruitment methods across multiple RCTs, to rapidly expand the evidence base on recruitment, and to explore effects of the interventions in different contexts.

Why it matters: RCTs are critical to evidence-based practice, but recruitment problems pose challenges for funders, academics and research networks. There is little evidence to support recruitment. A recent systematic review[1] identified only 14 studies where different recruitment methods had been tested by 'nesting' them in real RCTs. The review concluded '*It would be better if more researchers included an evaluation of recruitment strategies in real trials*'.

Next steps: We aim to recruit 10 - 12 RCTs in primary care and community settings. We will 'nest' a rigorous test of methods of recruitment in these trials by randomising patients to different recruitment interventions. The interventions we propose to test are:

- Enhanced participant information sheets
- Multi-media patient resource

The eventual aim of START is to make 'nested' trials of recruitment methods routine in the UK.

Risks? Recent research[2] identified ..."*a host of potential scientific, logistical and ethical obstacles"* ...to nested trial methodology. A recurring theme was the concern that the nested study could jeopardize the host trial. A further challenge is that the results of single trials of nested recruitment interventions may not generalise because they are influenced by the context in which the study is done. MRC START addresses this by systematically testing interventions across several RCTs.

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Other issues that we have identified are:

Implementation - Will investigators agree to randomize to different methods?

Practical aspects of delivering the interventions - How can we get potential recruits to view multimedia resources?

Ethical - Will the additional complexity of a nested study increase the burden on patients? Will this impact differently on different patient populations?

Research process - Will the nested study impact on the progress of the host trial? Could nesting modify the type of participants recruited? Could certain interventions even reduce recruitment?

Management burden - Will additional procedures impact on the workload of trial managers?

[1] Treweek S et al. Strategies to improve recruitment to RCTs. *Cochrane Database of Systematic Reviews* 2010;Issue 1 Art. No.:MR000013.

[2] Graffy J, Bower P, Ward E, Wallace P, Delaney B, Kinmonth AL, Collier D, Miller J. Trials within trials? Researcher, funder and ethical perspectives on the practicality and acceptability of nesting trials of recruitment methods in existing primary care trials BMC Medical Research Methodology 2010, 10:38 http://www.biomedcentral.com/1471-2288/10/38

SP168

Initial evaluation of the Calgary Cambridge Global Consultation Scale: a novel consultation rating scale

Jenni Burt[1], Natasha Baron[1], Gary Abel[1], John Benson[1], Jonathan Silverman[1], John Campbell[2], Martin Roland[1]
[1]University of Cambridge, Cambridge, UK,[2]Peninsula Medical School, Exeter, UK

The Problem - Good patient experience is central to high quality clinical care, as recently highlighted by NICE guidance and quality standards on improving patient experience. This includes competency in relevant communication skills by staff, and enabling patients to discuss their beliefs and concerns, understand relevant treatment options, and share decision making. However, the measurement of patient experience in primary care to assess the achievement of these standards requires further development. Whilst there are a number of rating scales to assess doctor-patient consultations (e.g. MAAS-Global; Four Habits Coding Scheme; Roter Interaction Analysis System (RIAS)), few of these evaluate the quality of the entire consultation, or are validated for use in the UK primary care setting. In response to this, we have developed the Calgary Cambridge Global Consultation Scale, based on the Calgary-Cambridge consultation guide, the most commonly used medical communication teaching tool in the UK.

The approach - The Calgary Cambridge guide to the medical interview contains 56 key skills. The Calgary Cambridge Global Consultation Scale distils these to 12 global domains, including gathering information, building the relationship, achieving a shared understanding, and shared decision making. The aim of this study was to determine the initial reliability and internal consistency of the scale. We used digital video recordings of 23 GPs consulting with 2 simulated patients each (46 recordings in total). Each consultation was scored by four trained evaluators.

Findings - There are three sources of variation in the overall rating of each consultation by a single rater that can be identified using this experimental setup, namely; variation between doctors, variation of a doctor's performance between consultations, and variation in rater's scores of each consultation. The variance associated with each source of variability will be estimated using a 3-level hierarchical random effect regression model (rater nested within consultation nested within doctor). From this we will estimate the statistical reliability of the scale when used with either four raters to asses a single consultation or with a single rater (inter-rater reliability). We will also estimate the reliability for assessing a doctor's performance for various combinations of number of raters and number of consultations.

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Consequences - This study is an important step towards the validation of the Calgary Cambridge Global Consultation Scale, demonstrating the initial utility of this scale as a method for rating the 'whole' of a consultation in a UK setting. Use of the scale as an evaluation tool could identify areas for improvement within a doctor's consultation, to be addressed with tailored education using the Calgary-Cambridge guide.

SP169

The importance of intervention fidelity in primary care complex intervention pragmatic randomised controlled trials

Jane Dyas[1], Fiona Togher[2], A. Niroshan Siriwardena[2]
[1]*NIHR Research Design Service for the East Midlands, Nottingham, UK,* [2]*University of Lincoln, Lincoln, UK*

The problem: In primary care pragmatic randomised controlled trials of complex interventions are common. However, the very fact that they are complex and pragmatic means that there is plenty of scope for the interventions not to be delivered to participants in accordance with the researchers' intentions. This may be due to a number of factors including unknown confounders for example the practitioners may deviate from the instructions of the protocol. If such intervention fidelity is poor it reduces the research communities' confidence in whether the outcomes being measured are due to the intervention rather than these other confounding factors.

The approach: We investigated intervention fidelity as part of a pilot study of an educational intervention delivered to general practice teams. This was designed to improve the primary care management of insomnia in the ten minute consultation with patients. It was done to ensure that if we progressed to a definitive trial we would have confidence that we could ensure that the internal validity of our results would not be compromised as a result of hidden variables that the researchers did not control for.

Method: We conducted telephone interviews with patients and practitioners participating in the intervention arm of the trial to explore fidelity. Qualitative template analysis was undertaken using a priori themes that had previously been identified as important domains for health behaviour researchers to consider in the process of identifying intervention fidelity. These were: "adherence to the delivery of the intervention", "patients received and understood intervention" and "patient enactment".

Findings: There was poor intervention fidelity in all of the domains that we explored. In particular if the intervention protocol was not adhered to by the practitioner then patient receipt, understanding and enactment levels were consequently reduced. Because a qualitative approach had been used we were able to understand why the deviations from the original intentions had occurred and we have produced recommendations to improve the intervention fidelity, and for the monitoring processes that need to be in place during the definitive trial.

Consequences: Establishing intervention fidelity is an important component of pilot studies to give confidence to funding bodies, particularly NIHR, that the findings reflected in randomised controlled trials report reproducible interventions and valid outcomes. This is important for panels to know whether they will be demonstrating value for money in their funding decisions.

SP170

Do GPs reasons for participating in trials influence their ability to recruit patients? Self-determination theory and the impact of motivation on patient recruitment rates.

Kate Fletcher[1], Helen Lester[1], Jonathan Mant[2]
[1]*University of Birmingham, Birmingham, UK,* [2]*University of Cambridge, Cambridge, UK*

The Problem - Patient recruitment to randomised controlled trials (RCTs) can be problematic. RCTs often recruit slowly, and many fail to reach targets. Reasons for low patient accrual are poorly understood and few methods to improve recruitment are evidence based. It is possible that clinicians' motivations for participating in trials impact on their ability to enrol patients. Three surveys of research active clinicians indicate that

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personal reasons for participating are associated with patient recruitment. To date there have been no studies that have examined why or how motivations may be influential.

This study examined the motivations of General Practitioners (GPs) who recruited patients to the Birmingham Atrial Fibrillation Treatment of the Aged (BAFTA) study, and looked for motivational differences between those who recruited a high proportion of eligible patients and those who recruited less successfully. Self-determination theory (SDT) was used to understand why differences may be important. SDT argues that tasks that are motivated from within, (intrinsic) result in better work outcomes than tasks that are externally motivated (extrinsic).

The Approach - Semi-structured interviews were carried out with 17 GPs who recruited patients into the BAFTA study between 2000 and 2004. GPs were purposefully selected to represent a range of characteristics including age; practice size; year of entry into BAFTA; high and low recruiters. Analysis was carried out using a modified grounded theory approach. Framework was used to code, manage and analyse the data.

Findings - GPs who recruited higher proportions of eligible patients cited multiple reasons for taking part, including: benefits of participation to patients or the practice; relevance of the trial; interest in research. Improved care for patients was also often emphasised. Their decision to participate was multi-faceted with various intrinsic and extrinsic factors contributing to the decision. GPs recruiting less well gave fewer reasons for taking part and no intrinsic motivations were identified. They cited the low risk of BAFTA, or the 'nicely worded' invitation letter as reasons for participation.

Consequences - These findings have shed some light on why and how clinician motivation for participation in research studies may impact on recruitment rates. Researchers could potentially use this information to amend study invitation letters or training days to highlight areas that encourage intrinsic motivations. Further work in this area needs to be undertaken in order to identify whether it is possible, or appropriate, to improve recruitment by influencing clinicians' motivations for participation.

SP171

Socio-demographic and clinical characteristics related to attrition in an observational cohort study: linkage of self-reported and primary care medical record data

Rosie Lacey, Kelvin Jordan, Peter Croft
Arthritis Research UK Primary Care Centre, Keele University, Keele, Staffordshire ST5 5BG, UK

The problem - Attrition is a major issue in cohort studies, which could lead to inaccurate estimates of the outcome of interest, biased estimates of associations, and loss of power due to reduced sample size. However such concerns are rarely put to empirical test. Linkage of self-report data to primary care medical records allows assessment of factors associated with attrition, and its impact on study results, beyond the standard comparison of responders and non-responders. The specific objectives were to determine the association of the study outcome, socio-demographics and primary care consultation patterns with attrition.

The approach - Prospective cohort study set within the North Staffordshire Osteoarthritis Project (NorStOP), UK. A general population sample from six general practices aged 50 and over (n=19,818) were sent a postal health questionnaire; the study focus was joint pain. Respondents were asked for consent to view medical records and followed up at 3- and 6-years. Responders at each time-point were compared on socio-demographics and self-reported health status. Primary care consultation prevalence of chronic and non-chronic problems and prescriptions for analgesics for responders was compared to that obtained from a database of medical records of all patients registered at 13 practices in North Staffordshire (Consultations in Primary Care Archive (CiPCA)).

Findings - 13,986 subjects responded at baseline (adjusted response 71%), 7,275 at 3-years and 4,756 at 6-years. Those who responded at baseline only were older than those with complete follow up (mean age 69 v. 63 years), more likely to be from lower social class, not to have further education after leaving school and have higher rates of self-reported co-morbidity (58% v. 49%). However, prevalence of self-reported joint pain was similar (75% v. 78%).

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10,432 (75%) of baseline responders consented to record review. Preliminary analysis shows that, compared to patients at the CiPCA practices, responders at each time point had a similar age-sex standardized rate of consultation for joint pain prior to the baseline survey, and between survey time points. They had lower consultation prevalence for specific diagnosed chronic disease (e.g. diabetes) but similar prevalence for non-chronic problems (e.g. upper respiratory tract infection). Prescriptions for analgesia were lower for survey responders compared to the CiPCA population but NSAID prescribing was higher for survey responders. Levels of association of analgesia prescribing with chronic co-morbidities were similar in CiPCA to NorStOP baseline responders.

Consequences - Non-participants at all three time-points had different socio-demographics and more co-morbidity. However, those remaining in the cohort were representative of the general population with respect to prevalence and health care use for joint pain and for episodic illness, but less so with respect to more severe chronic disease. Primary care consultation data offer important opportunities to explore and adjust for selective response to follow-up in cohort studies.

SP172

A cross-validation of self-reported and GP-recorded asthma

Rosie Cornish, John Macleod, Andy Boyd, Raquel Granell, John Henderson
University of Bristol, Bristol, UK

The problem - The Avon Longitudinal Study of Parents and Children (ALSPAC) is a large birth cohort with detailed biological and behavioural data collected from before birth through to late adolescence (http://www.bristol.ac.uk/alspac). Approximately 14,000 pregnant women were enrolled into the study between 1991 and 1992. Data were collected during their pregnancies and the children resulting from these pregnancies have been assessed regularly throughout their childhood and adolescence, via questionnaires and measurements taken during clinics.

ALSPAC has already investigated a number of different environmental and genetic factors associated with asthma among children. However, misclassification is often a problem in studies using self-reported data[1]. In terms of asthma, for example, the presence of symptoms such as wheezing and breathlessness are central to its diagnosis in children[2] but in self-reported data wheezing due to viral respiratory infections cannot always be distinguished from wheezing due to other causes. In addition, there is not a definitive set of criteria used to diagnose asthma; doctors assign patients with a low, intermediate or high probability of having the disease[2]. This could easily lead to over-reporting in a questionnaire. Misclassification will have inevitably led to some degree of bias in the estimates of the effects of different exposures on asthma outcomes in ALSPAC.

The approach - As part of a larger study to explore the potential of data held in electronic primary care records to address issues of attrition, data completeness and misclassification in prospective observational studies, subjects taking part in ALSPAC also appearing in the General Practice Research Database (GPRD) were identified and their records linked in order to compare self-reported asthma and its symptoms to GP-recorded diagnosis and other related information. Firstly, the extent of agreement between GP diagnosis and self-reports of asthma was assessed. Secondly, ALSPAC symptom and physiological data from subjects with and without a GP diagnosis were used to generate sets of characteristics which could be used to validate self-reported asthma across the whole cohort. Further, by using treatment data, asthma severity was examined in relation to these sets of characteristics.

Findings - The data analysis for this project is ongoing and the results will be presented at the conference.

Consequences - The findings will be discussed in terms of their implications in terms of past and ongoing analyses in ALSPAC of factors associated with the development of asthma as well as their applicability to other studies using self-reported data on asthma and its symptoms.

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SP173

An Evaluation of the Role of Trial Recruitment Software in Primary Care: A Case Study piloting Trial Torrent software recruitment to the Children with Eczema, Antibiotic Management (CREAM) study

Kathryn McCullough, Vishnu Madhok, Frank Sullivan
University of Dundee, Dundee, UK

The problem - Randomised controlled trials are recognised as the gold standard for evaluating the effectiveness of interventions, however trial recruitment often experiences delays, increased fund requirements and study failure. Despite effective recruitment methods, barriers to enrolling an adequate and representative sample of participants still exist. Within primary care reported obstacles to recruitment include time constraints, memory and complexity of research protocols. These suggest that methods minimising GP effort, while maintaining patient privacy and ethical approval are necessary to improve recruitment in this setting. Medical informatics has the potential to bridge this gap due to universal implementation of electronic medical records across the UK. Database searches are shown to increase recruitment to certain studies but are limited to chronic conditions. Development of software incorporated into the electronic medical record allows identification of potential participants with acute conditions during routine consultations. This study aimed to evaluate the role of Trial Torrent, one such software package, according to the eligibility criteria of the CREAM study.

The approach - A mixed method approach was employed. Trial Torrent software was installed at eight participating practices for four weeks and one GP from each was trained in using this software. Lab-based observations and questionnaire responses were obtained, in addition to semi-structured interviews exploring GPs' views and opinions after practice-based piloting. A descriptive study design was implemented to determine accuracy of patient identification, both retrospectively and during live running. Text files generated by Trial Torrent were compared to manual searches of patient records for 2500 consultations of children in the CREAM age range. These data were used to calculate sensitivity and specificity of patient identification, along with patient response rate and proportion of consultations within the CREAM age range for eczema.

Findings - Initial lab-based observation and questionnaire data from three GPs demonstrated favourable responses to Trial Torrent, namely its ease of use and elimination of the need to remember the trial. A number of errors were noted in the software at this initial stage, necessitating modifications before further lab and practice-based testing are implemented. Future results await more lab-based training, software installation and data collection.

Consequences - Software, such as Trial Torrent, could be universally used to eliminate the aforementioned barriers to clinical trial recruitment. It must, however, be user-friendly and appropriately programmed to the needs of each study. This project forms the framework for exploring the effectiveness of these tools in other settings to ensure efficacious physician-software interaction, identification of all potential participants and optimisation of recruitment. Applying this recruitment modality more broadly to all clinical trials will ultimately enhance evidence-based medicine and patient care.

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SP174

Stimulated recall using video: getting under the skin of the doctor-patient consultation in primary care.

Zoe Paskins, Gretl McHugh, Andy Hassell
Arthritis Research UK Primary Care Centre, Keele, UK

The Problem - Researchers may understand the doctor-patient consultation by studying descriptions of it provided by its participants and/ or its natural occurrence. However, participants' descriptions of previous events are limited to those that can be remembered, subject to recall bias and furthermore, accounts given may not be representative of an individual's true beliefs or actions. Combining naturalistic study of the consultation using videorecordings with participants' accounts may enable a richer understanding of the consultation. This may be enhanced by using the video to prompt recall within an interview context: 'stimulated recall' (VSR). This method has been used extensively in educational and counselling research, and to a lesser extent in medicine and nursing. This abstract reports a systematic literature review aimed at characterising the strengths and weaknesses of VSR in studying primary care consultations.

The approach - A systematic literature search was conducted of seven databases, combining keywords in four areas: consultation; primary care; video and qualitative research. Relevant papers were also identified by cited reference searches and checking reference lists. Titles and abstracts were screened by two authors and full text papers underwent data extraction and quality assessment using a tool including items from the CASP qualitative appraisal checklist.

Findings - 2124 papers were identified by the initial search, 24 of which fulfilled inclusion criteria. 12 papers reported VSR with patients, and 16 with GPs. Research questions mostly addressed facets of the doctor-patient relationship, decision making or communication although one study considered disease specific discussions. Techniques of VSR varied greatly, from showing the video and asking for comments with no interview, to one viewing of the video followed by a separate semi-structured interview. Advantages of using VSR included being able to explore decision making in detail and to explore routine parts of the consultation that might otherwise be overlooked, particularly if the researcher was also a healthcare professional ('shared conceptual blindness'). Few studies reported difficulties with the method, and only one reported the acceptability of the method to participants. Few studies reported their VSR technique in detail, considered ethical debates around VSR or commented on the effect of the video on participants' behaviour.

Consequences - This review demonstrates the utility of VSR to address a range of research questions around the doctor-patient consultation and reach parts other methods can't reach. Researchers need to take care to consider their methods and to justify their particular technique of VSR; in particular, the choice of either neutral verbal prompts or questions during video playback is likely to effect the responses elicited and must be aligned to the research question. This work has informed the design of a study using VSR to understand the osteoarthritis consultation in primary care.

SP175

Identifying patient and clinician priorities for research: treatments for eczema

Matthew Ridd[1], Jonathan Batchelor[2], Tessa Clarke[2], Margaret Mcphee[2], Jane Ravenscroft[2], Sandra Lawton[2], Sally Crowe[3], Amanda Roberts[2], Amina Ahmed[2], Anjna Rani[2], Marjorie Howard[2], Margaret Cox[4], Kim Thomas[2]
[1]School of Social & Community Medicine, University of Bristol, Bristol, UK, [2]Centre for Evidence Based Dermatology, University of Nottingham, Nottingham, UK, [3]James Lind Alliance, London, UK, [4]National Eczema Society, London, UK

The Problem: Until now there has been no explicit attempt to identify the treatment uncertainties in eczema that are important to patients with eczema, their carers and the clinicians treating them. This is problematic because they are likely to have different priorities to researchers and funders. In conjunction with the James

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Lind Alliance, we undertook a priority setting partnership (PSP) to identify uncertainties about treatments for eczema and to prioritise them for future research.

The approach: Patients/carers, their representatives, and clinicians were invited to submit questions relating to uncertainties about how eczema should be treated. Questions not relevant to the treatment of eczema were removed and additional uncertainties from the Database of Uncertainties about the Effects of Treatments (DUETs) were added. Under the guidance of the steering group, researchers sifted and, where appropriate, combined question into "indicative uncertainties". To ensure that none of the uncertainties had been answered by previous research, we checked against previously published systematic reviews of treatments for eczema. Indicative uncertainties were refined into a standard question format and in a second survey participants chose the 10 that were the most important to them. We used these rankings to create a list of priority topics, based on frequency order.

Findings: In the consultation stage, 493 participants (244 patients, 155 carers, 132 health professionals, 31 other) made 1071 submissions. Of these, 718 were unique questions which were grouped into 65 "indicative uncertainties". Thirteen of these were single submissions, so were removed. In the ranking stage, 505 participants (399 patients/carers and 106 HCPs) took part. Four uncertainties were identified in the top 10 of both the patients/carers and the HCPs, hereby referred to as "shared uncertainties". In view of the imbalance in composition of the respondents (80:20 in favour of patients/carers) and in order to ensure adequate representation of HCPs' priorities, the steering group decided to prioritise the next top 5 uncertainties from each group, in addition to the shared uncertainties, creating a "Top 14" list of treatment uncertainties.

Consequences: Some treatment uncertainties submitted during this exercise were answerable using existing evidence, which suggests that some evidence is not being disseminated effectively. We will highlight these "unrecognised knowns" to relevant organisations so that they can be added to future updates of their patient information resources. All the uncertainties will be added to UK DUETs and details of the top priority areas will be disseminated to relevant funding bodies, to stimulate research in these priority areas.

Theme: Women and children

SP176

Combination Treatment for Attention-Deficit/Hyperactivity Disorder (ADHD) in the United Kingdom (UK)

Javaria Mona Khalid[1], Shreya Dave[1], Mireia Raluy[1], Anthony Lawson[2], Virginia Sutton Haynes[2], Christopher Bushe[3]
[1]United BioSource Corporation, London, UK, [2]Eli Lilly and Company, Indianapolis, IN, USA, [3]Eli Lilly and Company Ltd, Basingstoke, UK

The Problem: Current treatment guidelines in the United Kingdom (UK) recommend monotherapy as first-line treatment for Attention-Deficit Hyperactive Disorder (ADHD). Combination pharmacological treatment with approved ADHD medications is recommended only after there has been an inadequate response to monotherapy; however, information is lacking about the use of combination therapy in UK primary care. The objective of this retrospective cohort study was to describe combination therapy use in the treatment of ADHD among children and adolescents aged 6 to 17 years.

The Approach: The General Practice Research Database was used to identify 2,286 patients, registered with a general practitioner, who have a diagnosis for ADHD and have received a first-time (index) prescription for methylphenidate, atomoxetine, or dexamfetamine, between 1/1/2005 and 09/27/2009. Patients were followed until 9/27/2010. In addition to demographic and clinical characteristics, treatment patterns were compared among patients who received monotherapy and those who received combination therapy. T-tests were used to compare continuous variables and chi-square tests were used to compare categorical variables across groups.

Findings: Out of 2,286 patients, 2,184 (95.5%) remained on monotherapy, while only 102 (4.5%) had combination therapy during follow-up treatment. Eighty (78.4%) of those patients who had combination

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therapy started on methylphenidate, 21 (20.6%) started on atomoxetine, and 1 (1.0%) began on dexamfetamine. Demographics and clinical characteristics were not significantly different in patients who remained on monotherapy, compared to those who received combination treatment. Combination therapy was used as a second-line or later treatment option. In the 12 months following their first prescription, 34.1% of monotherapy patients and 22.5% of combination patients discontinued any ADHD prescription (chi-square test, $p<0.05$).

Consequences: Combination pharmacological therapy is not common practice, and its use is reserved as a second-line or later treatment in UK primary care; however, these data may not be fully representative of the standard of care for ADHD, as co-management of patients is likely to occur in a specialist setting. Preliminary results suggest patients on combination therapy may be less likely to discontinue treatment; however, additional analyses are needed to investigate the treatment effects of combination therapy.

SP177

"Recognising the sick child in amongst the just unwell": Health practitioner prescribing decisions in consultations for acute RTI in children

Jeremy Horwood, Christie Cabral, Alastair Hay, Jenny Ingram
University of Bristol, Bristol, UK

The Problem: Respiratory tract infections (RTIs) in children present a major problem to primary health care because: they are common and costly; there is clinical uncertainty regarding diagnosis and management; and the overuse of antibiotics leads to bacterial resistance. This study investigated what influenced Health Care Practitioners (HCPs) prescribing decisions and how they communicated with parents about management of RTI in children.

The approach: Semi-structured interviews were conducted with 28 HCPs, including 22 GPs and 6 nurses (who could prescribe or dispense antibiotics). HCPs were recruited from 6 general practices and 1 walk-in-centre in Bristol. Purposive sampling was used to capture maximum variation in views and experience. Practices serving deprived, affluent and median areas were selected and HCPs with a range of length of service and paediatric experience were recruited. Interviews were audio-recorded, transcribed and thematically analysis using NVivo8. Independent double coding was carried out for a sub-set of transcripts to ensure robust analysis.

Findings: Most HCPs decided to prescribe based on a combination of signs and symptoms which usually included how ill the child appeared, chest signs, high or persistent fever, and long duration of symptoms without improvement. HCPs were confident in diagnosis and management for the majority of minor and severe RTIs. However, there were intermediate cases about which they were uncertain and for whom HCPs often chose to prescribe rather than risk a serious RTI developing. Parent pressure for antibiotics was uncommon except in populations of recent immigrants who held different health beliefs and greater expectation of antibiotics for RTIs. Most HCPs felt able to manage parental expectations and pressure for antibiotics by eliciting and addressing concerns and communicating the reasons for non-antibiotic treatment decisions. However, when pressed, a common strategy was to offer a delayed prescription, sometimes as way of increasing the parent's confidence to manage the RTI and sometimes conceding to the parent's demand. HCPs also mentioned multiple consultations within the same illness episode as increasing their concern about a patient and making them more likely to prescribe. Some HCPs stated that they would be more likely to prescribe if they were not confident that a parent would re-consult if a child deteriorated or if they were pressured for time.

Consequences: This study suggests that HCPs are prescribing antibiotics when there is uncertainty and when RTIs are more severe without knowing which are caused by bacteria. More detailed information about the natural history and trajectory of RTIs in children, especially those of intermediate severity, would support HCPs to identify those cases which would benefit from antibiotics and therefore reduce antibiotic prescribing. This study is part of the NIHR funded TARGET programme and will inform the development of an intervention to improve prescribing practice for RTIs.

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SP178

A new approach to the intractable problem of eczema: The Genetics of Childhood Eczema in Primary Care.

Vishnu Madhok[1], Sara Brown[1], Sue Lewis-Jones[2], Mark McGilchrist[1], Stephen Greene[1], Irwin McLean[1], Frank Sullivan[1]
[1]University of Dundee, Dundee, UK, [2]NHS Tayside, Dundee, UK

The Problem: Atopic conditions affect a third of the population and its first manifestation is usually eczema. The gene encoding for Filaggrin (FLG) has been identified amongst the Epidermal Differentiation Complex, a cluster of genes on chromosome 1q21. Mutations in this gene cause ichthyosis vulgaris, a dry scaly skin condition where there is marked impairment of epidermal barrier function. Individuals with FLG null-mutations are at high risk of developing atopic eczema. While mutations in the Filaggrin gene have been identified in up to 50% of European patients with atopic eczema the genetic variants of other epidermal structures warrant further consideration in primary care where most care is provided to the more heterogeneous population than those studied previously.

The approach: As part of a team from primary care, genetics, dermatology and paediatrics, we received funding from the Chief Scientist Office to conduct a pilot study by identifying, recruiting and involving children with eczema from general practice in Tayside. Scottish Primary Care Research Network staff have identified patients based on Read codes present in the GP electronic record and prescribing data from the Health Informatics Centre by practice and information from prescribing and diagnoses within primary care, with our population sample being children (<16) who present with mild eczema in primary care. A cohort of practices agreed to anonymised access to potential patients. The parents of these children were invited by a letter sent from their GP. Following identification of patients per practice and their willingness to enter the trial an appointment was given to see a paediatric research nurse. After obtaining consent and a baseline questionaire a genetic sample (saliva) was taken. Phenotypic and Genotypic data from the baseline visit was entered to a database and linked in HIC with the participants' clinical data from primary care, and hospital care, laboratory data, hospital discharge data, routine mortality data and encashed prescription data.

Findings: So far we have identified 1234 potential subjects in 10 practices. 94 attended for baseline assessment and agreed to record linkage. From this preliminary results in this pilot study we have established that children from primary care with eczema are willing to be participate in a community based study (results to date indicate recruitment rates between 1 & 15%), with participation rates varying from being higher where the patients are seen by Paediatric Research Nurses and are recruited closer to their home. In addition we have further established secure and confidential mechanisms to link genetic information to phenotypic data derived from SMR and routine electronic primary care clinical records.

Consequences: Following this study we would like to consider the feasibility of creating a larger unique research resource to further investigate the Genetics of Childhood Eczema in Primary Care.

SP179

The burden of bronchiolitis in UK general practice: a population-based birth cohort study using the General Practice Research Database (GPRD)

Joanna Murray[1], Mike Sharland[2], Alex Bottle[1], Vasa Curcin[1], Azeem Majeed[1], Sonia Saxena[1]
[1]Imperial College London, London, UK, [2]Paediatric Infectious Diseases Unit, St George's Hospital NHS Trust, London, UK

The Problem: An estimated 3% of the UK birth cohort are hospitalised with acute bronchiolitis annually, which is typically caused by respiratory syncytial virus (RSV). To date, most studies have examined risk factors for hospitalisation with severe bronchiolitis but evidence quantifying the full spectrum of disease from mild to severe cases is limited and there are no reliable estimates of the incidence in the community. With the prospect of a vaccine against RSV infection currently undergoing phase III trials, we urgently need to improve our understanding of the epidemiology of bronchiolitis. The aim of this study was to estimate the incidence of

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acute bronchiolitis and the characteristics of infants presenting with it in primary care and to examine how it is managed by general practitioners (GPs).

The Approach: We developed a retrospective cohort of infants from birth to age 1 year using anonymised electronic primary care records for all infants born in 2003, registered at one of 600 general practices across the United Kingdom (UK), who submit data to the General Practice Research Database (GPRD). We identified consultations with an acute bronchiolitis diagnosis code during the first year of life and examined the characteristics of infants presenting with bronchiolitis. We also identified any records of referral from primary to secondary care or prescriptions from GPs, which were associated with a bronchiolitis consultation.

Findings: Our birth cohort included a total of 80976 infants with complete follow-up from birth to age 1 year (after excluding 1885 babies who died or transferred to a different general practice before their first birthday). Among our cohort 3543 infants had at least one general practice consultation with a diagnosis of acute bronchiolitis, during their first year of life. The total number of bronchiolitis consultations among the cohort was 4707, 58.1 per 1000 infants under 1 year (95%CI 56.5-59.8). The mean age of infants diagnosed with bronchiolitis in a GP consultation was 5.5 months (SD=3.2). In total there were 1700 prescriptions associated with a bronchiolitis consultation (36.1%). Among the most common prescriptions were antibiotics (39.9%), beta agonists (36.5%) and antipyretics or analgesics (11.3%).

Consequences: Our study highlights the significant burden of bronchiolitis in the UK. Over 4% of the birth cohort was diagnosed with acute bronchiolitis during a primary care consultation, typically at the age of around 6 months. Antibiotics and inhaled corticosteroids were widely prescribed by GPs to infants presenting with bronchiolitis, despite no evidence base for their use. Quantifying the burden of RSV infection-associated illness has important implications for both passive and future active immunisation policies.

SP180

Does crèche care impact negatively on infants' health?

Tom O'Dowd[1], Dervla Kelly[1], Udo Reulbach[1]
[1]Trinity College Dublin, Dublin, Ireland,[2]HRB Centre for Primary Care Research, Dublin, Ireland

The Problem: The number of infants in centre-based care has been growing steadily in recent years as more women are working outside the home. A number of studies have demonstrated that out of home day care and especially crèche attendance is one of the major environmental risk factors for respiratory and gastrointestinal illnesses in infants. The prevalence increase of infectious diseases may be partially related to the type of child care.

The approach: This study presents findings from the first wave of data collection from the Growing Up in Ireland longitudinal cohort study. The sample of 11,134 nine month old infants was randomly selected from the national Child Benefit Register. Data collection consisted of questionnaires completed with the primary caregiver addressing the main type of childcare (in-home-parental, in-home-minder, out-of-home minder, crèche / centre-based) and infant's health. Pearson's Chi Square tests and crude and adjusted logistic regression analyses were used for the analysis which was based on statistically reweighted data.

Findings: The risk for children with crèche / centre-based care as main type of childcare of attending a health professional in the past 9 months was significantly increased (all $p<0.001$) for snuffles / common cold (crude odds ratio: 1.31 [95% CI: 1.16 - 1.48]), chest infection (1.87 [1.65 - 2.11]), ear infection (1.75 [1.52 - 2.02]) and asthma / wheezing (1.60 [1.33-1.92]) when compared to children with other form of child care. After adjustment for socioeconomic and parental risk factors, the relative risk associated with crèche care for an infectious disease was even higher.

Consequences: A strong association between centre-based care and prevalence of infectious disease in infants was observed. Given high rates of antibiotic prescribing in infant infectious diseases, this is of great concern.

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SP181

Genetic factors affecting complications of preeclampsia – a HuGeNet field overview and meta-analysis

Golnessa Hamedi, Rachael Eyitayo, Manpreet Sahemey, Fiona Fong, Shakila Thangaratinam, Robert Walton, Khalid Khan
Department of Primary Care and Public Health, Barts & The London School of Medicine and Dentistry, London, UK

The Problem - Pre-eclampsia is a leading cause of maternal and perinatal morbidity and mortality. Although much research has centred on this clinical phenomenon, the aetiology still remains unclear. Twin and family studies support a familial contribution to pre-eclampsia and suggest that common alleles act as 'susceptibility genes', some of which may affect severity of disease and risk of complications. If pregnancies at high risk could be identified by DNA analysis, early obstetric intervention could reduce the chance of illness and death for both mother and child.

Objective - To evaluate the maternal and paternal genetic effects on complications of preeclampsia.

The approach - We performed a HuGeNet (Human Genome Network) systematic field review of all relevant studies in major databases. Studies (including twin and family studies) that evaluated the genetic effects on pre-eclampsia were included. We included evaluations of maternal and paternal gene variations in pregnant women with outcomes of maternal and foetal complications. Meta regression will be used to develop a predictive model including genetic and conventional risk factors. The predictive value of this model will be tested in prospective studies.

Findings - We identified 45 studies by literature search. Each study was ranked independently according to quality. Common genes associated with development of pre-eclampsia were ACE, eNOS, VEGF, HLA-G, MTHFR, leptin receptor, Factor V Leiden and TNF alpha. There are two main complications that came up in our research, the first is the maternal complication HELLP syndrome, the second is IUGR, a fetal complication of pre-eclampsia.

Consequences - A novel, multivariate diagnostic test to identify high risk pregnancies would be of great practical value for management decisions in pregnant women with pre eclampsia.

SP182

Women's attitudes towards preconception exploration of family history of inherited conditions: a qualitative study

Helena Tuomainen, Mandeep Bhoday, Laura Cross-Bardell, Sarah Rodgers, Nadeem Qureshi, Joe Kai
University of Nottingham, Nottingham, UK

The problem - There is growing interest in developing more comprehensive preconception health care to improve family health outcomes in primary care. Some aspects of enquiry, for example about lifestyle or use of folic acid, may be familiar to women. However, exploring family history of inherited conditions, to identify carrier status and be fully informed about reproductive genetic risk, may be more sensitive and unfamiliar. In 2011, the Human Genetics Commission reported no ethical, legal or social principles that would make preconception genetic testing within population screening unacceptable in the UK. We explored women's attitudes towards enquiry about family history of inherited conditions as part of wider preconception health assessment in general practice.

The approach - Nine focus groups were conducted with 'naturally occurring' groups of women recruited and purposefully selected from community and faith-based settings in the Midlands, to include diverse communities at greater risk of haemoglobin disorders (sickle cell and thalassaemia), the commonest recessively inherited disorders in the UK. Forty-one women of reproductive age (18-45 years) of white, Pakistani, Indian Punjabi, Caribbean, African and other mixed ethnic origin took part. Half of respondents (19) participated in follow-up semi-structured telephone interviews, which enabled them to express themselves

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without the constraints of group discussion. Audio-recorded data were transcribed and analysed using qualitative research principles, with both the individual and group being the focus of analysis.

Findings - Attitudes and understanding about exploration of preconception family history were varied, reflecting individuals' experiences and backgrounds. The notion was quite alien to some women. Over a third of our sample had direct or indirect experience of an inherited condition (mostly carriers of sickle cell or thalassaemia or had relatives or friends with such histories) and these women were more positive though still had varying, and sometimes poor understanding of the implications of a family history and its relevance to future health care. Women recognised being able to plan and be prepared for possible reproductive genetic risk as an argument for reviewing their family history preconceptionally and to consider carrier testing, but regarded this from different angles. Some women were concerned about the potential impact of carrier testing and knowledge of carrier status, fearing negative consequences on relationships with others, heightened anxiety, and stigmatisation.

Consequences - Discussion of family history of inherited conditions may be new to women, with some recognition of its benefits but potential to arouse several concerns. The greater incorporation of this area of enquiry as but one part of routine assessment of the range of preconception risk factors may help. However careful attention to raising communities' and women's awareness and knowledge about carrier testing prior to pregnancy will be needed if the potential of this aspect of preconception assessment is to be realised.

SP183

A qualitative exploration of the pathway to diagnosis of type 1 diabetes in children from the perspective of the child and family

Juliet Usher-Smith[1], Matthew Thompson[2], Fiona Walter[1]
[1]*University of Cambridge, Cambridge, UK,* [2]*University of Oxford, Oxford, UK*

The Problem - Type 1 diabetes (T1D) is one of the commonest endocrine diseases in children with an estimated 65,000 children world-wide under 15 years developing the disease each year, and the global incidence in children continuing to increase at a rate of 3% per year. As with other serious illnesses in children, however, differentiating the rare child with T1D from the large number with similar symptoms and minor illness is challenging for both families and primary care physicians. Up to 86% of children are not diagnosed at first encounter and the mean duration of symptoms is over two weeks. In this study we aim to explore the patient pathway from symptom onset to diagnosis to better understand the reasons for this delay and to identify factors affecting the 'patient interval' (the time between the onset of symptoms and first seeking medical attention), particularly those around symptom appraisal and help-seeking behaviour.

The approach - Parents of all children aged 1 month to 16 years diagnosed with new onset T1D, and all children aged 6-16 years diagnosed with new onset T1D, at two hospitals in the East of England are being invited to take part in semi-structured face to face interviews within three months of the diagnosis. Children over 6 years are given the option to be interviewed either with or without their parents. Each interview begins by asking the parent or child to tell their story. Symptoms and events are then explored in-depth with particular attention paid to how initial symptoms were noticed and who noticed them, the child and their parents' decision-making processes about seeking medical help, their experiences of the diagnostic process and the role of school, family members, friends and information sources. At the time of the interview, the parents are also asked to complete a short questionnaire to provide background information about the child and family.

Each interview is audio-recorded, transcribed verbatim, and then fine-coded and analysed using the Model of the Pathway to Treatment (Walter *et al*. 2011) and Framework Analysis with a constant comparative approach.

Findings - Data collection is on-going and will continue until saturation of data, which we expect to be around 30 parents and children. Emergent themes include the subtlety of symptoms, the misattribution and normalisation of behaviour changes and negative parental emotions.

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Consequences - The results from this qualitative study will help us to understand the factors contributing to the 'patient interval' at the onset of T1D in children, and will contribute to pilot work informing the development and evaluation of complex interventions to improve the timely diagnosis of T1D in children.

Theme: Older people's health

SP186

Overcoming challenges of conducting an observational study and recruiting service users in care homes.

Arun Acharjya[1], Kerenza Hood[1], Emma Thomas-Jones[1], Jacqueline Nuttall[1], Donna Duncan[1], David Gillespie[1], Aude Espinasse[1], Helen Stanton[1], Merion Evans[1], Robin Howe[4], Anthony Bayer[1], Stephen Allen[3], Anthony Johansen[5], Mandy Wootten[4], David Cohen[2], Samantha Groves[2], Fiona Wood[1], Christopher Butler[1]
[1]Cardiff University, Cardiff, UK,[2]University of Glamorgan, Pontypridd, UK,[3]Swansea University, Swansea, UK,[4]University Hospital of Wales, Cardiff, UK,[5]Cardiff & Vale UHB, Cardiff, UK,[6]Princess of Wales Hospital, Bridgend, UK

The Problem: There is a dearth of research in elderly residents of care homes, partly due to the number of challenges and methodological issues involved. The aim of this presentation is to describe the challenges encountered in conducting and recruiting into an observational study (PAAD Study) assessing antibiotic use and antibiotic associated diarrhoea in care home service users and how they were overcome. One of the aims of this observational study was to develop and pilot processes for a clinical trial.

The Approach: The PAAD study team worked closely with care home staff to recruit 270 service users from eleven care homes which had no experience of participating in research. Additional support was required in setting-up and assisting with the practical aspects of the study. All care homes had minimum of three key individuals trained, initiated and organised with study materials to commence recruitment. Staff were to approach all service users for consent/assent within three months and deliver on most of the study procedures. All care homes were supported by NISCHR Research Officers weekly.

Findings: We recruited 279 service users within eleven months, from eleven care homes, with majority of the study sites managing to deliver on all study objectives. However it has taken longer to establish a platform for research than anticipated for a relatively simple twelve month prospective observational study.

Challenges encountered were related to the unpredictable nature of care homes, where care is provided by staff in contact with service users over 24 hours, but needing to respond instantly to changing circumstances, compared to the more usual research environment, where shorter contact times with greater predictability at study sites are the norm.

To overcome these challenges required working closely with an experienced care home consultant, constant communication with care homes, flexibility with out of hours support when required. Furthermore study-specific incentives were provided for achievements to motivate staff to be part of a unique network of care homes delivering research, e.g. quarterly workshops and focus groups, providing news-letters, certificates of participation.

Consequences: Although many challenges to conducting this study were experienced, with additional support, constant communication, a flexible proactive and reactive approach to delivery of procedures, an understanding of the variation between care home settings and the busy nature of care homes, they were not insurmountable. The experience gained from the observational study has been invaluable in setting-up a randomised placebo controlled clinical trial in 24 care homes within South Wales.

Building an infrastructure for care home research and a network of research active care homes is essential for continued research to take place in this important and ever growing population.

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SP187

Attitudes and approaches to chronic pain management amongst practitioners, older adults and their carers (Phase 11 of the EOPIC study).G.Anthony [1], D.Jones [5], P.Schofield [3], D.Martin[4], B.Smith [4], A.Clarke [5]

Geraldine Anthony[1], Derek Jones[5], Patricia Schofield[3], Dennis Martin[2], Blair Smith[4], Amanda Clarke[5]
[1]University of Aberdeen, Scotland, UK, [2]Teeside University, Teeside, UK, [3]Greenwich University, London, UK, [4]Dundee University, Scotland, UK, [5]Northumbria University, Northumbria, UK

The problem: Older adults are more susceptible the experience of pain than any other group in society. Misconceptions around pain in later life lead to barriers amongst patients & health care workers , may result in poor management. A range of strategies are delivered, however, this varies across the UK . It has been suggested that older adults and health care professional's perceive pain to be an inherent part of ageing & they should "live" with their pain. Consequently, older people tend not to be referred to multidisciplinary pain management services, which were usually the preserve of younger adults, who were seen as more worthwhile in terms of positive outcomes. Thus, we need better evidence to optimise the management of pain in older adults: that is focused on older peoples own experiences and needs.

The approach:(1) A survey of practitioners working in pain clinics were identified using the established Comprehensive Research Networks through throughout the UK were used to investigate current treatment centred upon attitudes & treatment management (n=300). Follow up telephone interviews were conducted with a representative sample (n=-60).

(11) Focus groups with older adults attending pain clinics within age cohorts (50-60, 60-70 70-75, 75+) & their careers were invited to discuss their experiences of pain management strategies & the impact of pain upon their lives.

Findings: Survey- GPs reported treating 6-10 people over 65 per week because of chronic pain& 1-5 were new patients. This pattern is similar to the under 65s with pain. On average GPs referred (1-5) to a pain clinic age was no barrier. On average pain clinics had 31-40 adult new referrals per month, 11-20 of these were over 65. Telephone interviews - response rate 60/65(95.2%) Five categories identified for current practice for management: practice for treating pain was the BPS & Nice guidelines; guidance for prescribing-majority did not use any & a mixture of clinical experiences as well as BPS and Nice guidance; Information leaflets - no different to the normal population, most designed their own; Frequency of reviews- inadequate, most done face-to-face; Pain assessment tools- BPS, VAS, BPS guidelines & HADS

Focus groups- Themes identified from analysis to date included, late referral to pain clinics; restriction in activities; lifelong pain; effect on partners/carers; impact on social life; lack of support groups .

Consequences: Referral to pain clinics was inadequate. In general clinicians provide a good level of service. This study highlights varied use of guidance on prescribing in older adults and scope for developing information leaflets for this population. Frequency of reviews were inadequate. Older adults accepted their chronic pain and managed to cope as best they could. There was lack of support and accessibility to services and living with chronic pain isolated them and they relied heavily on their carers for support.

SP188

Diagnostic accuracy of the STRATIFY clinical prediction rule for falls: A systematic review and meta-analysis

Jennifer Billington, Rose Galvin, Tom Fahey
Royal College of Surgeons in Ireland, Dublin, Ireland

The problem - Falls are a significant cause of morbidity and mortality and frequently lead to lasting loss of mobility, fractures and limitations in social participation. In the Irish context, the inpatient cost of fall-related hospitalisations among older people is currently estimated at €59 million. In the UK, falls among inpatients accounts for 32% of incident reports in the hospital setting. The STRATIFY score is a clinical prediction rule (CPR) derived to assist clinicians to identify patients at risk of falling. The purpose of this systematic review

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and meta-analysis is to determine the totality of evidence in relation to the predictive value of the STRATIFY rule across a variety of clinical settings.

The approach - A literature search was performed to identify all studies that validated the STRATIFY rule. The methodological quality of the studies was assessed using the Quality Assessment of Diagnostic Accuracy Studies tool. A STRATIFY score of ≥2 points was used to identify individuals at higher risk of falling. All included studies were combined using a bivariate random effects model to generate pooled sensitivity and specificity of STRATIFY at ≥2 points. Heterogeneity was assessed using the variance of logit transformed sensitivity and specificity.

The findings - Seventeen studies were included in our meta-analysis, incorporating 11,378 patients. The overall quality of the included studies is moderate to good, with only two of the included articles not avoiding spectrum bias. However, seven studies did not give sufficient description of the reference standard, in this case, the definition of a fall.

At a score ≥2 points, the STRATIFY rule is more useful at ruling out falls, with a greater pooled sensitivity estimate (0.67, 95% CI 0.52 - 0.80) than specificity (0.57, 95% CI 0.45 - 0.69). The sensitivity analysis which examined the performance of the rule in different settings and subgroups also showed broadly comparable results, indicating that the STRATIFY rule performs in a similar manner across a variety of different 'at risk' patient groups in different clinical settings.

Using Bayes' theorem, a score of ≥ 2 points on the STRATIFY rule doubles the pre-test probability of a subsequent fall in a low prevalence setting. A STRATIFY score of ≥2 increases the pre-test probability of a subsequent fall from 6.3% to almost 10% and a score of <2 reduces the probability of a subsequent fall to 3.7% across all clinical settings.

The consequences - This study pools data from a broad range of studies and settings, enhancing the generalisability of its findings. The totality of evidence in relation to the STRATIFY rule demonstrates that the predictive value of the STRATIFY rule is limited and should not be used in isolation for identifying individuals at high risk of falls in clinical practice.

SP189

Sharing primary care records on-line with a UK nursing home: a real-world evaluation

Benjamin Brown[1], Amir Hannan[3], Sarah Thew[1], Mhorag Goff[2], Iain Buchan[1]
[1]University of Manchester, Manchester, UK,[2]University of Salford, Salford, UK,[3]Haughton Thornley Medical Centres, Manchester, UK

The Problem - Nearly half a million people live in UK care homes and this is set to rise by 150% in 50 years. Care home staff can be apprehensive about dealing with medical problems, and subsequently often seek immediate medical advice or admission to hospital. The confidence required to avoid this unscheduled care might be built through providing access to their residents' medical records. To address this problem, we introduced the UK's first service to share primary care electronic records with nursing home staff, and here we report its evaluation.

The Approach - We adopted a mixed-methods design with a largely qualitative approach due to the complexity of the service and causal relationship between process and quantitative outcomes. Interviews were conducted with nursing staff, GPs and non-clinical staff (from both the GP surgery and nursing home) before and after implementation of the service. Follow up interviews with nursing staff were iterative. Interviews were transcribed and analysed independently by two researchers using open coding and abductive reasoning. When accessing records, nurses had to complete a short on-line questionnaire before and after they used it. Quantitative data was collected on the health service usage by the nursing home.

Findings - From baseline interviews, conducted with 11 nurses, 3 GPs and 4 non-clinicians between October and December 2010, themes reflected: perceptions of information currently available; current communication between clinicians; negative feelings of nursing staff; negative perceptions of nursing home and GP surgery; anticipated benefits and reservations of sharing records. Due to delays in implementation, the service was

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not used until September 2011. Between September 2011 and February 2012, the system was accessed 250 times regarding 41 patients by nurses to clarify clinical information (n=133) and order prescriptions (n=117). Follow up interviews (n=35) were conducted with 13 nurses, 3 GPs and 4 non-clinicians. Themes from these interviews were: reasons for using and not using the record; benefits of using the record; disadvantages of using the record; and areas for improvement in the system. There was no significant difference between in GP visit frequency five months before versus after the service was started.

Consequences - Our evaluation demonstrates the challenges of implementing and evaluating health informatics innovations. Clinicians and non-clinicians were generally enthusiastic about the service despite its lack of quantifiable benefits. When the nurses accessed the medical record they considered it beneficial to patients, themselves, other health professionals and family members. Nurses said that they were working more efficiently, feeling more valued and confident due to the service. The GP surgery perceived the service had reduced their workload. Given recent Care Quality Commission concern over disengagement between primary care and nursing homes, this may be a cost-effective way to promote collaboration.

SP190

Recruitment and retention to a large multicentre cluster randomised controlled trial in primary care: barriers and solutions

Hannah Carpenter[1], Cate Barlow[2], Deborah Haworth[2], Zoe Stevens[2], Paula Bailey[1], Carolyn Belcher[1], Juliette Cook[1], Arun Kumar[1], Denise Kendrick[1], Steve Iliffe[2]
[1]University of Nottingham, Nottingham, UK, [2]University College London, London, UK

The Problem - Exercise can reduce the risk of cardiovascular disease, type 2 diabetes, osteoporosis and certain cancers. However, only 19% of those aged 65 - 74 and 8% of those aged over 75 reach the recommended target of 30 minutes physical activity of moderate intensity on 5 days of the week.

ProAct65+ is a large multicentre cluster randomised controlled trial (RCT). It is evaluating the delivery, impact and cost-effectiveness of a community based exercise programme (FaME); and a home based exercise programme (OEP); compared with usual care for primary care patients aged 65 and over. It is the first trial to test these programmes in primary care in the UK.

The Approach - The trial's recruitment target was 1200 participants, which would allow for 90% power following a predicted 30% attrition rate. Patients aged 65 and over were recruited from GP practices in Nottinghamshire, Derbyshire and London. Each GP practice excluded unsuitable patients via a read code search, and then posted an invitation pack to 450 randomly selected patients. The researchers telephone screened interested patients before arranging a baseline assessment at their GP practice. All consented patients were screened by their GP for additional exclusion criteria.

Findings - The trial invited 20507 patients to participate. After a higher than expected response rate (13%), the conversion rate from ‘expression of interest' to ‘recruited' was lower than anticipated. The postal mail-out size at each GP practice was therefore increased from 450 to 600.

21% of patients who responded were excluded following telephone screening, 12% declined to take part, 6% weren't possible to contact, 5% weren't assessed for other reasons. Of the 1530 patients booked in for assessment, 1256 consented to the trial. Small list sizes at some GP practices meant that less than 600 patients were invited, and additional GP practices had to be recruited.

The recruitment and intervention phases are now complete and the trial is in the follow-up stage. 824 (66%) of patients remain in the trial. The largest reason for loss to follow-up is patients' ill health/family ill health (8%), followed by those excluded by their GP (5%). The recruitment of additional GP practices meant the design effect was not as marked as expected, and the trial can afford a loss of almost 40% and still achieve 90% power.

Consequences - ProAct65+ is the largest therapeutic trial of exercise in primary care to date. Presenting the design and evolution of the trial's recruitment methods will help funders recognise the level of time and funding needed to successfully recruit to an RCT. Examination of recruitment and attrition data will also

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identify the reasons why patients weren't consented or withdrew from the trial, which may help inform the design of future large scale trials.

SP191

OPTI-SCRIPT study - Optimizing Prescribing for Older People in Primary Care: a cluster randomized controlled trial

Barbara Clyne[1], Marie Bradley[1], Daniel Clear[1], Susan Smith[1], Carmel Hughes[2,1], David Williams[3], Nicola Motterlini[1], Tom Fahey[1]
[1]HRB Centre for Primary Care Research, Royal College of Surgeons in Ireland (RCSI), Dublin, Ireland, [2]School of Pharmacy, Queen's University Belfast (QUB), Belfast, UK, [3]Department of Geriatric Medicine, Royal College of Surgeons in Ireland (RCSI), Dublin, Ireland

The Problem: Potentially inappropriate prescribing (PIP) describes the use of medicines that introduce a greater risk of adverse drug-related events where a safer, as effective alternative is available to treat the same condition. PIP in older people is common in primary care and can result in increased morbidity, adverse drug events, hospitalizations and mortality. PIP is measured using explicit (criterion-based) or implicit (judgment-based) tools. The Screening Tool of Older People's Prescriptions (STOPP) criteria is an explicit measure developed in Ireland. The prevalence of PIP in Ireland using STOPP in people aged ≥ 70 years is 36% with an associated expenditure of over €45 million (9% of expenditure on pharmaceuticals in that age group).

The aim of this research is to conduct a pragmatic, cluster randomized controlled trial (RCT) to evaluate the effectiveness a multi-faceted intervention combining a pharmaceutical treatment algorithm and quality improvement strategy delivered using decision support material, in reducing PIP. Secondary objectives are to evaluate the interventions effect on patient outcomes, e.g hospitalisations, GP visits. The study will involve 22 GPs and 220 patients. This abstract outlines the intervention development and pilot study results.

The approach - Intervention Design: The preliminary stages of this research included a work process consistent with the MRC framework for development and evaluation of RCTs for complex interventions. The format and content has been developed in a rigorous manner by a panel consisting of three GPs, two pharmacists, a geriatrician, a statistician, an ICT expert and a researcher. Firstly, a literature review was conducted to identifying the types of PIP in the published criteria and the prevalence of each in Ireland. This was viewed independently by the panel and PIPs with full agreement were included in a final list. Next, appropriate alternatives for each included PIP were identified and circulated to the panel until full agreement was reached. This information was formatted into both a hardcopy booklet and a web-based version. A convenience sample of eight GPs involved in a CME discussion group agreed to pilot the intervention material. Firstly, they conducted a medications review following the intervention format on 23 simulated patient cases and evaluated the actions they would take and commented the relevance of the recommended alternatives. In Stage 2, six of the CME group GPs tested the intervention in a real practice setting by conducting a real life medicines review with 2-3 of their patients and then evaluated the process.

Findings: Overall, the participants agreed it was an important safety issue. They encouraged the inclusion of non-pharmacological alternatives and highlighted patient preference as an important component.

Consequences: The proposed intervention has been developed using best available evidence and the pilot study has ensured applicability to clinical practice in primary care.

SP192

General practitioner (GP) variability in the prescribing of potentially inappropriate medication in older populations in Ireland

Caitriona Cahir[1], Conor Teljeur[3], Kathleen Bennett[2], Tom Fahey[1]
[1]Royal College of Surgeons in Ireland, Dublin, Ireland, [2]Trinity College Dublin, Dublin, Ireland, [3]Health Information and Quality Authority, Dublin, Ireland

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The Problem: Prescribing indicators have become a common feature in many healthcare systems in an attempt to reduce unwarranted physician variation in medical care, improve quality and control drug costs. This study aimed to: (i) estimate the variation in potentially inappropriate prescribing (PIP) across GPs in an Irish older population using the STOPP criteria; (ii) estimate how reliably the criteria could distinguish GPs in terms of their proportion of PIP and (iii) examine patient and GP characteristics associated with PIP in a multilevel regression model.

The approach: 2046 GPs with 338,375 registered patients' ≥70 years were extracted from the Health Service Executive Primary Care Reimbursement Service (HSE-PCRS) pharmacy claims database. HSE-PCRS prescriptions are WHO ATC coded. Details of every drug dispensed and demographic data for claimants' and prescribers' are available. Thirty PIP indicators (STOPP) were applied to prescription claims in 2007. STOPP is a screening tool of older persons' PIP assessing drug-drug and drug-disease interactions, dose and duration. Multilevel logistic regression examined how PIP varied between GPs and by individual patient and GP level variables.

Findings : The overall prevalence of PIP was 36% (GP level data, median 35%, interquartile range 30-40%). The STOPP criteria were reasonably reliable measures of PIP (average >0.8 reliability for 90% of GPs). The multilevel regression model found that only the patient level variable, number of different repeat drug classes was strongly associated with PIP (>2 prescribed drugs for ≥ 3 months v no drugs; odds ratio 4.0, 95% confidence interval 3.7 to 4.3). Other patient level variables were significantly associated with PIP but became non-significant in the adjusted multilevel model. After adjustment for patient level variables the proportion of PIP varied by fourfold (half to twice the expected proportion) between GPs. This was not explained by GP level variables.

Consequences : Polypharmacy is an independent predictor for PIP and interventions aimed at enhancing appropriateness of prescribing amongst GPs should target patients taking multiple medications.

SP193

Predicting death from COPD: A systematic review of prognostic indicator tools

Adam Firth, Tim Frank, Caroline Sanders
University of Manchester, Manchester, UK

The Problem - Patients with severe COPD have a burden of symptoms at least equivalent to that of patients with terminal cancer yet palliative care provision is less well established. A significant obstacle to providing palliative care for patients with COPD is the challenge of identifying those at risk of death when the condition is associated with an unpredictable illness trajectory. Current prognostic indicator guidance, such as the GSF PIG and SPICT, is dependent on clinicians considering their patients against a checklist of symptoms. Objective multi-dimensional prognostic indicator tools may help overcome this but to date no systematic review has considered the utility of COPD specific prognostic indicator tools in primary care settings.

The approach - The aim of the review was to explore whether multidimensional prognostic indicator tools can predict 12-month mortality for patients with COPD being managed in primary care. The discipline of narrative synthesis was employed utilising an approach recommended by the Centre for Reviews and Dissemination. An extensive search strategy was devised using MEDLINE, EMBASE, CINAHL, Scopus, ProQuest and Google Scholar. Non-indexed papers were also sought using the search utilities on selected journal websites and relevant conference proceedings were hand-searched. Authors of included papers were contacted for further studies where possible. Identified papers were assessed against defined inclusion criteria by 2 researchers. Quality assessment was also performed. Data from the included papers was then tabulated and synthesized descriptively focussing on primary care utility and relevance.

Findings - A total of 2877 papers were screened with 91 meeting the broad inclusion criteria. 22 individual tools were finally identified from the 37 relevant papers which met the detailed inclusion criteria. 4 tools: the ADO index, HADO score, DOSE index and TARDIS were developed with a specific focus on primary care. Only the BODE index has been validated in sufficient cohorts for its efficacy to be confidently established. However the BODE index, with its 6-minute walking test, lacks utility in primary care settings. No studies have assessed the prognostic approach currently recommended in UK clinical practice although reassuringly

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the constituents of the GSF PIG and other similar guidance strongly overlap with the measures employed in the identified prognostic tools.

Consequences - This is the first step to developing an objective measure of prognosis for primary care patients with COPD. None of the identified multidimensional prognostic indicator tools are currently validated sufficiently to be recommended for widespread use in UK primary care. This review suggests that there is scope to identify patients at risk of death in the next 12-months using objective measures and that further validation of some of the identified tools is feasible. More work is now required to understand whether this approach can be effectively implemented in primary care clinical practice.

SP194

Who joins an exercise programme run through general practice? The experience of the ProAct65+ Trial

Deborah Haworth[1], Cate Barlow[1], Sheena Gawler[1], Kalpa Kharicha[1], Zoe Stevens[1], Hannah Carpenter[2], Steve Iliffe[1]
[1]University College London, London, UK, [2]The University of Nottingham, Nottingham, UK

The Problem - Exercise can reduce the risk of major illness, boost self-esteem and improve mood. In the older population exercise can also help to maintain independence and improve mobility. People know that exercise is good for them but not enough get enough and often spend too much time being sedentary. Those aged 65 and over are the most sedentary age group of all.

The ProAct65+ Trial is a multi-centre cluster RCT comparing two exercise interventions, the Otago home based exercise programme (OEP), and, the Falls Management Exercise (FaME) programme, with a control group, in patients aged 65 and over recruited from primary care. It is the first trial to test these programmes in primary care in the UK.

The Approach - The study recruited a total of 1256 participants through 43 GP practices, in 11 PCTs, in London, Nottinghamshire and Derbyshire. Participants were invited by post to participate in the trial. Respondents were subsequently screened by telephone to establish eligibility and were then either invited to an initial appointment or excluded if already reaching recommended physical activity targets, falling frequently or reporting a major illness.

Baseline data collected included age, sex, ethnicity, educational attainment, number of long term conditions and repeat medications. Data was also collected on socioeconomic group and income as well as current level of physical activity. A preliminary analysis of the baseline characteristics of these participants was carried out using SPSS. The basic characteristics of participants were compared with data from The Active People Survey from Sport England.

Findings - The average age of participants was 73 (65- 94) with 84% of participants younger than 80. 62% of participants were female. 34 languages were spoken (33 in London and 12 in Nottinghamshire/Derbyshire) and 14% of participants were non-white with a far larger range of ethnic diversity in the London participants. 43% of participants had completed some form of further education. On average each individual had 2 (0-9) co-morbidities and were on 4 (0-20) medications. Four per cent of participants were carers for another adult.

Consequences - Participants in this trial are more likely to be female and under the age of 80. Compared to The Active People Survey participants ProAct65+ participants were more educated, had a higher income and were more ethnically diverse as well as more likely to exercise regularly. Compared with other studies the study participants have fewer co-morbidities and a higher number of medications. Exercise promotion may be taken up by relatively healthy older people. Is making the healthy healthier a good investment?

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SP195

Effectiveness of primary care exercise promotion in older adults: a systematic review.

Zoe Stevens[1], Cate Barlow[1], Denise Kendrick[2], Tahir Masud[3], Dawn A Skelton[4], Susie Dinan-Young[1], Steve Iliffe[1], Deborah Haworth[1]
[1]UCL, London, UK, [2]University of Nottingham, Nottingham, UK, [3]Nottingham University Hospitals NHS Trust and University of Derby, Nottingham/Derby, UK, [4]Glasgow Caledonian University, Glasgow, UK

The Problem - Primary care is an important setting in which to promote exercise to older adults. Current interventions provide counselling, advice, and exercise on prescription. Whilst studies have evaluated these schemes there has been no published review of their effectiveness. Therefore, a systematic review was undertaken to examine the effectiveness of exercise interventions which have recruited older adults through primary care and/or were delivered through primary care. The findings of the review will inform research gaps as well as the commissioning and provision of exercise promotion in practice.

The Approach - We found studies published between 1998 to July 2011 in electronic databases. We searched for studies providing structured exercise interventions, regardless of study design, to older adults (aged 50 plus) through primary care. The search and selection process was not restricted to any outcome measures or comparison groups. Full texts were obtained of eligible studies. Studies were selected by two reviewers who independently assessed for quality using Jüni et al's criteria and in accordance with the RE-AIM criteria. Due to the heterogeneity of the studies a descriptive analysis was undertaken.

Findings - The search found 4170 studies, and of these six met the inclusion criteria, with 1522 participants included. The interventions ranged from 12 weeks to one year. Three studies showed a statistically significant increase in exercise in the intervention compared to the control group ($p \leq 0.05$). The three studies that measured quality of life and presented results from the SF-36 reported inconsistent results.

Consequences - Studies in this review show some evidence for the effectiveness of exercise interventions in primary care for older people. More research in this area is needed to expand the evidence base for effective interventions in primary care for older adults. Such important information will enable recommendations to be made to primary care staff and settings about effective interventions.

SP197

Chronic Heart failure guidelines: Do they adequately address patient need at the end-of-life?

Greg Irving[1], Joanne Reeves[1], John Holden[2], Mari Lloyd-Williams[1], Chris Dowrick[1]
[1]University of Liverpool, Liverpool, UK, [2]Garswood Surgery, Wigan, UK

The problem: Improving care for patients with heart failure at the end of life is a UK health priority. The overall long term survival rate is often worse in patients with heart failure than for men with colorectal cancer or women with breast cancer. Despite this, studies suggest that patients with heart failure are less likely to receive high quality end-of-life care compared to many of those who have a cancer diagnosis. A number of (inter)national organisations have developed guidelines to support primary care clinicians improve the quality of care of patients with advanced heart failure. However, there has been no systematic evaluation of such guidelines to date in relation to end-of-life care.

The approach:

Quantitative - To identify (inter)national chronic heart failure guidelines a systematic literature search of research databases and guideline clearing houses was undertaken. The selected guidelines were independently assessed by three researchers using the AGREE II criteria. This covers six domains of guideline development: scope and purpose, stakeholder involvement, rigour of development, clarity of presentation, applicability, editorial independence and conflict of interest.

Qualitative - A data-extraction framework was devised based on the Holistic Needs Assessment tool of the Gold Standards Framework. This defines key areas of patient need at the end-of-life as relevant to primary care - physical, emotional, personal, information and communication, control, out of hours, terminal care and

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aftercare. The text of each guideline was then analysed using an approach similar to that used for thematic analysis.

Findings: A total of 19 guidelines were included. The Netherlands scored highest across all five AGREE II quality domains. Across all guidelines the lowest scoring domain was stakeholder involvement. Qualitative assessment showed that some guidelines adopt an almost unwavering disease orientated model approach to assessing the need patients with heart failure at the end of life. Similarly, these guidelines offered little guidance in relation to support the biographical person centred approach. Guidance around continuity of care needs , out of hours care and after care was particularly poor.

Consequences: The combined quantitative and qualitative assessment of chronic heart failure guidelines demonstrates the importance of rigorous development of guidelines. In general those guidelines with lower overall AGREE II scores covered less domains on the holistic needs assessment. However, even amongst those guidelines that achieved a high score on the AGREE II criteria there was considerable heterogeneity in terms of the evidence presented. Whilst this could simply be a result of methodological heterogeneity in the development of guidelines, it raises important questions about the processes by which evidence, information and knowledge become transformed into clinical guidelines. This is particularly important given the considerable challenges with end-of-life research. *Funding* - NIHR-DRF-20100366

SP198

What is the best way to screen for atrial fibrillation in primary care? A comparison of the accuracy of 3 methods: nurse pulse palpation, a hand-held ECG and a modified BP monitor

Karen Kearley[1], Mary Selwood[1], Ann van den Bruel[1], Richard Hobbs[1], David Fitzmaurice[2], Carl Heneghan[1]
[1]*University of Oxford, Oxford, UK,* [2]*University of Birmingham, Birmingham, UK*

The Problem - Atrial fibrillation (AF) is a risk factor for stroke and appropriate anticoagulation reduces its incidence by 64%[1]. However 4-8% of all strokes occur in previously undiagnosed AF, creating an opportunity to prevent stroke by enhanced identification of AF [2,3]. Paroxysmal AF presents a particular recognition challenge because patients may not be experiencing an arrhythmia when they are being screened. The potential for patients to undertake self-monitoring and to capture an ECG tracing when an arrhythmia is occurring would be highly desirable features of an AF screening method.

The recommended method of case-finding for AF is pulse palpation by a primary-care practitioner with a follow-up ECG for an irregular pulse[4]. The sensitivity of nurse pulse palpation in primary care is reported as ranging from 91%-100% and the specificity from 70%-77%[5]. Therefore potentially one-third of patients who are screened will need a follow-on ECG - a significant additional workload in a situation where frequent and opportunistic screening of elderly patients is indicated. This method gives no opportunity for capturing an ECG trace or for self-monitoring.

The Approach: Aim: to compare the feasibility and operating characteristics of two new technologies (the modified BP monitor with flashing AF indicator and the hand-held single-lead ECG) when used by practice nurses to detect AF compared with pulse palpation.

Method: 1000 participants aged over 75 years were recruited in primary-care. For all participants, the practice nurse recorded 1)pulse rhythm 2) whether the modified BP monitor's AF indicator flashed 3) two single-lead ECGs and 4) a 12-lead ECG (the gold standard). ECGs were analysed by two cardiologists, with a third resolving any discrepancies. Nine registered nurses in five practices contributed.

Findings: Our interim results(based on 276 participants, full analysis will be complete by October)suggest all four methods have high sensitivity for detecting AF in an elderly primary-care population so are all useful for ruling out AF. The flashing indicator and nurse pulse-palpation also have high specificity, leading to a follow-on 12-lead ECG rate of around 10%, which is feasible in routine care. The specificity of both single-lead ECGs was variable and dependant on which cardiologist was interpreting. In an undifferentiated GP population it is likely that expertise in ECG analysis would be lower, so reducing specificity.

Pulse-palpation: sensitivity96%, specificity86%,

Indicator Flash: sensitivity88%, specificity89%

Single-lead ECG A: sensitivity92-96%, specificity72-99%

Single-lead ECG B: sensitivity91-96%, specificity61-95%

Consequences: The AF-indicator-flash does not require expertise for ECG interpretation - characteristics which also make it suitable for self-screening. It could easily be integrated into routine care alongside BP measurement.

Pulse-palpation performs much better than expected but gives no opportunity for capturing an ECG tracing or self-monitoring.

Single-lead ECGs can have low specificity even when analysed by a cardiologist so are less useful for generalist screening. They do document paroxysmal AF and may have a role when expertly analysed.

SP199

Management of suspected transient ischaemic attack (TIA) by Australian primary care physicians before referral: investigations and intensity of treatment are associated with diagnostic accuracy

Daniel Lasserson[1], Michelle Russell[2], Angela Royan[2], Maclom Evans[2], Mark Parsons[2,3], Neil Spratt[2,3], Christopher Levi[2,3], Parker Magin[3]
[1]University of Oxford, Oxford, UK, [2]John Hunter Hospital Stroke Service, Newcastle, NSW, Australia, [3]University of Newcastle, Newcastle, NSW, Australia

The Problem - The majority of patients with TIA initially present in primary care. The high early risk of recurrent stroke after TIA is reduced with urgent control of vascular risk factors. The National Institute for Health and Clinical Excellence (NICE) recommends that specialists initiate full risk factor reduction strategies. NICE guidance for GPs is to prescribe aspirin alone on suspecting TIA with additional treatment (second anti-platelet agent, antihypertensives, lipid lowering therapy) delayed until specialist assessment. Delays in specialist assessment therefore result in inadequate treatment in a high risk period after TIA. In Australia, GPs have greater access to imaging (CT, MRI, ultrasound) and no national guideline limiting management before specialist assessment. We examined how Australian GPs investigate and treat suspected TIA before clinic referral to test whether imaging resources and intensive treatment are used appropriately.

The Approach - All primary care referrals to a TIA clinic at a regional hospital in New South Wales (population served 635,000) were included from January 2008 to March 2009. For patients not attending after referral (previously identified as a high stroke risk population), the local stroke registry and hospital appointments databases were searched to identify stroke as reason for non-attendance. GPs' investigations (brain and carotid imaging) and intensity of antiplatelet prescribing (single antiplatelet, dual antiplatelet or warfarin) were recorded. Final diagnosis was confirmed by a neurologist and associations with GP management were tested with chi square. Stroke recurrence was assessed at 90 days and compared with expected strokes from the baseline distribution of the ABCD2 stroke risk score.

Findings - GPs referred 127 patients and 64 (50%) had a TIA diagnosis confirmed by a specialist. The majority of patients (79%) had brain imaging and no associations were observed with TIA diagnosis (P=0.80). 31 carotid ultrasound scans were performed but significantly more patients with a final diagnosis of TIA had carotid assessment than those without (35% vs 14%, z = 2.74, P=0.006). TIA diagnosis was associated with the intensity of antiplatelet/anticoagulant treatment prior to clinic with increasing % of patients with TIA in the following groups; no therapy =37.2%, single antiplatelet =51.0%, dual antiplatelet or warfarin= 70.9% (P for linear trend = 0.006). Treatment intensity was not explained by pre-existing risk factors. The distribution of ABCD2 scores predicted four recurrent strokes at 90 days but no recurrent strokes were observed.

Consequences - Australian GPs arrange brain imaging in the majority of patients with suspected TIA and tailor carotid imaging to diagnostic likelihood. The intensity of management of TIA prior to specialist assessment is strongly associated with final diagnosis of TIA. Clinical judgement with early access to

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investigations in primary care may offer targeted use of resources for stroke prevention rather than restricting (and delaying) treatment until specialist assessment.

SP200

Would you give your Granny a Statin?

James Sheppard[1], Satinder Singh[1], Richard McManus[2], Jonathan Mant[3]
[1]University of Birmingham, Birmingham, UK, [2]University of Oxford, Oxford, UK, [3]University of Cambridge, Cambridge, UK

The problem: Previously, studies have shown that age and sex inequalities exist in secondary prevention of cardiovascular disease (CVD), particularly for cholesterol lowering therapy. No such studies have been conducted in a primary prevention population. Therefore, this study aimed to access the impact of age and sex on prescription of antihypertensives and statins for primary prevention of CVD in a typical primary care population.

The approach: A cross-sectional study of 41,250 anonymised records from patients aged >40 years registered at 19 general practices in the West Midlands was conducted. Data relating to patient demographics, CVD risk factors (blood pressure, total cholesterol) and prescribed primary preventative medication were extracted and analysed. For the purposes of analysis, patients were sub-divided into five year age bands up to 85 years (patients aged >85 years were analysed as one group) and prescribing trends across the population were assessed by estimating the proportion of patients prescribed with antihypertensive and/or statin medication in each group.

Findings: Of the 41,250 records screened in this study, 36,679 (89%) patients were potentially eligible for primary preventative therapy. The proportion receiving antihypertensive medication increased with age (378/6978 patients, 5% [aged 40-44] to 621/1092 patients, 57% [aged 85+]) as did those taking statin medication up to 74 years (201/6978 patients, 3% [aged 40-44]; 675/2367 patients, 29% [aged 70-74]). In those aged 75 and above, the odds of receiving a statin prescription decreased with every five year increment in age (OR 0.94 [95%CI 0.82-1.07] [70-74 to 75-79 years] to OR 0.55 [95% CI 0.44-0.68] [80-84 to 85+ years] $P < 0.001$). No consistent differences were observed in prescribing trends by sex.

Consequences: Previously described under-treatment of women in secondary prevention of CVD was not observed for primary prevention. However, there was apparent under-treatment of older people in relation to their cardiovascular risk, particularly with statins. This treatment-risk paradox might result from guidelines emphasising primary prevention for people under the age of 75 years. On the other hand, it may reflect a deliberate wish not to medicalise healthy old age. Future strategies should address both growing evidence supporting primary preventative medication in the elderly and whether or not older people wish to receive it.

SP201

Are we trying to triage stroke patients too FAST?

James Sheppard[1], Ruth Mellor[1], Tom Quinn[2], Jonathan Mant[3], Richard McManus[4]
[1]University of Birmingham, Birmingham, UK, [2]University of Surrey, Guilford, UK, [3]University of Cambridge, Cambridge, UK, [4]University of Oxford, Oxford, UK

The problem: Evaluation of patients with suspected acute stroke requires timely assessment and diagnosis in hospital. The Face Arm Speech Test (FAST) was designed to aid paramedics in identifying stroke patients in need of rapid treatment but previous research has not investigated how performance of the FAST impacts on in-hospital care. This study sought to investigate the impact of pre-hospital FAST assessments on subsequent time to brain imaging in hospital.

The approach: A retrospective cohort study of linked patient records from different NHS Trusts was conducted. Patients with a final diagnosis of stroke arriving in hospital were recruited between 01/11/2010 and 31/07/2011. Those not following the hyperacute stroke pathway (e.g. referred to hospital as an outpatient, transferred from another hospital following initial treatment) were excluded from this analysis. Data

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on method of hospital admission, timeliness of arrival and scan were extracted from patient medical records. The impact of paramedic assessment using the FAST on time to CT request and scan was examined using Cox regression analysis.

Findings: A total of 223 stroke events from 221 recruited patients (aged 71±15 years) were eligible for analysis. 136 (61%) patients called emergency services directly following the onset of stroke symptoms. Of those transported by ambulance (after calling 999, GP, NHS Direct; 151 patients), the FAST was completed and positive in 114 patients (75%). The likelihood of receiving a timely CT request upon arrival in hospital increased by 45% in FAST positive patients (vs. FAST negative patients or where the FAST was not documented) (HR 0.55, 95% CI 0.37-0.81, $P = 0.002$). This effect was more pronounced when hazard ratios were adjusted for paramedic recording of onset time, arrival in hospital within 4 hours of symptom onset, route to hospital and patient age (HR 0.47, 95% CI 0.31-0.72, $P < 0.001$).

Consequences: This study demonstrates that up to one quarter of stroke patients arriving in hospital via ambulance are not recognised as FAST positive. This is associated with significant delays in brain imaging for patients who might be eligible for time dependant treatment such as thrombolysis. Whilst FAST positive patients are being appropriately fast tracked, those for whom the classic signs of an anterior circulation stroke are not recognised, are much less likely to receive appropriate urgent investigation. Understanding why FAST negative patients are not recognised as having stroke forms an important part of improving thrombolysis rates and therefore reducing disability post stroke.

SP202

Exploring the ethical and practical challenges of conducting clinical trials in care home settings.

Fiona Wood, Hayley Prout, Arun Acharjya, Kerry Hood, Jacqueline Nuttall, Christopher Butler
Cardiff University, Cardiff, UK

The Problem: The PAAD Study (Probiotics for Antibiotic Associated Diarrhoea in care homes) involves 2 stages. The first stage is a 12 month observational study to establish the amount and type of antibiotics prescribed and episodes of Antibiotic Associated Diarrhoea in a sample of 10 care homes. The second stage is an RCT of probiotic vs. placebo administered alongside the antibiotic. The two studies are governed by separate laws in relation to mental capacity. We explored some of the ethical and practical challenges of conducting these studies (and others like it) within care home settings including: how consent is obtained and by whom, how long advanced consent can last, and what happens if a service user loses (or gains) mental capacity during the trial. Our purpose is to optimise the consent process in this vulnerable population in preparation for stage 2.

The approach: Qualitative study incorporating 2 focus groups with care home staff, and face-to-face interviews with service users (n=14), relatives (n=14) and GPs (n=10). Data were subject to thematic analysis.

Findings: Most respondents dismissed the need for re-consent during the 12 months on the basis of it being unnecessary, impractical, and the need to be consistent between service users who retain capacity and service users who lose capacity. Care home staff and many service users felt that they should check consent with a relative if a service user loses capacity during the trial. Relatives generally understood why advanced consent was necessary for a study of this type. Practical challenges included obtaining consent from personal consultees or personal legal representatives who were not regular visitors to the home. Some GPs felt that there might be an ethical tension when both prescribing the antibiotic and receiving payment for checking eligibilty for a service user to enter the study.

Consequences: Conducting research in care homes poses practical and ethical challenges. We would recommend that the PAAD team do not need to re-consent service users at regular intervals throughout PAAD stage 2, but should provide service users and relatives with regular updates throughout the study period.

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