CONTENTS

Key
abstract prefixes

a, b, c or d = oral presentation
p = poster presentation
w= workshop

see page numbers in box above

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

TOPICS

ORAL AND POSTER ABSTRACTS

TOPIC	Abstract number – see page 1 for key to prefixes
Access	A33, A35, D16, D24, P1.51
Cancer	A43, B11, B12, B13, B14, B14, B15, C11, C12, D26, P1.05, P1.06, P1.45, P1.53, P2.12, P2.26, P2.44, P2.68
Diabetes	D15, P1.57, P2.10, P2.36, P2.39, P2.54, P2.59
Education and training	B42, B43, B44, B45, B46, D61, D62, D63, D65, P1.11, P1.24, P1.28, P1.65, P2.22, P2.23, P2.27, P2.42, P2.55, P2.63
Ethics / governance / public involvement	A26
Experience of illness / user perspectives	A32, A51, B22, C22, D46, D66, P1.02, P1.25, P1.31, P2.01, P2.05, P2.32, P2.50
Heart disease	A11, A14, B26, D23, D43, NAPCRG, P1.33, P1.62, P2.24, P2.43
Information technology	A23, A24, A25, C21, P1.09, P1.59, P1.64, P2.11, P2.15, P2.30, P2.45, P2.49, P2.57, P2.62
Managing long term conditions	A12, A13, A15, C33, D11, D13, D14, D36, D51, P1.14, P1.15, P1.20, P1.38, P1.40, P1.48, P1.58, P1.60, P2.20, P2.25, P2.60
Mental health	A34, B34, C26, C51, C53, C54, C55, C56, P1.03, P1.04, P1.07, P1.16, P1.37, P1.43, P1.44, P1.68, P2.07, P2.19, P2.31, P2.38, P2.48, P2.65, Prize 2
Musculoskeletal health	A53, A54, A56, D33, D34, P1.01, P1.19, P1.47, P1.67, P2.52, P2.67, Prize 1
Older people's health	B56, C31, P1.32, P1.34, P2.66
Organisation and delivery of primary health care	A42, A52, A55, A73, B53, C32, C34, C35, D25, D31, D32, D35, D55, D56, P1.13, P1.17, P1.26, P1.41, P1.42, P1.50, P1.61, P2.17, P2.34, P2.37
Palliative care	D41, D42, D45
Patient-centred primary care	A16, A46, A71, A72, D52, D54, P1.63
Patient-GP relationship / decision making	A45, A74, B16, C52, D12, D22, D44, P1.27, P2.13, P2.51, P2.64
Prescribing issues **Professional and policy issues**	B24, P1.10, P1.12, P1.36, P1.55, P2.28, P2.33, P2.53 A21, A36, B41, C46, D53, D64, P1.30, P1.46, P1.56, P1.69, P2.08, P2.14

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Public health	A31, A41, A62, A65, B23, C13, C14, C15, C16, C24, C25, C43, D72, D73, D74, P1.08, P1.18, P1.39, P1.66, P2.03, P2.04, P2.21, P2.41, P2.56, P2.58, P2.61
Research methods	A22, A44, B51, B52, B54, B55, C23, C61, C62, C63, C64, D71, P1.23, P1.29, P2.06, P2.35
Sexual health	B61, B62, B63, B64, B65, B66, P1.21, P1.54, P2.46
Women's health	B31, B32, B33, C41, C42, C44, C45, P1.52, P2.18, P2.40
Young people's health care	A61, A63, A64, A66, B21, B25, C36, D21, P1.22, P1.49, P2.16, P2.29, P2.47

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Oral Session Topics

Parallel session A

Session number	*Abstracts within oral sessios are batched together by topic*	*Abstract numbers*
A1	Cardiovascular disease	A11 to A16
A2	Databases	A21 to A26
A3	Health inequalities	A31 to A36
A4	Diagnosis	A41 to A46
A5	Musculoskeletal / Multimorbidity	A51 to A56
A6	Obesity	A61 to A66
A7	Panel – generalist approach	A71 to A74

Parallel session B

B1	Cancer	B11 to B16
B2	Infection	B21 to B26
B3	Panel – domestic violence	B31 to B34
B4	Undergraduate education	B41 to B46
B5	Research methods	B51 to B56
B6	Sexual health	B61 to B66

Parallel session C

C1	Vaccine research	C11 to C16
C2	Behaviour change/Complex interventions	C21 to C26
C3	Hospital admissions	C31 to C36
C4	Antenatal care	C41 to C46
C5	Mental health	C51 to C56
C6	Panel - clinical prediction rules	C61 to C64

Parallel session D

D1	Cardiovascular/Chronic kidney disease	D11 to D16
D2	Managing long term conditions	D21 to D26
D3	Organisation of delivery of care	D31 to D36
D4	End of life care	D41 to D46
D5	Patient-GP relationship	D51 to D56
D6	GP professional development	D61 to D66
D7	Panel - UKSBM	D71 to D74

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Prize Plenary Abstracts

Wednesday

16.40 prize plenary

NAPCRG/SAPC travel award

The winning presentation of the NAPCRG / SAPC travel award for a presenter to attend and present at the SAPC ASM.

Improving cardiovascular health at the population level: A 39 community cluster-randomised trial of the Cardiovascular Health Awareness Program (CHAP)

Lisa Dolovich, Janusz Kaczorowski, Larry W Chambers, Cheryl Levitt, William Hogg, Lehana Thabane, Karen Tu, Michael J Paterson, Tina Karwalajtys, Tracy Gierman, Barbara Farrell
Dept of Family Medicine, McMaster University, Hamilton, OW, Canada

Background Cardiovascular disease (CVD) is a major cause of death and disability. Effective population-based strategies to reduce CVD morbidity and mortality are needed.

Objective To evaluate the effectiveness of a pharmacy-based Cardiovascular Health Awareness Program (CHAP) on cardiovascular disease morbidity.

Design: Cluster randomized trial.

Setting: Thirty-nine mid-sized communities in Ontario, Canada.

Participants: Community-dwelling residents 65 years of age or older, family physicians, pharmacists, volunteers, community nurses and local lead organizations.

Intervention: Residents 65 years of age or older were invited to attend volunteer-run cardiovascular risk assessment and education sessions held in community-based pharmacies over a 10-week period. Automated blood pressure readings and self-reported risk factor data were collected and shared with session participants and their family physicians and pharmacists.

Main Outcome Measure: A composite of hospital admissions for acute myocardial infarction, stroke and congestive heart failure among all community residents aged 65 years and older.

Results All 20 intervention communities successfully implemented CHAP. A total of 1 265 3-hour long sessions were held in 90% (129/145) of pharmacies during the 10-week program. A total of 27 358 CVD assessments were performed on 15 889 unique participants with the assistance of 577 peer-volunteers. Adjusting for hospital admission rates in the year prior to intervention, CHAP was associated with a 9% relative reduction in our composite endpoint (rate ratio 0·91 [95% CI 0·86-0·97], p=0·002). There were statistically significant reductions favouring the intervention communities in hospital admissions for acute myocardial infarction (rate ratio 0·87 [95% CI 0·79 - 0·97], p=0·008) and congestive heart failure (rate ratio 0·90 [95% CI 0·81 - 0·99], p=0·029), but not for stroke (rate ratio 0·99 [95% CI 0·88 -1·12], p=0·89) (table 3).

Conclusions A collaborative, multipronged community-based health promotion and prevention program targeted at older adults can reduce cardiovascular morbidity at the population level.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Friday

Papers of Distinction Session 12.00 – 12.45

Prize 1

A randomised trial of targeted treatment for low back pain compared with current best practice: THE START BACK TRIAL

Elaine Hay, Jonathan Hill, Martyn Lewis, David Whitehurst, Kate Dunn, Elizabeth Mason, Kanchan Vohora, Kika Konstantinou, Gail Sowden, Simon Somerville, Chris Main
Keele University, Staffordshire, UK

Introduction: One untested approach to increase treatment effectiveness for low back pain (LBP) is to target treatment according to risk groups (low, medium, high) using prognostic screening for prolonged disability. This RCT compared the clinical and cost effectiveness of a stratified model to target LBP management (targeted group) against current best practice (control) in primary care. Our pre-specified subgroup analysis tested if: i) low risk patients had non-inferior outcomes, and ii) medium & high risk patients had superior outcomes from targeted treatment.
Methods: We invited 2793 adults with LBP (+/- radiculopathy) consulting at 10 general practices in England, to receive initial treatment at a back pain clinic. At clinic, an administrator telephoned a remote trials unit that used random computer sequence selection of stratified blocks with a 2:1 ratio, to randomly assign 851 participants to targeted or control treatments. Outcome assessors were masked to group assignment, not patients or therapists. Targeted treatment therapists used risk group information to systematically refer patients into specifically developed low (minimal treatment), medium (standardised physiotherapy) and high risk (psychologically augmented physiotherapy) treatment pathways. Control treatment therapists made decisions regarding further usual physiotherapy treatment using clinical judgement, unaware of patients' risk subgroup. Intention-to-treat analysis focused on adjusted mean differences using model-based multiple imputation for missing data. The primary outcome was 12-month Roland-Morris Disability Questionnaire (RMDQ) score, with the study powered for pre-specified subgroup analysis. The EQ-5D was used to estimate quality-adjusted life years (QALYs).
Results: There were significantly larger mean reductions for targeted versus control groups at both follow-up time-points with between-group adjusted mean RMDQ differences of 1.8 (95% CI 1.1, 2.6) at 4-months and 1.1 (95% CI 0.3, 1.9) at 12-months (effect sizes of 0.32 and 0.18 respectively). The intervention was dominant compared to the control (i.e. less costly in terms of resource use while providing greater mean QALYs, 0.04) with additional savings due to fewer days off work.
Conclusions: Significant clinical and cost benefits were demonstrated using a targeted treatment approach. Future studies should identify ways to implement LBP screening and targeting into mainstream clinical practice, whilst better sustaining substantial short-term effects among high risk patients.

Prize 2

Deprivation, Depression and the consultation: more evidence of the inverse care law?

Bhautesh Jani[1], Stewart Mercer[1], Graham Watt[1], Paul Little[2]
[1]*Section of General Practice and Primary Care, University of Glasgow, Glasgow, UK,* [2]*School of Medicine, University of Southampton, Southampton, UK*

Introduction: Deprivation is known to be associated with depression, which is common in patients consulting general practitioners. There is relatively little known about the quality and outcomes of consultations with depressed patients. This study is a secondary analysis of a large dataset of videoed general practice consultations carried out in high and low deprivation areas.

Methods: The study included 659 patient consultation videos across 47 GP in practices in areas of high or low deprivation in Glasgow. Patients completed a questionnaire which included the PHQ-9 at the time of consultation and at 1 month follow up. PHQ-9 scores were classified as normal/mild depression (0-9; referred to as 'no depression') and moderate/severe depression (>10; referred to as 'depression'). Consultation quality measures included length, patients' rating of the GPs' empathy (CARE Measure), and observer rated patient-centred communication (MPCC).

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Results:

163 (24.6%) of patients had depression (PHQ-9 >10), 107(65.6%) in high deprived areas and 56 (34.4%) in low deprived areas and severity increased with increasing deprivation ($p<0.0002$).

The mean improvement in PHQ-9 score at follow-up in patients with depression was depression was 4.57 in low deprivation and 0.9 in high deprivation areas ($p < 0.01$).

In low deprivation areas, consultations were longer for patients with depression ($p <0.01$) whereas in high deprivation areas consultation length was the same for patients with or without depression.

In low deprivation areas, depressed patients reported higher GP empathy (CARE Measure) then non-depressed patients, whereas the opposite trend was observed in the high deprivation group. Mean CARE Measure score was higher ($p<0.01$) in depressed patients in the low deprivation group compared with the high deprivation group. Similarly, mean MPCC score was significantly higher ($p<0.01$) in patients with depression in the low deprivation group compared with the high deprivation group.

Conclusions: Depression is more common and more severe in GP consultations in high deprivation areas, and these consultations are generally shorter, less empathic, and less patient-centred. Further work is required to show a direct link between consultation quality measures and outcomes, and to determine ways of improving both quality of care and outcomes in these patients.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Oral Abstracts

A11

Treading carefully: an ethnography of the clinical, social and educational uses of exercise electrocardiograms in evaluating stable chest pain.

Helen Cramer[1], Maggie Evans[1], Rachel Johnson[1], Katie Featherstone[2], Justin Zaman[3], Adam Timmis[4], Harry Hemingway[3], Gene Feder[1]
[1]University of Bristol, Bristol, UK, [2]Cardiff University, Cardiff, UK, [3]University College London., London, UK, [4]Barts and the London NHS Trust, London, UK

Introduction Internationally the exercise electrocardiogram (ECG) has been the most common initial test for the evaluation of stable chest pain, although its status is now being challenged. For example, UK National Institute for Health and Clinical Excellence (NICE) guidelines recommend that exercise ECGs should no longer be used to diagnose or exclude stable angina, as other clinical tests have been shown to have greater diagnostic accuracy and may be more cost effective. However, beyond diagnostic accuracy, there are potentially useful functions of the exercise ECG that may be overlooked. The focus of this study relates to wider debates about the role of clinical tests and diagnostic procedures in all health care settings.

Method The research design was qualitative and ethnographic, based on interviews and observations of clinical practice. The setting was three rapid access chest pain clinics in England and included the observation of 89 consultations in chest pain clinics, 18 patient interviews and 12 clinician interviews. Data were examined using a thematic analysis and constant comparison.

Results Findings indicate that the exercise ECG has functions that extended beyond diagnosis. It was used to clarify a patient's story and revise the initial account. The act of walking on the treadmill created an additional opportunity for dialogue between clinician and patient and engagement of the patient in the diagnostic process through precipitation of symptoms and further elaboration of symptoms. The exercise ECG facilitated reassurance in relation to exercise capacity and tolerance, providing a platform for behavioural advice particularly when exercise was promoted by the clinician.

Conclusion As other diagnostic methods come to the fore, the exercise ECG will have a diminishing role in the diagnosis of angina. However, many of the practices that have been built up around the use of the exercise ECG are potentially beneficial to patients especially the supervised exercising of patients. Further research on diagnostic methods for stable coronary disease needs to incorporate a broader perspective on the potential benefits of these tests in the management of patients with chest pain.

A12

Under pressure? A systematic review of the accuracy of ambulatory blood pressure monitors

James Hodgkinson[1], James Sheppard[1], Carl Heneghan[2], Una Martin[1], Jonathan Mant[3], Nia Roberts[2], Richard McManus[1]
[1]University of Birmingham, Birmingham, UK, [2]University of Oxford, Oxford, UK, [3]University of Cambridge, Cambridge, UK

Introduction Clinical validation of ambulatory blood pressure monitors is at least as important as office monitors because they form a reference standard and are often used to adjudicate on the diagnosis of hypertension and blood pressure control. This study aimed to systematically evaluate the worldwide literature regarding the accuracy of ambulatory blood pressure monitors.

Methods Medline, Embase, the Cochrane database, DARE, Medion, ARIF, the TRIP database and the DABL website were searched using a strategy designed to capture studies evaluating the accuracy of ambulatory blood pressure monitors. No language or publication date limits were applied. Data were extracted separately by two independent reviewers from each included study on the population, test and reference monitors used, monitoring details, mean and SD of the difference between test and reference devices, and the percentage of BP measurements within 5, 10 and 15mmHg. Methodological quality was assessed by whether an available validation protocol had been used and followed correctly.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Results From 5,169 journal articles identified, 108 met the inclusion criteria, with one-third of studies on monitors still in use and two-thirds using a validation protocol. Excluding studies assessing specific patient groups only or monitors no longer in use, 26 studies were found using 17 different monitors. 25 of these used a validation protocol (ESH-IP 11, BHS only 5, AAMI only 1, BHS and AAMI 8), but only six of these correctly adhered to their respective protocol (all ESH-IP, though for seven studies protocol adherence was unclear). Though only two monitors failed validation, in 13 studies a difference of >5mmHg from the reference standard was found for 30% or more of readings and almost half of all readings were >5mmHg from the reference standard for two successful monitors. Additionally, different studies produced quite distinct performance results for the same monitors.

Conclusions Many ambulatory monitors that have apparently passed validation may not be sufficiently accurate for clear diagnostic decision-making in clinical practice. Caution should be exercised in using published validation studies as an effective measure of the accuracy of ambulatory BP monitors.

A13

Home blood pressure monitoring in hypertensive stroke patients:a community based randomised controlled trial

Sally Kerry[1], Pippa Oakeshott[2], Hugh Markus[2], Geoff Cloud[2], Judith Ibison[2], Teck K Khong[2], Denise Coster[2], Jenny Tulloch[2]
[1]Barts and teh London School of Medicine and Dentistry, Queen Mary University of London, London, UK, [2]St George's University of London, London, UK

Introduction No studies of home blood pressure (BP) monitoring have been carried out in stroke patients for whom control of BP is crucial. We conducted a randomised trial to see if home blood pressure monitoring with nurse support was associated with reduced systolic BP in hypertensive patients who had suffered a recent stroke or TIA.
Methods
In 2007-9, 381 hypertensive stroke patients were recruited from three London stroke services. They were visited at home for a baseline assessment and randomly allocated to receive a BP monitor, training and telephone support from a research nurse (n=187), or usual care (n=194). A masked researcher visited the patient at home for outcome assessment six months and one year after randomisation. The primary endpoint was change in mean systolic BP between baseline and 12 months follow up.
Results
Nineteen patients (5%) died and 93% (337/362) of the survivors had their BP re-measured at home after 12 months. Mean age of survivors was 72 years (range 30 to 94), 45% had disability due to stroke (Rankin score ≥2), and 30% (51/168) of those allocated to home monitoring needed the help of a carer to measure their BP. Mean systolic BP fell by 1.7mm Hg (95% CI -1.4 to 4.8) between baseline and 12 months in the home monitoring group (n=168), and rose by 0.7mmHg (-4.0 to 2.5) in the usual care group (n=169), but the difference was not significant after adjustment for baseline BP (0.3 mmHg, -3.6 to 4.2). More patients in the home monitoring group had changes in their antihypertensive medication during the trial (61% versus 46%, p=0.01). In a pre-specified subgroup analysis, home monitoring was associated with a significantly greater reduction in BP in non-disabled than disabled patients at 6 months (3.4, -1.5 to 8.2 versus -4.7, -10.2 to 0.8 mmHg). Non-disabled patients were also more likely than the remainder to continue weekly home monitoring at 12 months (55% versus 38%; p=0.04).
Conclusion
Any benefits of home monitoring on BP in stroke patients are likely to be greater in those who are not disabled and can measure their BP unaided.

A14

A systolic inter-arm blood pressure difference is associated with increased cardiovascular and all-cause mortality: meta-analysis

Christopher Clark, Rod Taylor, John Campbell, Angela Shore
Peninsula College of Medicine and Dentistry, Exeter, Devon, UK

Introduction Current hypertension guidelines attribute an inter-arm blood pressure difference to peripheral vascular disease. Peripheral vascular disease is recognised as an independent predictor of cardiovascular events, therefore the question arises as to whether an inter-arm blood pressure difference can also have survival implications. Previous cohort studies have found both significant and non-significant associations with

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

survival. The author is currently undertaking a number of further cohort analyses, therefore a meta-analysis of published and unpublished studies has been undertaken to assess the current level of evidence to associate an inter-arm blood pressure difference with reduced survival.

Methods Systematic review and meta-analysis. We searched Medline, Embase, CINAHL, and Cochrane databases for studies reporting prospective survival outcomes in association with an inter-arm blood pressure difference or subclavian stenosis. Unpublished analyses were included and we contacted authors active in the field for further data. Primary outcome measures were hazard ratios reported for cardiovascular and all cause mortality with an inter-arm blood pressure difference.

Results A total of 4064 references were identified and three published studies reported prospective survival data from five cohorts. Updated unpublished data from one of these cohorts, and two unpublished cohorts, also contributed to the meta-analysis. Pooled data from five studies (seven cohorts) showed a hazard ratio of 1.36 (95%CI 1.10 to 1.69; p=0.005) for all cause mortality and four studies (six cohorts) showed a hazard ratio of 1.50 (1.09 to 2.06; p=0.01) for cardiovascular mortality with a systolic inter-arm blood pressure difference >=15mmHg. Mean duration of follow up ranged from 4.8 to 16.4 years between studies.

Conclusions A systolic inter-arm differences >=15mmHg is associated with increased cardiovascular and all-cause mortality. This supports the hypothesis that an inter-arm difference is due to occult peripheral vascular disease or subclavian stenosis. An inter-arm difference should therefore be considered as a marker of elevated cardiovascular risk, and its detection should prompt aggressive lifestyle and risk factor intervention. These findings support targeted screening for peripheral vascular disease in subjects with a demonstrable inter-arm blood pressure difference.

A15

Is self management of hypertension cost effective?Economic analysis and modelling of the main results of the Telemonitoring and Self Management in Hypertension Trial (TASMINH2)

Billy Kaambwa[1], Stirling Bryan[3], Jonathan Mant[1], Emma Bray[1], Roger Holder[1], Miren Jones[1], Sheila Greenfield[1], Paul Little[4], Bryan Williams[1,5], Richard Hobbs[1], Richard McManus[1]

[1]University of Birmingham, Birmingham, UK, [2]University of Cambridge, Cambridge, UK, [3]University of British Columbia, Vancouver, Canada, [4]University of Southampton, Southampton, UK, [5]University of Leicester, Leicester, UK

Introduction Self management of hypertension including self monitoring and self titration of antihypertensives is a novel intervention which improves blood pressure control. Ultimately implementation of such an intervention will depend on cost effectiveness, specifically whether the longer term benefits of such an approach outweigh the initial additional costs for instance from equipment and training. Very little evidence exists regarding the cost effectiveness of self monitoring of blood pressure in general and self management in particular. This study aimed to evaluate whether self management of hypertension was cost effective.

Methods The TASMINH2 trial was a primary care based RCT comparing self management of blood pressure with self titration of anti hypertensive medication to usual care in people with poorly controlled hypertension. An embedded economic evaluation ran parallel to the main trial and analysed cost per reduction in unit blood pressure. A Markov model was constructed to analyse long term cost per QALY gained. The analysis took a base case of costs from a UK Health Service perspective with a thirty five year time horizon (mean age of participants in the trial 66 years). Sensitivity analyses examined the robustness of the results.

Results Self management of hypertension within the trial had an ICER for blood pressure reduction of £19/mm Hg (€23/mm Hg). The Markov model showed that self management with telemonitoring and titration of antihypertensive medication was cheaper (by £61/patient) and more effective (by 0.1129 QALYs gained/patient) than usual care. Self management therefore dominated usual care. Results were robust to sensitivity analyses around the assumptions made.

Conclusions Self management with self titration of antihypertensives and telemonitoring of home

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

blood pressure measurements leads to cost effective improvement in quality of life as well as reduced blood pressure. Self management represents a useful new intervention for primary care patients with poorly controlled blood pressure.

A16

Can patients do it right? An evaluation of patient self-monitoring and self-management of blood pressure in the TASMINH2 trial

Miren Jones, Emma Bray, Miriam Banting, Richard McManus
University of Birmingham, Birmingham, UK

Introduction Monitoring of blood pressure (BP) has, until recently, been the preserve of health professionals using readings taken in a medical environment. Patient self-monitoring is associated with small but significant reductions in BP, is cost effective and well-liked by patients. Self-management, where patients self monitor and adjust their own medication, is a further step in increasing patient involvement and was successful in reducing blood pressure in the TASMINH2 trial. This sub-study reports on the fidelity of the self-management intervention in the trial.

Methods 527 patients from 24 practices in the West Midlands were randomised into the TASMINH2 trial. Patients in the intervention group were invited to attend two training sessions in which they were taught to measure their BP, interpret their readings and take appropriate actions. Patients were asked to measure their BP for one week each month for a year, categorise readings using a "traffic light" algorithm and adjust medication, if required, according to a plan agreed in advance with their GP.

Results 241 (92%) patients successfully completed the training programme, 5 (2%) began the study self-monitoring only and 17 (6%) withdrew before the intervention started. At the end of the trial 210 (80%) patients were still self-managing their BP, 12 (5%) were self-monitoring only and 41 (16%) had withdrawn from the intervention. 194 (80%) completed >90% of the required readings, and 170 (69%) took >90% of readings with the correct time interval between them. 216 (88%) of patients correctly colour coded >90% of their readings. 97 (40%) of patients made the correct management decision throughout the trial, and 175 (73%) made the correct management decision more than 80% of the time. 9 (3%) required intervention from the study team due to a lack of response to a very high or low reading.

Conclusion The training programme developed for the TASMINH2 trial was successful in enabling the majority of patients to record their BP according to protocol, interpret their readings correctly and take appropriate actions based on their readings. Patient self-monitoring of BP and self-management of antihypertensive medication is feasible and could be extended more widely in primary care.

A21

UK Primary Care Research Portfolio Review

frank sullivan[1], alison hinds[1], laura wilkie[1], paul wallace[1]
[1]*University of Dundee, Tayside, UK,*
[2]*University College London, London, UK*

Introduction In the decade since the Mackenzie II and Mant reviews of primary care research there has been considerable development in academic primary care in the UK. We have mapped current primary care research activity throughout the UK in order to identify areas of strength and important potential activity gaps.

Method

Phase 1: Identification of an appropriate classification framework
Several options tested and final agreement achieved in workshop at SAPC 2008 in Galway
Phase 2: Triaxial classification applied to studies on UKCRN portfolio
Phase 3: Consultation exercise to prioritise potential research topics.
Delphi process for 30 UKCRN speciality areas a group of 6-15 experts comprising a variable mixture of academic, clinicians, patients, and charities for each specialty area was identified by a snowball technique of approaching researchers and charities with relevant interests to suggest respondents.
The results of the electronic Delphi process were discussed with an invited group of patient representatives, clinicians and funders interested in dermatology and stroke research at a workshop.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Results At the end of 2008 there were 204 studies on the UKCRN database or eligible to be included.

High levels of activity are evident in the UKCRN categories of Public Health; Mental Health; Musculoskeletal; Diabetes and Cardiovascular Research. Much lower levels are obvious in Eye, Critical Care, Surgery, Injuries and Accidents Oral and Dental, Children's Medicines. The Topic Review Group categories show activity in all areas of primary care research with an emphasis on Trials of Interventions; Health outcome and costs; Patient experience; Quality of care; Health promotion. Much less current activity is evident in Teamwork; Holistic approach ; Communication skills/shared decision making; Continuity/Coordination; Medical records.

Conclusion This snapshot of primary care research activity registered on the UKCRN Project Register at the end of 2008 and additional prioritisation of potential topics provides a valuable but partial view of current research activity in UK primary care. The results of this exercise are intended to be used by individual academics, research groups and institutions as well as research funding organisations to inform the development of future primary care research activity.

A22

Primary-care databases: An alternative to disease registers for population-based research into cerebral palsy in the UK

Wilhelmine Meeraus[1,2], Irene Petersen[2], Ruth Gilbert[1]
[1]*UCL Institute of Child Health, London, UK,*
[2]*UCL Research Department of Primary Care and Population Health, London, UK*

Introduction: Cerebral palsy (CP) is a major cause of disability in children. Although rare, CP research is important to determine potential impacts of changing obstetric and neonatal care. Research is often based on CP registers, but these need to be large and are costly to administer. We assessed the utility of primary-care databases as an alternative to registers for the study of CP by comparing estimates and trends of CP recorded in The Health Improvement Network (THIN) with those from CP registers.

Method: Cumulative incidence (CI) was estimated in THIN using a birth-cohort of 352,374 children born between 1994-2008 and followed up for 1,470,658 years. Cases were identified using a Read code list which included CP and other congenital plegias. Trends in CI were assessed using Cox regression, adjusting for gender, multiple birth status, deprivation, birth-year calendar-year and GP practice.

Results: Overall, 313 children were identified with CP. The CI of recorded CP was 0.03% at age 1, 0.13% at age 5, and 0.15% from age 8 onwards. Females were 34% less likely than males to have CP ($p<0.001$), while twins/triplets were 2.6 times more likely to have CP than singletons ($p<0.001$). CP recording did not vary by birth-year, calendar-year, or deprivation level. The frequency of CP is usually described by CP registers using a *birth prevalence*. Our CI of CP plateaus at 0.15%; equivalent to a *birth prevalence* of 1.5 cases per 1,000 live births. This estimate is lower than estimates from the 4 UK CP registers (range 1.6-2.3), but on a par with estimates from European and North American population-based studies with relatively insensitive case ascertainment (range 1.3-3.2). Trends of CP recording in THIN were similar to other studies.

Conclusions: Primary-care databases such as THIN may provide an economic alternative to CP registers. But, it appears that CP is under-recorded in THIN and development of more sensitive Read code algorithms for CP is required. THIN may also play an important role in providing population-wide data on CP to examine variation in the social, economic and healthcare burden of CP as well as to investigate risk and prognostic factors.

A23

Overcoming the challenge of linking primary care and other health service data for UKBiobank.

Mark McGilchrist, Jan Broomhall, Frank Sullivan
University of Dundee, tayside, UK

Introduction A priority requirement for UKBiobank (a study of genes and environment in 0.5M volunteers) is the long-term follow-up of volunteers using routine healthcare data. The Health Informatics Centre in Dundee acts as the co-

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

ordinating centre for linkage of NHS data for study subjects living in Scotland.

Routine NHS data in Scotland is held at 3 basic levels within the NHS structure: General Practice Primary care trusts, Hospital Trusts and Health Boards. Each of these is an independent legal entity. At all three levels there are existing programmes which pool these data thus simplifying the task of access:

- Scottish Enhanced Functionality (SEF) for primary care data
- Scottish Morbidity Record (SMR) for secondary care data
- Scottish Care Information (SCI) for board level data

This panel contribution describes how the data are extracted, linked and processed.

Methods We obtained and inserted a Read code (9Q3..) in order to identify the 38K UKB study participants within clinical systems. The Health Informatics Centre (HIC) in Dundee co-ordinates the record linkage of data extracted from the sources above, In this Multi-institutional linkage model the periphery holds and delivers data as requested by HIC which organises these requests and offers a central clearing facility for the use of patient data. This allows for the careful policing and risk analysis of the cumulative use of patient data over time.

Results To date 17K patients in 171 practices are able to contribute specific subsets of their anonymised or pseudonymised GP data which can be delivered to secure computing facilities for analysis by researchers in UKBiobank.

Conclusion It is possible to retain data and control at the peripheral institutions, such as primary care, with the 'centre' providing essential coordination of requests for data by the research community. Data only flows with either the express permission of patients or the general practice.. A key feature would have the general practice directly responsible for complying with the individual wishes of patients through a variety of recorded consents for use of their data. Such consents would be controlled at periphery.

A24

Secondary use of data recorded in primary care: insights from human computer interaction field studies

Lesley Axelrod[1], Jackie Cassell[2], Geraldine Fitzpatrick[5], Flis Henwood[4], Greta Rait[3], Amanda Nicholson[2], Helen Smith[2], Rosemary Tate[2]
[1]University of Sussex, Brighton, UK, [2]Brighton and Sussex Medical School, Brighton, UK, [3]University College London, London, UK, [4]University of Brighton, Brighton, UK, [5]Technical University of Vienna, Vienna, Austria

Introduction Electronic health records from primary care, are now aggregated in a number of large datasets from primary care settings, containing both coded data and free-text. Secondary users can easily undertake analyses using coded data. However although the balance of information between these codes and free text is variable, they rarely use the information contained in doctors' free-text notes - because of their 'messy' nature and the costs of ensuring anonymity. Our epidemiological studies within the Patient Records Enhancement Project has demonstrated that free text contains important information, that is often ignored.

Method Human computer interaction (HCI) studies, using qualitative approaches, can help us understand the reasons for variability in the balance of coded and free text data. We undertook field studies in six GP surgeries which included observations of record use across the surgery, video analysis of real patient consultations and interviews with a range of surgery staff. We also undertook 'simulated' consultations, with two medical actors playing the part of the patient, allowing us to standardise the patient across doctors and software systems.

Results Preliminary results suggest several reasons for variation in data recording. Doctors create notes in order to best manage patients with little consideration for use by others, and reported limited awareness of secondary uses of the information. Doctors often record and "read" a picture painted by the overall record of a consultation or record symptoms and signs in free text notes, and choose not to code a definite diagnosis. If coding, they often choose a more

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

general non specific code, even when they have inferred and acted on a clear diagnosis. These approaches reflect processes of progressing from differential to definite diagnosis, and the surgery's administrative and consultation processes.

Conclusion Our findings may explain apparent delays in diagnosis often observed in epidemiological analyses. The picture portrayed within records may not be at all clear to researchers relying on coded data. Our results have implications for secondary users of data and assessment of data for quality of care. Follow on work might result in typologies of diseases liable to coded data deficits and support software development.

A25

Use primary care database records for epidemiological and health services research:the impact of data held in free text.

Rob Koeling[1], Amanda Nicholson[2], John Carroll[1], Lesley Axelrod[1], Helen Smith[2], Greta Rait[3], Kevin Davies[2], Rosemary Tate[2], Jackie Cassell[2]
[1]University of Sussex, Brighton, UK, UK, [2]Brighton and Sussex Medical School, Brighton, UK, UK, [3]University College London, London, UK, UK

Introduction Primary care databases are routinely used as a major source of data for epidemiological and health services research. However, most studies only extract records based on coded information, whilst ignoring the information stored in the free text in GP records. Using the early presentation and management of rheumatoid arthritis (RA) as an exemplar, our objective was to estimate the extent of missing data available within free text.

Methods
Design : retrospective cohort study
Setting : 460 GP practices in the UK contributing to the General Practice Research Database
Population: 2007 men and 4380 women aged 30 years and over with first coded diagnosis of RA between 1/1/2005 and 31/12/2008
Data source: Coded data and extracted free text was available from one year before the first coded diagnosis of RA to 14 days afterwards.
Outcome measures: We developed indicator markers for 1) provisional diagnosis of an inflammatory arthritis and 2) synovitis based both on coded data and keyword searches in text. Keywords were based on clinical opinion, UMLS thesaurus and frequent spelling errors and abbreviations, but did not include negation.

Results Evidence of a provisional inflammatory arthritis diagnosis was present in coded data in 706 (11%) of patients but was present only in keywords searches in a further 920 (14.4%) patients. Codes for synovitis were found in only 179 (3%) of patients , but using keywords there was evidence in an additional in 1079 (17%). No gender differences were found in the balance between code and text data.

Conclusions Our results imply that estimates based only on coded data, without including free text, may misrepresent the care delivered in primary care. This has implications for the development of quality indicators . We have laid the basis for methods that will allow us to further investigate methods for extracting records using evidence in free text. In future work we will add negation algorithms and model the context in which the keyword occurs. We will also investigate to automate the process of expanding the initial keyword list using sample data and resources like UMLS.

A26

Data linkage for paediatric pharmacovigilance: views and opinions of key stakeholders and Caldicott guardians

Yvonne Hopf[1,2], Christine Bond[1], John Haughney[1], Peter Helms[2]
[1]Centre of Academic Primary Care, University of Aberdeen, Aberdeen, UK, [2]Child Health, University of Aberdeen, Aberdeen, UK

Introduction Paediatric pharmacovigilance is a recognised priority as off-label use of medicines is associated with a greater likelihood of adverse drug reactions (ADRs)[1]. The UK Yellow Card Scheme (YCS) is central to pharmacovigilance, but other methods have been suggested as useful adjuncts[2]. The inclusion of the community health index (CHI) in the recording of all NHS contacts in Scotland provides opportunities to link data and thereby identify ADRs by linking prescribing and health utilization data. The aim was to assess

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

national stakeholders' -including Caldicott guardians' and ethic chairs'- opinions of, and attitudes to, limitations of current pharmacovigilance systems, the linking of data at national level and advantages of, or barriers to, this approach.

Method Qualitative data was gathered through semi-structured interviews (audio-recorded and fully transcribed) which were conducted with a purposive sample (n=40) including experts on ethics, public health, data protection, pharmacovigilance, data linkage, legal issues, paediatrics and prescribing. A priori and emergent themes were identified via a framework approach.

Results Six main themes were identified- views and understanding of pharmacovigilance, opinions on available data within the NHS, attitude to and discussion of proposed linkage, beliefs on the usage of linked data, as well as opinions on the dissemination of findings and the disclosure of personal data-, each with a number of sub themes. The proposal to link data for pharmacovigilance was generally regarded positively- "clearly doing things to stop medicines being used inappropriately in children would be a good thing" (A24), with the caveats of strict governance mechanisms, fulfilment of all legal requirements and assured data security- "But I am also in favour of making sure that we're fully accountable for what we do with the data afterwards." (A05).

Conclusion In general the proposal to use routinely collected data to create a pharmacovigilance resource for children in Scotland was received positively. Some practical, ethical and legal issues were identified but none seem to be insurmountable. Data from a Caldicott guardian and a REC cohort will add further to the results. The generalisability of these results will be further explored in focus groups across Scotland and a Delphi survey.

A31

The Newest Vital Sign UK: a new tool to measure Health Literacy

Gillian Rowlands[1], Suzanne Barr[2], Paul Seed[2], Nina Khazaezadeh[3], Eugene Oteng-Ntim[3], Barry Weiss[4]
[1]London South Bank University, London, UK, [2]King's College, London, UK, [3]Guy's and St Thomas' NHS Trust, London, UK, [4]University of Arizona, Arizona, USA

Introduction Health literacy (HL) is a social determinant of health, encompassing literacy and numeracy skills as applied to health and the ability to apply information to promote health.

This study aims to validate a US-developed HL measure, the Newest Vital Sign (NVS), for use in the UK. This tests skills in understanding and using nutrition label information and takes 3 minutes to administer.

Method This was a 3-stage study.

1. The NVS was amended to fit UK nutrition labelling. A web-based Delphi study with nutrition and HL experts was undertaken to refine the test layout and questions.

2. Cognitive testing: Lambeth and Southwark (London) community dwellers were asked for their views on clarity and acceptability of the tool. This was an iterative process with multiple cycles for test refinement.

3. The final test was validated against a 'Gold Standard' HL measure (the Test of Functional Health Literacy in Adults: TOFHLA) and educational attainment. A sample size calculation indicated that 300 participants would be required for statistical significance.

Entry criteria: age 18 – 75 and ability to converse in English.

Results

1. Delphi study: 24 experts participated. Three rounds were required to achieve consensus.

2. Cognitive testing: Five rounds of testing were undertaken; 80 participants were recruited from the Lambeth and Southwark community. The sample was representative of the locality, which is younger (median age 24-34 vs 35-44 years) and with a higher proportion of minority ethnic groups (63% vs 14%) than the English average.

3. Validation: 337 participants were recruited. The sample was representative of the local population. Analysis is ongoing; preliminary analysis suggests good reliability (Cronbach's Alpha = 0.74) and acceptable criterion validity, as

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

measured by agreement with the Test of Functional Health Literacy in Adults (TOFHLA), (Pearson's r= 0.49). Final analysis will be available at the conference.

Conclusion Preliminary analysis suggests that the NVS UK is a valid measure of Health Literacy for use in the UK. Its acceptability, and its basis as a nutrition label seen in everyday life, makes it an ideal tool for HL research in primary care.

A32

Are health checks working for people with learning disability? Patient and carer perspectives.

Umesh Chauhan[1], Susan Hinder[1], Pauline Nelson[1], Eric Emerson[2,3]
[1]*University of Manchester, Manchester, UK,* [2]*Lancaster University, Lancaster, UK,* [3]*University of Sydney, LIDCOMBE NSW, Australia*

Introduction People with learning disabilities are 58 times more likely to die before the age of 50 when compared to the general population and four times more likely to have a preventable cause of death. Evidence suggests that the health needs of this group are being inadequately addressed but that health checks may increase detection of health problems for people with learning disability. Annual health checks for adults with learning disability were recently introduced in England in primary care as a directly enhanced service (DES). There has been little research to document the experiences and views of people with learning disability and their carers about health checks.

Method This qualitative study explored the experiences of people with learning disability and their family carers using a purposive sample of 32 people with learning disability who were recruited through general practices in Haringey and East Lancashire PCTs with the support of community learning disability teams. Indepth semi-structured interviews were audio-taped and transcribed. Analysis for emergent themes was independently carried out by three researchers, supported by discussions with a lay advisor with learning disability.

Results Irrespective of whether the participants had a health check or not there were a number of underlying factors which affect the care received. These related to access and communication problems at the practice, at the individual level as well as across services. Health checks were felt to be extensive and thorough and there were also examples of reasonable adjustments being made. Continuity of care was valued by both people with learning disability and family carers with a reluctance among participants to give negative feedback. There was also a low level of expectation and understanding about certain aspects of the health check (hearing assessment for example).

Conclusion Practices carrying out health checks through the DES appear to be changing the way they respond to the needs of people with learning disability leading to improved perceptions of the care being provided, however there are significant barriers related to access and communication. Interviews with health professionals will explore their views on delivering health checks and supplement the findings of this study.

A33

Why don't Somali people in Liverpool access health services for common mental health problems?

Marija Kovandzic[1], Emma Funnell[1], Pam Clarke[1], Abdi Ahmed[2], Derek Hibbert[1], Carolyn Chew-Graham[3], Suzanne Edwards[1], Katja Gravenhorst[1], Jonathan Hammond[3], Christopher Dowrick[1]
[1]*University of Liverpool, Liverpool, UK,* [2]*Liverpool Primary Care Trust, Liverpool, UK,* [3]*University of Manchester, Manchester, UK*

Introduction The Liverpool Somali population has been established through several waves of voluntary and forced migration over the last one hundred years. This BME group is considered to have a high prevalence of depression and other common mental health problems, while simultaneously not making equivalent use of health care services for addressing these problems.

Method We looked for explanations of this paradox by accomplishing a case study based on secondary analysis of qualitative data. Primary data was generated within the AMP* programme over a three-year period with aim to identify ways of improving equity of access to primary mental

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

health care. Methods included: grey literature review, semi-structured and 'go-along' interviews with various stakeholders including Somali residents and community workers, focus groups with Somali residents and local health professionals, ethnographic mapping and participant observation in local communities and GP practices. The secondary dataset for the case study was formed by inclusion of all data related to a particular geographic locality in the south central area of Liverpool where most of Somalis have settled. The secondary analysis was, with some modifications, based on methodology described in published literature.

Results The analysis suggests the following barriers to access:

1. Problems with locality i.e. services not within area which is familiar and considered safe and friendly; environment which doesn't enable desired identity construction;
2. Unhelpful cognitive maps of 'mental health' among participants of health care;
3. Mismatch between actual and perceived role of GPs in relation to mental health support;
4. Third sector and voluntary organisations (which could facilitate access and provide some services) being disconnected with primary care and inappropriately supported and funded;
5. Miscellaneous factors including lack of information on talking therapies, difficult life circumstances, lack of trust, language barriers and inappropriate receptivity of services.

Conclusions Improving access to support for common mental health problems for Somali people in Liverpool requires multidimensional models of change in primary care and beyond. The findings of this study may also offer ideas for improving access to services in other multicultural environments.

*A R&D programme to increase equity of access to high quality mental health services in primary care, NIHR 1071

A34

Improving access to healthcare for revolving door offenders

Richard Byng[1], Cath Weyer Brown[1], Deborah Shenton[1], Ian Porter[1], Adam Qureshi[1], Rod Taylor[1], Rod Sheaff[2], John Campbell[1]
[1]Peninsula College of Medicine and Dentistry, Plymouth, UK, [2]University of Plymouth, Plymouth, UK

Introduction: Offenders often have mental health problems alongside addiction and physical co-morbidities. Anecdotal accounts suggest poor access to community based healthcare. The Bradley Report recommends a range of new services. Objectives: To understand and describe current care; to improve access to healthcare for offenders; inform joint working between health and criminal justice agencies.

Methodology: An analysis of policies and protocols using a Realistic Evaluation framework was used to elicit 'policy presumptions' and requirements for care. This informed detailed research questions.

Data collection: 1. Organisational case-studies. 2. Offender interviews (201 plus follow-ups) on health needs and access sampling from probation and prison. 3. Qualitative interviews (25) and focus groups (5) to understand offenders' perspectives on health and help seeking.

The mixed methods data set was synthesised into recommendations to improve services.

Results:

1. Case studies indicated limited attempts at joint working between health and criminal justice agencies; and widespread dissatisfaction with access to mental health care. There were isolated pockets of innovative practice.
2. Contact rates varied significantly by justice setting and service type (highest at 9 contacts p.a. for both prison primary care and probation based substance misuse services). Rates of care for mental health problems was uniformly low (2-4 p.a.,

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

despite high perceived prevalence (56%).

3. Offenders described how they used illegal substances to manage the symptoms of their mental distress, in the absence of health care support. Offenders prioritised feeling 'cared for' by practitioners above healthcare outcomes. They appreciated opportunities to talk, but were slow to acknowledge emotional distress, which was often concealed. Offenders presented strong personal conceptions of maintaining their own health and were often highly critical of services. They exhibited high levels of intention, but low levels of achievement, in accessing care.

Conclusions: Low levels of help seeking for mental health problems and minimal links between justice and health interact to prevent access. Addiction treatment and attendance at probation present an opportunity for other health problems to be addressed; potential primary care based models will be discussed. Realistic Evaluation contributed to understanding this complex under-researched area.

A35

"GPs don't know what's going on around here."

Heather Burroughs, Jonathan Lamb, Susan Beatty, Saadia Aseem, Jonathan Hammond, Linda Gask, Chris Dowrick
University of Manchester, Manchester, UK

Introduction We used "Go Along" interviews to help us to understand health issues in two deprived areas of Manchester. The interviews were conducted as part of the AMP project, which is concerned with improving access to mental health care for disadvantaged groups.

Method We conducted twenty-eight qualitative "Go Along" interviews in the Wythenshawe and Longsight areas of Manchester to explore the complex ways in which health is shaped in local contexts. "Go Along" interviews are a means of obtaining contextually based information about how people experience their local worlds and the effects these experiences have on health and well-being. Through asking questions and observing, we were able to examine the informants' experiences, interpretations, and practices within their immediate environment. Fourteen of the interviews were with service users who lived in the area and fourteen with service providers who worked there.

Results Although the two areas were very different – most obviously in terms of ethnic diversity - we found that a common theme is the feeling that GPs are dislocated from their patients and the communities in which their patients reside. There is a lack of awareness of projects and facilities which could be of benefit to their patients. Also, there is 'an epidemic of mental ill health' in these areas, with referral criteria becoming tougher, and social, economic and environmental factors playing a huge part in the mental distress suffered by local residents. Structural change due to government initiatives or global economic forces is occurring at a dizzying pace in these areas, and this is contributing to feelings of disempowerment and alienation.

Conclusions There is a need for GPs to familiarise themselves with the local communities whom they serve and to forge links with local third sector groups. GPs could then encourage needy patients to utilise these local projects and facilities. Such collaboration could benefit patients, third sector groups, and GPs themselves.

A36

The Public Health Impact Score - a new measure of public health effectiveness for general practices in England

Mark Ashworth[1], Peter Schofield[1], Richard Cookson[2], Tim Doran[3], Matthew Sutton[3], Paul Seed[1], Amanda Howe[4], Bob Fleetcroft[4]
[1]King's College London, London, UK, [2]University of York, York, UK, [3]University of Manchester, Manchester, UK, [4]University of East Anglia, Norwich, UK

Introduction The Quality and Outcome Framework (QOF) rewards UK general practices for their performance on a range of quality indicators. Payments for individual indicators reflect the anticipated workload for target achievement rather than their impact on health

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

outcomes. We aimed to create a Public Health Impact (PHI) score for general practices, based on achievement of QOF indicators and their predicted impact on mortality rates.

Methods We used data from the national QOF dataset for 8151 practices in England in 2009/10. We identified 19 QOF indicators for which there was clinical evidence for mortality reduction. For each practice, indicator achievement rates were calculated by dividing the number of patients achieving each indicator by the number of patients with the condition, prior to any removal of patients from the denominator through exception reporting. Achievement rates were translated into potential numbers of lives saved using estimates of mortality reduction [Fleetcroft et al, 2010], and converted to a 0-100 scale, the 'Public Health Impact' ('PHI') score, where 100 represents 100% achievement for all 19 indicators, and therefore maximum potential for mortality reduction.

Results The mean PHI score was 76.2 (SD 4.99) and median score 76.4 (range 0.00 - 93.79). The PHI score was normally distributed and correlated moderately strongly with total QOF score (Pearson r = 0.44) and clinical QOF score (r = 0.43). Correlations were weaker with the organisational (r = 0.21), additional services (r = 0.25) and patient experience (r = 0.17) domains.

The PHI score was significantly associated with: deprivation (IMD-2007, β, -0.09); practice list size (β, -0.11); patients per GP (β, 0.03); and training practice status (β, 0.03). Ethnicity was not a significant predictor. However, the model only predicted 1.5% of the variation in PHI score.

Conclusions The PHI score is a potential alternative metric of practice performance, measuring the potential for mortality reduction in registered patients. PHI scores were generally high, and largely independent of both social and practice determinants. The modest correlations between the PHI and QOF scores suggest that the pay-for-performance scheme currently rewards practices which are less successful in achieving evidence-based clinical outcomes that reduce mortality.

A41

Diagnostic accuracy of the ID-Migraine: a systematic review and meta-analysis

Grainne Cousins[1], Samira Hijazze[1,2], Floris Van de Laar[2], Tom Fahey[1]
[1]HRB Centre for Primary Care Research, Royal College of Surgeons in Ireland, Dublin, Ireland, [2]Department of Primary and Community Care, Nijmegen Medical Centre, Radboud University, Nijmegen, The Netherlands

Introduction: The ID Migraine screening tool is designed to identify patients with migraine in primary care settings. Several studies have validated the ID Migraine since it's derivation in 2003 across various clinical settings, including primary care, neurology departments, headache clinics, dental clinics, ENT and ophthalmology. The aim of this study is to perform a comprehensive systematic review and meta-analysis of validation studies of the ID Migraine to determine its accuracy as a decision rule for identifying patients with migraine.

Method: A systematic literature search was conducted to identify all studies validating the ID Migraine, with the International Headache Criteria as the reference standard. The methodological quality of selected studies was assessed using the Quality of Diagnostic Accuracy Studies tool. All selected studies were combined using a bivariate random effects model. A sensitivity analysis was also conducted, pooling only those studies using representative patient groups (primary care; neurology departments; and headache clinics) to determine the potential influence of spectrum bias on the results.

Results: Thirteen studies incorporating 5,866 patients are included. The weighted prior probability of migraine across the thirteen studies is 59%. The ID Migraine is shown to be useful for ruling out rather than ruling in migraine, with a greater pooled sensitivity estimate (0.84, 95% CI 0.75 - 0.90) than specificity (0.76, 95% CI 0.69 - 0.83). A negative ID Migraine score reduces the probability of migraine from 59% to 23%. The sensitivity analysis which removed those studies with potential to introduce spectrum bias, revealed similar results, supporting the use of the ID Migraine to rule out migraine in symptomatic patients presenting to primary care, neurology departments or headache clinics.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Conclusions: This systematic review quantifes the diagnostic accuracy of the ID Migraine as a brief, practical and easy to use diagnostic tool for Migraine. Application of the ID Migraine as a diagnostic tool is likely to improve appropriate diagnosis and management of Migraine sufferers.

A42

Diagnostic accuracy and clinical management of COPD in primary care: is there potential for harm?

Helen Booth[1], Hannah Thornton[1], Sophia Georgopoulou[1], Hilary Pinnock[2], Patrick White[1]
[1]*King's College London, London, UK,*
[2]*University of Edinburgh, Edinburgh, UK*

Introduction GOLD (Global initiative for chronic Obstructive Lung Disease) and NICE (National Institute for Clinical Excellence) guidelines recommend inhaled medications for COPD based on disease severity. Over-treatment of COPD with inhaled corticosteroids (ICS) risks side-effects including pneumonia and incurs considerable financial waste. This study assessed adherence to the GOLD guidelines in primary care in South London. It included quality of diagnosis and prescribing of inhaled COPD medications, and it examined the potential risks and costs associated with overuse of inhaled corticosteroids.

METHODS

Data on management of COPD patients were extracted from the electronic and paper records of 41 general practices in Lambeth and Southwark including spirometry, inhaled medications and recent COPD exacerbations. Patient severity was classed by GOLD stage and appropriateness of prescribing was assessed.

Results 3537 COPD patients were identified. Spirometry was recorded for 2458 (69%), of whom 709 (29%) did not meet GOLD diagnostic criteria for COPD. 1749 (49%) were included in the analysis of treatment. 8.6% were under-treated and 37.7% over-treated according to GOLD. The most common deviation was over-prescription of ICS in GOLD stages I/II (38%) and in stages III/IV with no history of severe exacerbations (33.6%). Among 897 patients assessed as inappropriately treated with ICS, 12 cases (95%CI 7-19) of serious pneumonia were likely to have been observed in the previous year. 535 (60%) cases of over-treatment involved combination long-acting beta$_2$-agonists with a mean cost per patient of £553.56/year.

Conclusion Diagnosis of COPD was recorded without evidence of spirometry in 50% of COPD patients in primary care. Deviation from GOLD in prescribing was substantial. The potential for harm and the unjustified costs due to ICS over-prescription in over a third of COPD patients with a confirmed diagnosis give considerable cause for concern.

A43

The MoleMate™ Trial: an RCT of a novel diagnostic aid for the management of pigmented skin lesions in primary care.

Fiona M. Walter[1,2], Helen Morris[1], Elka Humphrys[1], Per N. Hall[3], Anne Louise Kinmonth[1], A. Toby Prevost[4], Edward Wilson[5], Nigel Burrows[3], Paul Norris[3], Lucy Bradshaw[1], Joe Walls[3], Margaret Johnson[6], Jon Emery[2,1]
[1]*University of Cambridge, Cambridge, UK,*
[2]*University of Western Australia, Perth, Australia,* [3]*Addenbrooke's Hospital, Cambridge, UK,* [4]*King's College, London, UK,* [5]*University of East Anglia, Norwich, UK,*
[6]*Lay member, Cambridge, UK*

Introduction Differentiating melanomas from other pigmented skin lesions in primary care is challenging. We assessed whether adding a novel diagnostic aid, the MoleMate system, based on SIAscopy, resulted in more appropriate referrals of pigmented lesions to secondary care compared with current best practice alone.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Method RCT set in 15 general practices in the East of England. Adults with a pigmented skin lesion that could not immediately be diagnosed as benign were randomised to Best Practice (clinical history, naked eye examination, seven-point checklist NICE 2006), or Best Practice plus the MoleMate system, delivered by 2 Lead Clinicians per practice. The primary outcome was the positive predictive value (PPV) of referral defined as the proportion of referred lesions that were biopsied or monitored. Secondary outcomes included clinical diagnoses, clinician and patient outcomes.

Results 1,580 lesions on 1,297 participants were recruited (MoleMate 788 lesions; Best Practice 792 lesions). There was no significant difference between the MoleMate system and Best Practice in the PPV of a referral (MoleMate 56.8% vs Best Practice 64.5%, p=0.12). There was no difference in sensitivity but Molemate had lower specificity and resulted in more lesions referred (Molemate vs Best Practice: NPV: 99.6% vs 99.0%, p=0.29; sensitivity 98.5% vs 94.9%, p=0.15; specificity 84.4% vs 90.6%, p=0.001; lesions referred: 29.8% vs 22.4%, p=0.001). Thirty histologically confirmed melanomas were diagnosed during the trial: 15/15 appropriately referred in the MoleMate group and 14/15 in the Best Practice group.

Clinicians were confident in both the MoleMate system and Best Practice. Patients in the MoleMate group ranked their consultation higher for thoroughness and reassuring care than the Best Practice group. Anxiety scores did not differ between groups immediately after the consultation or over time.

Conclusion The Molemate system performed no better than implementation of NICE best practice guidelines and their widespread application in the UK could significantly improve the management of pigmented skin lesions in primary care.

A44

Information distortion in clinical diagnostic judgements

Olga Kostopoulou[1], Greg Keenan[1], J. Edward Russo[2], Brendan Delaney[1]
[1]*King's College London, London, UK,*
[2]*Cornell University, Ithaca New York, USA*

Introduction: Information distortion (changing the evaluation of new information to support an emerging belief) has been observed in consumer and legal decision making, mainly with students and non-technical judgements. We aimed to determine whether GPs too distort information to support an emerging diagnosis.

Method: Distortion is a non-conscious process, whose presence can only be detected via experimental methods. We collected data from GPs via an anonymous questionnaire. Respondents in the experimental group (n=74) read 3 patient scenarios in random order. Each scenario started with 3 diagnostic cues (the 'steer') that favoured 1 of 2 diagnoses (counterbalanced across respondents), followed by several non-diagnostic cues, and completed by 3 diagnostic cues that opposed the initial steer. After having seen the three initial cues and then after each of the remaining cues, respondents (a) indicated which diagnosis was favoured by that cue and (b) updated their current belief (based on all cues seen so far) as to the correct diagnosis. All responses were provided on 21-point VAS with the 2 diagnoses on either end.

A control group of 36 different GPs provided baseline ratings of the same cues, but in random order and not as part of a coherent diagnostic scenario. Because they had no opportunity to build a working diagnosis, their mean cue ratings could serve as the unbiased baseline values, relative to which we calculated the distortion of the cue ratings of the experimental group.

Results: Mean distortion across GPs was 1.55, which was both statistically significant ($p<0.001$) and comparable in magnitude to previous studies. Respondents distorted both non-diagnostic and diagnostic cues to support their emerging diagnoses, as evidenced by significantly different cue ratings between GPs with different working diagnoses (at opposite sides on the VAS). In a multilevel model, the size of distortion increased systematically with the strength of belief in the current diagnosis.

Conclusions: This is the first study to provide experimental evidence that clinicians distort incoming information to support an emerging diagnosis. It suggests that clinicians holding different working diagnoses may interpret the same information differently, despite the information's diagnostic value, with significant implications for decision support.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

A45

A qualitative investigation of decision processes in diagnoses made by clinical intuition

Amanda Woolley, Olga Kostopoulou
King's College London, London, UK

Introduction Clinicians often report 'gut feelings' when making diagnostic or treatment decisions. However, the processes they describe are varied. We conducted an interview study to examine the natural process of clinical intuition and identify the types of decision processes involved. Within psychology the 'value account model', 'unconscious thought theory', 'process fluency approach' and numerous dual process theories suggest that intuitions of this kind are based on learning experiences and emotional processes. In some circumstances, intuition has been shown to be more accurate than analytic thinking.

Method Participants were 18 General Practitioners (9 female; mean age=44 years, SD=14.4). Prior to interview participants were asked to think of "cases where they felt they knew that something was wrong (or that everything was well) but that they didn't know how they knew". The Critical Decision Method was employed to structure the interview, establish a timeline of events and probe each judgement and decision point. Transcripts were reordered around judgement points and coded for associated informational cues, expectations or reasoning, goals and actions in order to map out the decision making process.

Results 31 cases were elicited during interviews. Seven cases were subsequently excluded as it became clear these participants were aware of the basis of their judgement. Three types of intuitive decision process were identified. Recognition processes, where GPs immediately recognised the problem and committed to that judgement despite salient conflicting information and reasonable alternative interpretations. Gut-feeling processes where the initial interpretation of the situation was later rejected based on acquired evidence, although the initial interpretation might still be described as more plausible. Insight-type processes where there was no immediate recognition of the problem until the solution emerged without any link to analytical attempts to solve the problem. Two raters independently categorised all transcripts into the 3 types of intuition, with good agreement (Kappa=.75)

Conclusion The study identifies the different cognitive processes discussed by GPs as the unitary 'gut feeling' concept. It highlights an area of non-analytic reasoning in medical decision making beyond the well-known concepts of heuristics and pattern recognition and thus has significant implications for education in diagnostic reasoning.

A46

Are symptoms usually associated with overt thyroid dysfunction prevalent in elderly individuals with subclinical thyroid dysfunction?

Deborah McCahon, Sue Wilson, Jayne Franklyn, Sayeed Haque, Richard Hobbs, James Parle, Lesley Roberts
University of Birmingham, West Midlands, UK

Background: Subclinical thyroid dysfunction is common in older age and is characterised by abnormal serum thyrotrophin concentrations (thyroid stimulating hormone [TSH]) with normal free thyroxine (FT_4). Elderly individuals frequently present with symptoms traditionally associated with overt thyroid dysfunction. The relationship between symptoms and subclinical thyroid dysfunction remains unclear not least because these symptoms accompany normal aging. Characterisation of symptoms would enable identification of those most likely to benefit from testing and reduce unnecessary investigation and/or treatment in the elderly.

Objective: To determine whether symptoms are associated with subclinical thyroid dysfunction in the elderly.

Design: Cross sectional, nested within longitudinal Birmingham Elderly Thyroid Study (BETS).

Setting: 19 General practices, West Midlands, UK

Subjects: Community dwelling, aged over 65 years, (BETS cohort). Individuals with overt dysfunction or treated for thyroid dysfunction were excluded.

Outcome measures: Presence, severity and change in 18 self reported symptoms. Serum thyrotrophin (thyroid stimulating hormone [TSH])

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

and free thyroxine (FT4) for thyroid function categorisation. Case note review for co morbidities and concomitant medication.

Results: Of the 4443 (78%) eligible to participate, 68% (3005/4443) underwent thyroid function testing. A further 135 (5%) were excluded due to treatment for thyroid dysfunction, overt disease or missing data. Thyroid function of 2780/3005 (98%) was categorised to three groups; 29 (1%) subclinical hyperthyroidism (SCHyper), 138 (5%) subclinical hypothyroidism (SCHypo) and 2703 (94%) euthyroid (Euth). The most prevalent symptoms were fast thinking in the SCHyper group (31%) and weight gain in the SCHypo (54%) and Euth groups (49%). No significant differences between the Euth and SCHyper groups or the Euth and SCHypo groups existed with respect to prevalence of individual or totaled symptoms. Regression analysis identifying individual symptoms, combinations of symptoms and other factors predictive of thyroid function category will be presented.

Conclusions: Symptoms suggestive of overt thyroid dysfunction do not appear to be associated with subclinical thyroid dysfunction in elderly and therefore should not be used to inform decisions related to further investigation and treatment.

A51

Work problems after injury: the UK Burden of Injury (UKBOI) multicentre longitudinal study

Yana Vinogradova[1], Denise Kendrick[1], Carol Coupland[1], Ronan Lyons[2], Nicola Christie[3], Elizabeth Towner[4]
[1]University of Nottingham, Nottingham, UK, [2]Swansea University, Swansea, UK, [3]University of Surrey, Guildford, Surrey, UK, [4]University of the West of England, Bristol, UK

Introduction: Injuries are common, accounting for more than 10% of all GP sick certificates. In order to help patients return to work (RTW), this study explores problems experienced during the process of getting back to work.

Method: Prospective multicentre study of working age adults attending Emergency Departments or admitted to hospital due to injury. Participants completed questionnaires at recruitment and 1 and 4 months post injury or until recovery, which ever occurred first. Work problems were assessed using the Work Limitations Questionnaire. Logistic regression was used to estimate associations between injury and socio-demographic characteristics and work problems summarised as productivity loss.

Results: 664 adults (aged 16-65) participated. One month after injury 24% had fully, 32% had partially and 44% had not RTW. At 4 months the figures were 60%, 13% and 27% respectively. Work problems were common (physical demands 46%, time management 27%, mental demands 20%, output demands 20% at 1 month and 31%, 21%, 15% and 15% respectively at 4 months). At one month, those partially RTW experienced significantly more problems in all aspects than those fully RTW, by 4 months significant differences remained for time management and output demands. Injury severity was the only factor significantly associated with productivity loss at one month (moderate or severe injuries vs. minor injury OR 7.71, 95%CI 2.49 to 23.9 for any productivity loss vs. none). At four months productivity loss was associated with increasing age (36-55 vs. ≤35 years OR 2.24, 95% CI 0.94 to 5.33; 56-65 vs. ≤35 OR 5.41, 95 % CI 1.37 to 21.3).

Conclusion: RTW after injury can take considerable time and problems are experienced across all aspects of work. Injury severity predicts work problems early in recovery, but only age predicts problems by 4 months. Primary health care teams should explore the impact of injuries on all aspects of work and intervene early to facilitate successful RTW.

A52

Multimorbidity indices improve the prediction of consultation costs in primary care in the UK

Sam Brilleman[1,3], Sandra Hollinghurst[1,3], Frank Windmeijer[1], Sarah Purdy[1,3], Chris Salisbury[1,3], Hugh Gravelle[2,4]
[1]University of Bristol, Bristol, UK, [2]University of York, York, UK, [3]National School for Primary Care Research, National, UK, [4]National Primary Care Research and Development Centre, Manchester, UK

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Introduction As the population ages, the number of people with multiple problems is likely to increase. There is growing recognition of the importance of multimorbidity as an entity in itself and a belief that management of patients with multiple problems may require resources over and above those needed to treat each condition individually. This has implications for budgetary management in primary care; however no standard measure of multimorbidity for this purpose has been established. A number of indices of multimorbidity have been derived with the main aims of describing prevalence and predicting outcomes. These have focused predominantly on secondary care in the United States. In this study we aim to investigate the relationship between multimorbidity and consultation costs in primary care in the UK. This is the first study we are aware of which investigates the relationship between multimorbidity and costs in this setting.

Methods We used data on a stratified sample of 85,709 individuals aged over 18 years from 182 practices in the General Practice Research Database (GPRD). We used all historic patient diagnoses to measure patient-level multimorbidity using: QOF chronic disease count; Charlson Index score; count of Expanded Diagnostic Clusters (EDCs) identified by the John Hopkins ACG System; and average number of drugs prescribed per year over a 2-year period. We estimated patient-level cost of primary care consultations over the subsequent 12 months.

We related cost to age, sex, deprivation and multimorbidity using Generalised Linear Models (GLMs), and assessed model performance using a variety of fit statistics including a deviance-based R-squared measure.

Results The model including age, sex, deprivation and practice ID alone explained 11% of observed consultation costs. Inclusion of the number of prescribed drugs, count of EDCs, QOF disease count, or Charlson Index score increased this to 27%, 21%, 18%, and 14% respectively. All models suggest a reasonably linear relationship between consultation costs and the number of chronic conditions.

Conclusions Multimorbidity indices improve the prediction of future consultation costs. These indices can be constructed easily using routinely recorded General Practice data, and therefore use of these indices could help to improve budgetary management in primary care.

A53

Estimating the impact of adherence to allopurinol therapy on the outcomes of gout using The Health Improvement Network (THIN) general practice database.

Rudy Rabi[1], Rachel Elliott[1], Casey Quinn[2]
Division of Social Research in Medicines and Health, University of Nottingham, Nottingham, UK, [2]Division of Primary Care, University of Nottingham, Nottingham, UK

Introduction Gout is one of the most common inflammatory arthritides. Allopurinol is the standard of care for patients with gout and its use has been associated with a reduction in flares and depletion of urate crystal around the joints – making adherence to allopurinol potentially important. However, adherence to allopurinol has not been well evaluated in the UK and currently there's no data available assessing the associated impact of adherence to allopurinol with the outcomes of gout. Our aim was to estimate the impact of adherence to allopurinol on the outcomes of gout in the UK using a large national practice based population.

Methods Data from THIN database from 1990 to 2009 were examined. Gout patients aged 18 years or older were identified and observed from the first day of diagnosis to the last recorded day in the data. Gout flare was chosen as the primary outcome. Adherence was measured using the proportion of days covered (PDC). Zero inflated negative binomial regression models were used to estimate the associated impact of adherence level of allopurinol on the outcomes of gout. The model controlled for age, gender, co-morbid conditions and level of deprivation.

Results A total of 91,665 gout patients were identified, 39,747 of which were prescribed with allopurinol. Mean PDC in patients prescribed with allopurinol was 0.72 (SD±0.28). A higher PDC level was associated with a lower mean of flare per year. The regression model suggests that only at PDC higher than 0.50 that, the level of PDC became statistically significant in reducing number of flares. Patients with PDC higher than 0.90 experienced a 0.72 reduction of annual flare, however, patients with PDC lower than 0.90 experienced a reduction of annual flare of less than 0.40.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Conclusions A higher level of adherence appears to be associated with a lower number of flares. However, a statistically significant reduction of flare was achieved only if the PDC level was above 0.50 and a more clinically significant reduction of flares was achieved with a PDC level above 0.90, suggesting that patients need to be highly adherent to allopurinol to achieve clinical benefit.

A54

Implementation of targeted treatment for low back pain patients in primary care: a prospective population-based sequential comparison

Nadine Foster[1], Ricky Mullis[2], Carol Doyle[1], Martyn Lewis[1], Elaine Hay[1]
[1]Arthritis Research UK Primary Care Centre, Keele University, Keele, UK, [2]Department of Public Health & Primary Care, University of Cambridge, Cambridge, UK

Introduction: Testing the potential of screening low back pain (LBP) patients for targeted treatment is a research priority identified in the NICE 2009 guidelines. The IMPaCT Back study investigated i) engagement of GPs and physiotherapists with a stratified model of primary care to subgroup and target treatment based on patient's risk status, ii) changes in clinicians' attitudes, confidence and behaviours and iii) patients' clinical outcomes.

Method: A prospective, quality improvement study in 5 GP practices with before and after implementation cohorts, each with consecutive LBP consulters. There were 3 phases:

Phase 1: Usual care data collection from clinicians and patients (before implementation).

Phase 2: Introduction and supported use of targeted management in GP practices and physiotherapy services. Targeted management included a minimal intervention (delivered by GPs for patients at low-risk of chronicity), systematic referral to primary care physiotherapy (for those at medium-risk), and to psychologically augmented physiotherapy (for those at high-risk).

Phase 3: Post-implementation data collection from clinicians and patients.

Results: 922 patients participated, 368 in Phase 1 and 554 in Phase 3 with similar baseline characteristics in the before and after implementation cohorts (mean age 53 v 54 years, disability (RMDQ) 8.7 v 8.4). 65 GPs and 34 physiotherapists participated. There were significant changes in LBP related attitudes among GPs, and in LBP attitudes and confidence to manage LBP among physiotherapists. Intention to treat analysis of patient data showed a significant difference in adjusted mean RMDQ change scores at 6-month follow-up, 0.8 (95%CI 0.1, 1.6), in favour of a targeted approach. At the subgroup level, there were no significant differences in RMDQ change scores in the low and medium-risk subgroups, but there were significant differences in the high-risk subgroups: 2.5 (95%CI 0.4, 4.7) at 6 months.

Conclusion: This implementation study provides evidence that a stratified model of LBP management can be introduced in real-life primary care with GPs and physiotherapists. It leads to changes in GPs' attitudes, changes in physiotherapists' attitudes and confidence and improvements in patients' disability outcomes.

A55

Multimorbidity transitions across the healthcare interfaces and associated costs: a database-linkage study from Stoke-on-Trent

Umesh Kadam[1,2], Davies Neil[2], Yates Ruth[2], Uttley John[2], Iqbal Zafar[2]
[1]Keele University, Newcastle-under-Lyme, Staffordshire, UK, [2]Stoke NHS PCT, Stoke-on-Trent, Staffordshire, UK

Introduction: In ageing populations the numbers of people who will experience two or more chronic diseases at the same time will increase. However, there is very little evidence on how such "multimorbidity" influences patient care and associated costs across the different healthcare interfaces.
Objectives: To investigate the influence of multimorbidity transitions from general practice populations across different healthcare interfaces for three empirically selected chronic disease pairs and to describe the associated 3-year direct healthcare-related costs.
Methods: In population aged 40 years and over from 53 general practices, data from clinical registers was linked to accident and emergency

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

and hospital admissions episodes for the time-period 2007-2009. For multimorbidity examples: (i) diabetes mellitus (DM) and coronary heart disease (CHD), (ii) chronic obstructive pulmonary disease (COPD) and congestive heart failure (CHF) (iii) CHF and chronic kidney disease (CKD), presentation across the specified health care interfaces and costs as measured by Healthcare Resource Groups was investigated. Associations between multimorbid groups and dichotomised costs compared to their respective single disease groups were separately assessed using logistic regression methods, adjusting for age, gender and deprivation.
Results: From a study population of 60,660 patients on specific chronic disease registers, there were 3547 patients with DM and CHD, 754 with COPD and CHF and 1425 with CHF and CKD. Transition defined as at least one episode in each of the three year time-period, were as follows: (i) A&E episodes - 3.6% of DM and CHD, 6.8% of COPD and CHF, and 5.5% of CHF and CKD population, and (ii) hospital admission - 9.9%, 12.9% and 12.9% respectively. The average total costs per patient in the 3-year time-period for A&E episodes were between £174 and £183 and for hospital admission between £5209 and £5877. The adjusted costs were significantly higher for all three multimorbid groups compared to their respective single disease groups.
Conclusions: There is variation in transitions across healthcare interfaces for specific multimorbid pairs and the associated total costs are high. Identification of multimorbidity type and linkage of information across interfaces may provide potential opportunities for targeted intervention and delivery of cost-effective integrated care.

A56

Practice, Practitioner or Placebo? Evaluating acupuncture placebos, practice and empathy. A multifactorial, mixed methods RCT

Peter White, Felicty Bishop, Phil Prescott, Clare Scott, Paul Little, George Lewith, Jan Walker
University of Southampton, Southampton, Hampshire, UK

Introduction This study was to designed to understand the relative contributions of specific and non-specific treatment effects in osteoarthritic pain utilising a mixed methods approach. We investigated; whether an enhanced non-specific effect associated with needling; if empathy and the practitioner have an effect on outcome and the efficacy of acupuncture on pain in OA knee.

Methods A prospective randomised, single blind, placebo controlled multifactorial trial with a nested qualitative study.

Three interventions:

Acupuncture, Streitberger non-penetrating placebo acupuncture and mock electrical stimulation of acupuncture points.

Two consultation types (empathic or non-empathic).

All interventions involved 8 treatments lasting 30 minutes over 4 weeks. Pain measured on a VAS at 1 week post treatment. Secondary outcomes: WOMAC and Nottingham Health Profile.

The qualitative study involved a narrative interviews within a framework approach.

Results 221 patients all with OA pain awaiting joint replacement surgery.

There were improvements from baseline for all interventions but no significant differences between the real acupuncture and either Streitberger needle (mean difference -2.7mm, 95% confidence intervals -9.0 to 3.6; p=0.40) or mock electrical stimulation (-3.9, -10.4 to 2.7; p=0.25). Empathic consultations did not affect pain (3.0mm, -2.2 to 8.2; p=0.26). Practitioner 3 achieved significantly greater analgesia than practitioner 2 (10.9, 3.9 to 18.0; p=0.002).

Participants sought to make meaning of their trial experiences and wanted to have acupuncture as it might benefit them subverting equipoise. Interviewees sought to determine whether they were receiving real treatment and drew on cues including perceived outcomes, treatment sensations, and practitioner behaviours. Perceptions of treatment veracity and outcomes appeared to be mutually reinforcing. The most successful practitioner was seen as an authoritative doctor. Interviewees inferred empathy from experiences associated with the trial.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Conclusion Patients demonstrated clinically important improvements from baseline, but acupuncture has no specific efficacy over placebo. The practitioner has significant effects on outcome, but this is not mediated by empathy, or acupuncture needles. The qualitative findings offer novel insights into this RCT. Conceptualising and understanding subjects as active participants, has important implications for trial design.

A61

The prevalence of abnormal body weight in 9-years-olds and its implication to General Practice

Udo Reulbach, Tom O'Dowd
Trinity College Dublin, Dublin, Ireland

Introduction: The prevalence of overweight and obesity in children is increasing throughout Europe in the past two decades and it is a major clinical and public health challenge. In addition to the increased likelihood of adult obesity with its associated health risks, serious short-term physical and psychosocial consequences endanger the wellbeing of an affected child. This paper explores the prevalence of thinness, overweight and obesity in Irish 9-years-olds and its association with chronic illness and bullying.

Method: The study population of Growing Up in Ireland - the National Longitudinal Study of Children was randomly selected from a representative sample of 910 Primary Schools in the Republic of Ireland. It consists of a sample of 8,568 nine-years-olds and their families. Data collection consisted of self-completion surveys with children in school and at home and interviewer administered questionnaires with parents and children in their home. International cut-off points for 9 years -olds for thinness, overweight and obesity were used defined to pass through body mass index (BMI) through BMI 18.5, 25 and 30kg/m2 at age 18 to classify weight categories. Analysis was based on statistically reweighted data to ensure that it is representative of all nine-year-olds in Ireland.

Results: Thinness was classified in 5.7% of all boys and 6.5% of all girls. Overall, significantly ($p<0.001$) more girls were overweight (23.1%) or obese (10.0%) than boys (overweight: 18.3%; obese: 6.9%). Children with an abnormal body weight had a significantly ($p<0.001$) higher rate of an ongoing chronic illness. In addition, overweight or obese children were more likely ($p=0.01$) to be victimised by bullying. Thinness was also associated with being victimised only in boys, not in girls.

Conclusions: Obesity and overweight are of major concern in Irish children with girls being more affected. It is associated with a higher likelihood of having chronic conditions being bullied. There is a need for studies exploring the impact General Practitioners may have in communicating concerns about the weight of a child to parents.

A62

A randomised controlled trial to compare a range of commercial or primary care led weight reduction programmes with a minimal intervention control for weight loss in obesity: the Lighten Up trial

Kate Jolly[1], Amanda Lewis[1], Amanda Daley[1], John Denley[2], Jane Beach[2], Peymane Adab[1], Paul Aveyard[1]
[1]*University of Birmingham, Birmingham, UK,* [2]*NHS South Birmingham, Birmingham, UK*

Introduction Developed countries are facing a huge rise in the prevalence of obesity and its associated chronic medical problems. In the UK Primary Care Trusts are charged with addressing this in the populations they serve, but evidence about the most effective ways of delivering services is not available. The objective of the study was to assess the effectiveness of a range of weight management programmes on weight loss.

Method Design**:** Randomised controlled trial.

Setting**:** Primary Care Trust, Birmingham, UK.

Participants**:** 740 men and women with obesity or overweight with a co-morbid disorder identified from general practice records.

Interventions**:** (i) Weight Watchers, (ii) Slimming World, (iii) Rosemary Conley, (iv) a group-based dietetics-led programme, (v) general practice one-to-one counselling, (vi) pharmacy-led one-to-one counselling, (vii) choice of any of the 6 programmes. The comparator group was provided with 12 vouchers enabling free entrance to a local

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

leisure centre. All programmes were 12 weeks duration.

Main outcome measures**:** The primary outcome was weight loss at programme-end (3 months). Secondary outcomes included weight-loss at one year, self-reported physical activity and percentage achieving 5% and 10% weight-loss at one year.

Results Follow-up rate: 88.9% at 3 months, 70.5% at 1 year. All programmes achieved significant weight-loss from baseline to programme end, and all except general practice and pharmacy provision had significant weight loss at 1 year. Only the commercial programmes had significantly greater weight loss than the comparator group at programme end (mean difference 1.41 to 2.24 kg loss). At one year, only Weight Watchers had significantly greater weight loss than the comparator group (2.3 kg loss, 95% CI 0.55 to 4.04). The primary care programmes were the most costly to provide. Participants allocated to the choice arm did not have better outcomes than those randomly allocated to a programme.

Conclusion Commercially provided weight management services are more effective and cheaper than specially trained primary care-based services, which are ineffective. Choosing a weight loss programme does not enhance effectiveness.

A63

Evaluating the transferability of a hospital based, childhood obesity clinic to primary care: a pilot RCT

Deborah Sharp, jon banks, Julian Hamilton Shield, Linda Hunt, Sandra Hollinghurst, Katrina Turner
University of Bristol, Bristol, UK

Introduction The COCO child obesity clinic at Bristol Children's Hospital (BCH) uses a multi disciplinary approach comprising: consultant, dietitian and exercise specialist. The clinic has demonstrated efficacy in managing children's weight but similar clinics are scarce in the UK. Our study (PC COCO) examined the feasibility of transferring the COCO model to a nurse led as opposed to doctor led primary care (PC) clinic.

Method Children aged 5-16 BMI ≥98th centile were referred by GPs. Referrals were screened by a paediatrician for eligibility before being invited into the study. Consenting families were randomised to BCH or a PC clinic and offered 5 appointments over 12 months. Feasibility was assessed from referral, screening and recruitment data. Clinical effectiveness was measured by change in Body Mass Index Standard Deviation Score (BMI SDS) at 12 months. Other measures included: treatment adherence, quality of life (QOL) and satisfaction.

Results 152 children were referred by GPs of whom 31 (20%) were screened out. Of the 121 children invited into the study, 45 (37%) declined. 76 children were randomised and 68 provided baseline data (PC=42; BCH=26), 52 provided outcome data (PC=29; BCH=23). Mean reduction in BMI SDS (95% CI): PC was -0.17 (-0.27 to -0.07); BCH was -0.15 (-0.26 to -0.05). QOL, adherence and satisfaction demonstrated equivalence between the groups.

Conclusions Screening and recruitment results indicate that PC is a clinically suitable and acceptable setting for families. PC clinics demonstrated equivalence in reducing BMI SDS along with other secondary outcome measures. Our study indicates primary care has the potential to be effective in providing weight management for children using the COCO multidisciplinary model.

A64

Cost and effectiveness of treatment options for childhood obesity

Sandra Hollinghurst, Linda Hunt, Jon Banks, Debbie Sharp, Julian Shield
University of Bristol, Bristol, UK

Introduction One in five 11 year olds in England is obese and obesity is likely to persist into adulthood with resultant co-morbidity. Tackling obesity at an early age is a priority but there is little evidence in support of effective and cost-effective treatments. We describe three models of care that have been evaluated and report the cost and effectiveness of each.

Method Data came from two pilot RCTs evaluating treatments for childhood obesity. A hospital based obesity clinic acted as control in both; interventions were (i) primary care clinics and (ii) a behavioural modification management tool (Mandometer®). Outcome in both trials was

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Body Mass Index Standard Deviation Score (BMI SDS) at 12 months.

Staff time was measured and costed at national rates and the Mandometer was costed using information from the manufacturer.

Results The mean costs and outcomes per child were similar for the hospital and primary care clinics; between £166 and £222 for a reduction in BMI SDS of 0.14 to 0.17.

The Mandometer training and supervision cost over £1000 per child and mean reduction in BMI SDS was 0.40.

Conclusion A multidisciplinary approach involving clinicians, dietitians and exercise specialists can be successful in encouraging children to lose weight at a modest cost. However, reductions in BMI SDS large enough to achieve clinical benefit (0.25 to 0.50) may not be possible in some cases and more intensive treatment, likely to be more successful but costing considerably more, could be considered.

A65

Weight management in primary care: results from the Camden Weight Loss (CAMWEL) randomised controlled trial

Kiran Nanchahal[1], Tom Power[1], Elizabeth Holdsworth[1], Michelle Hession[1], Annik Sorhaindo[1], Ulla Griffiths[1], David Taylor[1], Joy Townsend[1], Nicola Thorogood[1], David Haslam[2], Andy Haines[1], Anthony Kessel[1], Shah Ebrahim[1]
[1]London School of Hygiene & Tropical Medicine, London, UK, [2]Watton Place Clinic, Hertfordshire, UK

Introduction Primary care doctors are the first contact for health effects of obesity and overweight and look for effective programmes for their patients. Currently few weight loss randomised clinical trials (RCTs) have evaluated UK primary care interventions.

Methods We conducted an RCT to evaluate a 12-month structured lifestyle support intervention delivered by trained advisors. Participants were overweight/obese (BMI≥25 kg/m^2) adults (age≥18 years) recruited from general practices (GPs) between July 2009 and January 2010 and randomised to (1) provision of support provided by a trained advisor during fourteen half-hour sessions and pedometer or (2) usual care provided by the GPs.

Results Of 381 participants randomized, 263 (69%) completed the 6-month follow-up assessments. A higher proportion of people in the advisor group lost at least 5% of initial weight compared to the GP group [24% (32/134) vs 13% (17/129), P=0.03]; and there was a significant difference in %body fat loss (0.77 [95% confidence interval, 0.06, 1.48], P=0.03). There was greater average reduction in weight [-1.73 (-2.47, -0.99) kg vs -0.95 (-1.74, -0.16) kg] and waist circumference [-3.36 (-4.42, -2.29) cm vs -2.19 (-3.12, -1.26) cm] in the advisor group than the GP group but these differences were not statistically significant (P≥0.10).

12 month follow-up results will be available mid-2011, and will be reported at the conference.

Conclusion Among overweight and obese adults, intensive lifestyle support provided by trained advisors resulted in clinically important weight loss in a significant proportion of participants and improved body composition. 12 month follow-up results will be available mid 2011 and could provide a very useful prototype for primary care weight loss commissioning.

- 1. Conflict of interest: None
- 2. Funding: NHS Camden

A66

Medicine dosing by weight in the home: can parents accurately weigh pre-school children

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

Introduction Medicine dose calculation can be based on a child's age, weight or surface area. The antipyretic medicines paracetamol and ibuprofen are among the most commonly used medicines for children in the home. Two dosing methods for antipyretic medicating are generally used. 'Dosing by age' is typically used by UK parents because the quantities are available on the medicine packaging and the method is easy to

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

use. The more complex, but appropriate alternative, typically used in secondary care is 'dosing by weight'. This study aimed to investigate if parents can accurately estimate pre-school children's weight using ordinary home scales in order to calculate antipyretic doses by weight. The design was a cross-sectional, method comparison study.

Methods One hundred and fifty six pre-school children aged between 6 months and 6 years recruited from primary care and the community to a trial of antipyretic strategies and managed in the home. The aim for this report was to quantify the variation in between-method differences across individual children. Research nurse weight (kg) estimate using SECA 835-2 Digital paediatric scales compared with parental weight (kg) estimate using usual home scales.

Results Parents of 62 (40%) pre-school children had scales present in the home. Research scale estimated weights were heavier than home scale weight estimates, with a mean difference of 0.41kg (95% confidence interval -0.24 to 0.74), with 95% limits of agreement of -2.44 to 1.47kg.

Conclusion The results show that a minority of parents have scales that can be used to estimate their child's weight, but among those who do, weight can be estimated accurately enough to calculate antipyretic medicine doses.

A71

Treatment Burden and Fractured Care: Findings from a Qualitative Study

Frances Mair[1], Katie Gallacher[1], Deborah Morrison[1], Susan Browne[1], Sara Macdonald[1], Victor Montori[1,2], Una Macleod[1,4], Carl May[1,3]

[1]University of Glasgow, Scotland, UK, [2]Mayo Clinic, Minnesota, USA, [3]University of Southampton, England, UK, [4]Hull York Medical School, England, UK

Introduction It has been claimed that coordinated care is the defining principle of primary care yet new initiatives in the UK and elsewhere seem to emphasise the importance of disease centred rather than patient centred care. This is a growing problem as health professionals have to deal both with ageing populations and the challenge of patients suffering from multiple chronic conditions. The strategies we have adopted to help optimise the management of those with chronic disease, such as the nGMS, may in fact be leading to iatrogenic problems for patients, as the growing burden of work that health professionals impose upon them goes unchecked. It has been posited that this treatment burden leads to poor adherence and outcomes and that a proportion of non-compliance may be structurally induced by healthcare systems. The aim of this study is to explore the weight of burden imposed upon patients by health care systems in order to help increase our understanding of the phenomenon and potential points for intervention.

Methods This study involves secondary analysis of qualitative interview data with CHF patients (n=47), originally undertaken to understand patient's experiences of living with CHF and a further 25 prospective interviews focusing on the "work" patients had to do to live with their condition. Qualitative data analysed using framework methods informed by Normalization Process Theory (NPT).

Results Interviewed CHF patients were typical of those seen in primary care, suffering from a wide range of co-morbidities (1-7) and ranging in age from 39-88 years. Patients described a variety of treatment burdens many which were secondary to the health care systems and the lack of a patient centred approach. Issues raised included: the work imposed by disorganized systems of care necessitating multiple attendances for check-ups and investigations; lack of continuity; inadequate communication between health professionals; polypharmacy; and difficulties accessing services.

Conclusion This study has highlighted a range of challenges for patients posed by current disease centred health care systems. It has highlighted clear points for intervention and suggests the need for generalism and a holistic approach is now greater than ever.

A72

Conflicts and contradictions in offenders' projections of their health and healthcare.

Cath Weyer Brown, Richard Byng, Ian Porter
Peninsula Medical School, Plymouth, UK

Introduction: Offenders have high level needs and low levels of healthcare access in the

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

community. Presentation considers the implications of providing a generalist model of care to a vulnerable group, using a qualitative analysis of offenders' perceptions of their health and healthcare from the 'Care for Offenders: Continuity of Access' (COCOA) project.

Method: Depth interviews (25) and focus groups (5) with offenders serving community and prison sentences.

I) Inductive coding of all interviews

II) Case by case analysis of individual's projections of

a. Their own agency

b. Barriers and facilitators created by practitioners

III) Within case analysis of congruence and contradictions

Results: Participants identified health based issues, (inc. addiction and mental health problems) as causing difficulties in their lives, but did not prioritise health services as supportive in avoiding re-offending.

Offenders had a holistic concept of health, including taking care of their own health promotion: healthy eating, exercise etc. They described contrastingly low levels of agency in achieving healthcare access for their desired health outcomes.

Positive experiences of healthcare services were based on a positive relationship with an individual practitioner. Personal skills were most valued, rather than outcomes achieved, including: listening; having sufficient time; showing respect and truthfulness. Participants, who expressed high levels of trust in particular practitioners, still concealed particular types of information from them. There were accounts of a very negative impact on people who had established strong relationships with a particular practitioner, who was then unable to continue treating them.

Conclusion: Offenders have a strong concept of personal health, which is based on health promotion activities, rather than an absence of disease.

A 'generalist model of healthcare delivery for offenders', based on the perceptions of those interviewed (and taking into account the internal contradictions within them) would include:-

- Integration of healthcare services with services that address their other social and economic needs, primarily accommodation, employment and family relationships.

- The opportunity to build up a long term relationship with an individual practitioner

- The proactive creation of an alternative form of continuity, should the practitioner no longer be able to provide that service.

A73

Understanding General Practice: developing practice-based insights into intuition

Heinz-Harald Abholz[1], Stefan Wilm[1]
[1]*Department of General Practice, Heinrich Heine-University, Duesseldorf, Germany,* [2]*Institute of General Practice and Family Medicine, Universität Witten/Herdecke, Witten, Germany*

Introduction: The capacity to deal with uncertainty remains part of person-centred general practice. This 'practical wisdom', needed when "the algorithm runs out....or clashes with the patient perspective" (Hilton 2008), is referred to as 'intuition' by German GPs. Despite being an essential part of care, there has been little research into what intuition is and how it contributes to quality outcomes. This study contributes to addressing that gap through exploring the use of intuition within daily practice.

Methods: Exploratory phenomenological study within purposive sample of 8 practices around Dusseldorf, Germany. No definition of "intuition" was supplied. Collection of three data sets, all with the same GPs: 1) *Identifying and describing all "intuition cases"* for one week: 8 GPs logged details of consecutive consultations, including explanations for intuitive practice. 2) *Focus group (FG*) discussion exploring GPs' beliefs/attitudes towards intuition. 3) Recording of GP "*Narratives*" describing 'the most typical intuition case in my career'. FG/Narratives were transcribed verbatim. Thematic analysis by two independent researchers, with subsequent consensus meeting and re-coding of texts.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Results: 71 "intuition cases" were identified among 1847 consultations. Analysis of identified intuition cases emphasised the 'rational' elements of the use of intuition: as a "helping hand" when "rules are missing"; and employed when GPs face contradictory findings, e.g. between patient history and physical/technical findings. Intuition also was seen as a ressource for dealing with anxiety resulting from "uncertainty" and "contradictionary informations", i.e. an experienced loss of oreintation. However results from FG and Narratives revealed a less rational basis: Intuition was strongly identified with experience from previous cases, supporting decisions which 'felt right'. And most Narratives even revealed "intuition" as a "dramatic moment" in caring, mostly with oneself as a hero finding the solution without following any rational structure.

Conclusion: Practising GPs' description of intuition reveals it to be an important part of practice, which combines both the rational 'science' and 'mystical' art of clinical practice. By describing what is involved when using intuition, we can start to identify how to improve practice through both education and governance arrangements - but we need a clearer terminology for this.

A74

Understanding the impact of multi-morbidity on GP consultations: developing a tool

Kate Stewart[1], Chris Salisbury[1], Leah Bowen[1], Sunita Procter[1], Sarah Purdy[1], Matthew Ridd[1], Bonnie Sibbald[2], Chema Valderas[3], Peter Bower[2], Tom Blakeman[2], Mike Steinman[4]
[1]University of Bristol, Bristol, UK, [2]University of Manchester, Manchester, UK, [3]University of Oxford, Oxford, UK, [4]University of California, San Francisco, USA

Introduction Management of chronic disease is a defining feature of general practice. Many people have multiple co-existing diseases (multimorbidity) and may discuss several of them in one consultation. A greater understanding of the extent to which GPs deal with multiple problems in one consultation has wide-ranging implications, including : workforce planning (evaluating a need for generalists as first point of contact); consultation skills training, and the design of record systems. As part of our larger study exploring the impact of multimorbidity on GP consultations, we developed a tool to quantify the number and range of problems discussed in consultations. Our presentation focuses on the challenges of developing this tool, and the implications for understanding patient-GP consultations.

Method Drawing on earlier work (Flocke; Beasley et al), we developed and piloted a novel data collection proforma, designed to capture:

- The range of health problems addressed in a single consultation;
- The different issues (e.g. physical, psychological) raised in the management of each problem;
- The types of problems raised by GPs or by patients
- The types of problems recorded in the notes.

We videotaped 16 consultations and developed the proforma through several iterations, initially based on piloting and discussion between 2 clinicians and 2 non-clinicians, and subsequently through piloting and consensus amongst a group of 7 researchers. We are now assessing inter-rater reliability through two raters independently coding 50 consultations conducted by 30 GPs.

Results We present our finalised proforma, highlighting:

- additional information captured using this method as opposed to alternative measures;
- its usefulness in understanding the nature of the complexities encountered in consultations;

We discuss the challenges in developing the proforma related to: the fluid nature of consultations, the arbitrary nature of medical coding and diagnostic systems, the inter-relationships between diagnostic concepts, and the number of problems which are implied but not articulated.

We will also present findings with regard to the reliability and feasibility of the coding process.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Conclusions The process of developing this measure highlights some of the practical, methodological and epistemological challenges of attempting to meaningfully quantify the content of patient-GP consultations.

B11

Aspirin use in patients with colorectal cancer

Colin McCowan, Peter Donnan, Alastair Munro, Robert Steele
University of Dundee, Dundee, UK

Introduction There is now evidence that aspirin usage is associated with a reduced risk of developing colorectal cancer. However whether aspirin can improve outcomes for patients diagnosed with colorectal cancer is unknown. This study examined whether patients diagnosed with colorectal cancer and subsequently prescribed aspirin had improved survival than other patients with colorectal cancer.

Method Cancer registry records in the Tayside region of Scotland for period 01/01/1997 to 30/12/2006 with any colorectal cancer were extracted and linked to encashed prescribing records for 01/01/1993 to 28/02/2010 and death certificate records to 28/02/2010.

All aspirin prescribing post diagnosis was examined and periods of aspirin use for each individual extracted. Cox proportional Hazards models with all cause mortality and colorectal cancer mortality as the outcome were created to examine the effect of using aspirin after allowing for age, sex, socio-economic status and cancer stage at diagnosis.

Results 2990 patients were identified as having a first incident colorectal cancer. Median age at diagnosis was 73 (IQR 65-80) with 48% of cases men. 1,998 (67%) deaths were recorded during follow up with 1,021 (34%) attributed to colorectal cancer. 1,318 (44%) patients used aspirin at some stage of the study period.

Aspirin use post diagnosis was associated with lower risk of mortality (HR=0.67, 95%CI=0.57-0.79, p<0.001) after allowing for age and Dukes stage at diagnosis, gender, socio-economic status and aspirin use pre-diagnosis. Increasing age and stage at diagnosis were associated with increased risk, the top two quintiles of socio-economic status were at reduced risk compared to the most deprived.

After adjustment for gender, age, social class, Dukes stage and aspirin use pre-diagnosis aspirin use post diagnosis was also associated with lower risk of death from colorectal cancer (HR=0.54, 95%CI 0.48-0.60, p<0.001). Increasing age and stage at diagnosis were associated with increased risk of colorectal cancer death, whilst the top two quintiles of socio-economic status were again at reduced risk.

Conclusions Our study suggests that aspirin use post diagnosis of colorectal cancer may reduce both all cause and colorectal cancer specific mortality. However further work is required to ensure this is a causal relationship and to identify whether it is best used in specific groups of patients.

B12

Findings from a national audit of cancer diagnosis in primary care in England

Greg Rubin[1], Sean McPhail[2], Chris Carrigan[2], Kathy Elliott[3], Nicola Hall[1]
[1]Durham University, Stockton on Tees, UK, [2]National Cancer Intelligence Network, London, UK, [3]National Cancer Action Team, London, UK

Introduction The English National Awareness and Early Diagnosis Initiative is intended to better understand and address perceived deficiencies primary health care performance in cancer diagnosis. A national audit of cancer diagnosis in primary care was undertaken in 2009/10 as part of this initiative. Participation agreements were reached with 17/28 cancer networks in England. Three networks used a sampling approach to practice selection. In the remaining 14 networks all practices wishing to participate were able to do so.

Methods An audit template was developed and piloted by an expert group of academic and service GPs, utilising experience in earlier local audits of cancer diagnosis. Participating cancer networks identified GP leads for the initiative, who also validated practice returns before submission. Data was imported into a single database for cleaning and analysis by the National Cancer Intelligence Network.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Results Data was collected on 18,113 patients by over 1000 practices in 17 cancer networks. Data quality was high with most categorical fields (including stage) being 90%+ complete. Comparison with cancer registry data demonstrated that the dataset was representative.

1066 (5.9%) patients were described as housebound and 934 (5.2%) had a communication difficulty. Both disabilities were associated with significantly increased odds of later stage at diagnosis (OR 1.77, 1.21 respectively) while age, sex and ethnicity were not.

The median duration of the primary care and referral intervals was 4 days and 12 days respectively, with considerable variation by cancer site. Emergency presentation, usually associated with worse outcomes, occurred in 12.8% of all cases but ranged from 3.8% (breast) to 40.0% (brain). In 6.1% of cases the GP believed that better access to investigations would have reduced delay in diagnosis. This also varied considerably by site, rising to 19.5% for brain and 12-14% for ovary, pancreas and kidney.

Conclusions This is one of the largest and most comprehensive studies to date of the primary care pathway to cancer diagnosis. It provides detailed insights into current clinical practice that can direct initiatives to reduce the time to diagnosis for cancer, as well as raising important questions for future research.

B13

Significant Event Audits of upper gastrointestinal cancer diagnosis in general practice: a qualitative synthesis

Elizabeth Mitchell[1], Greg Rubin[2], Una Macleod[3]
[1]University of Dundee, Dundee, UK, [2]University of Durham, Durham, UK, [3]Hull York Medical School, Hull, UK

Background The principal method of identification of upper gastrointestinal (UGI) cancer in the UK is symptomatic presentation, usually to general practitioners, who as a result of their gate-keeping role within the NHS are the usual source of referral to secondary care. Significant Event Audit is a quality improvement technique that is in routine use in general practice. The purpose of this study was to gain insights into the events that surround the diagnostic process for UGI cancer, drawn from secondary analysis of SEA documents.

Method General practices in six NHS areas in SE London were invited to participate. They were asked to identify their last patient diagnosed with an UGI cancer, even if the patient may now be deceased and complete an SEA report. The accounts were synthesised and a systematic qualitative approach to analysis adopted. An interpretative matrix was developed, based on a modified framework approach. Relevant data from individual SEAs were incorporated into a thematic chart as a means of facilitating the identification and interpretation of both common and diverse aspects related to presenting features and pathways of care for each cancer.

Results SEA reports for a total of 78 upper gastrointestinal cancers were included in the analysis. Presenting symptoms fitted into one of five patterns: single symptom suggestive of UGI malignancy, dyspeptic symptoms only, multiple UGI symptoms, non-UGI symptoms, no presentation to primary care. The majority of patients were referred within one month of initial presentation; detailed analysis was carried out on those cases where referral took more than a month. Reasons for delay include complexity of presentation, patient factors, and presentation patterns falling out-with guidelines. There were a few cases where earlier opportunities for referral were missed. Learning points as identified by the practitioners related to appropriate practice systems for follow up of investigations, the importance of continuity of information available at every consultation and the need to be aware of presentations falling outside guidelines.

Conclusion These findings emphasise the importance of safety netting particularly with respect to follow up of investigations and where patients have been asked to return for review.

B14 also poster P2.09

Developing a complex intervention for people with colorectal cancer: modelling and piloting.

Nicola M Gray[1], Susan J Hall[1], Susan Browne[2], Una Macleod[3], Marie Johnston[1], Sally Wyke[4], Leslie Samuel[5], Peter Murchie[1], Amanda J Lee[1], David Weller[6], Neil C Campbell[1]
[1]University of Aberdeen, Aberdeen, UK,

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

[2]University of Glasgow, Glasgow, UK, [3]Hull York Medical School, Hull, UK, [4]University of Stirling, Stirling, UK, [5]Aberdeen Royal Infirmary, Aberdeen, UK, [6]University of Edinburgh, Edinburgh, UK

Introduction Increasing numbers of people with colorectal cancer are being cured and surviving longer. However many report long lasting physical and emotional difficulties. We aimed to develop a primary care based intervention to improve the quality of life of people with colorectal cancer by tackling some of these difficulties.

Method: The intervention development process comprised convening expert groups (health and research professionals and patient and carers); conducting a literature review; conducting qualitative interviews with healthcare professionals and patients; developing patient factsheets, prompt cards, and self-monitoring sheets; devising and delivering a nurses' training programme; and conducting a small pilot.

The pilot involved two research nurses, in two centres, each visiting six newly diagnosed patients at home, 6 to12 weeks post diagnosis, with one follow-up telephone call one week later. Home visits were digitally recorded. Around 4-8 weeks after the home visit, two researchers, one in each centre, interviewed the patients and the research nurses to identify how the intervention could be improved.

Results:

- The literature review identified multiple symptoms experienced by people with colorectal cancer and a number of interventions which had had mixed success at addressing these issues.
- Early interviews with colorectal cancer patients suggested that the intervention should be targeted at those who had recently been diagnosed, deal with symptom management, and be nurse led.
- Early interviews with health professionals suggested that the intervention should be individually tailored and inclusive. Close liaison with secondary care was emphasised.
- Participants in the pilot appreciated the home visit, and prompt cards facilitated identification and discussion, of potentially difficult subjects such as sex and money.
- A key element of the intervention was the goal setting. While patients who set goals generally met them not all patients set goals.
- Patients would have preferred more visits from the nurse.

Conclusions: Patients appreciate and value nurse led home visits after diagnosis and initial treatment. Goal setting and self-monitoring may be helpful tools aiding patient's recovery. This intervention has the potential to improve quality of life but now requires evaluation in a trial.

B15

Predicting recurrence free survival after radical prostatectomy: a systematic review of the validation of CAPRA clinical prediction rule

Pieter Meurs[1,2], Rose Galvin[1], Floris van de Laar[1], Tom Fahey[1]
[1]The Royal College of Surgeons in Ireland, Dublin, Ireland, [2]Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands

Introduction Prostate cancer is the most frequent cancer among European men as well as the most common non-skin-cancer-neoplasm. Several variables have been validated as predictors of survival and have been incorporated into models such as the CAPRA clinical prediction rule, which is used to predict recurrence free survival at 3 and 5 years in men with localized prostate carcinoma after radical prostatectomy (RP). This systematic review with meta-analysis assesses the predictive accuracy of the CAPRA score at 3 and 5 years.

Methods A systematic search was performed to retrieve articles that validated CAPRA score. The original derivation study was used as a predictive model and applied to all validation studies, with observed and predicted disease free survival at 3 and 5 years stratified by risk group (0-2 low, 3-5 intermediate, 6-10 high). Results from the studies were pooled and risk ratios (RR) with 95%

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

confidence intervals were produced. A RR score of 1 represents accurate prediction by the rule, <1 represents under-prediction and >1 over-prediction. In addition, 2x2 tables were created to calculate sensitivities and specificities at the dichotomised cut points of ≤2 and ≤5.

Results Five validation studies (n=10,369) predict recurrence free survival at 5 years after RP. The CAPRA score under-predicts recurrence free survival across all three risk strata (low risk-RR 0.94, 95% CI 0.89-0.99; intermediate risk-RR 0.93, 95% CI 0.85-1.01; high risk-RR 0.74, 95% CI 0.62-0.88).

Data on four studies (n=3,632) is pooled to predict 3 year recurrence free survival. The CAPRA score correctly predicts recurrence free survival in all three groups (low risk-RR 0.98, 95% CI 0.93-1.03; moderate risk-RR 1.03, 95% CI 0.95-1.12; high risk-RR 0.86, 95% CI 0.68-1.09). The score is highly sensitive, correctly identifiying 72% of men who survive at 5 years with a CAPRA score ≤2 and 97% of individuals with a CAPRA score ≤5.

Conclusions The CAPRA score tends to under-predict recurrence free survival at 5 years after RP. However, the score correctly predicts recurrence free survival at 3 years. These findings support the value of the score as a risk assessment and stratification tool following RP.

B16

A survey of the management of pigmented skin lesions by general practitioners

Helen Smith, Matthew Hankins
Brighton & Sussex Medical School, Falmer, UK

Introduction Previous research from us and others has highlighted concerns about the diagnosis and management of skin lesions by primary care practitioners. For example in our RCT comparing minor surgery in practice vs. hospital, 60% of malignancies excised in general practice were incomplete compared to 30% in hospital. In this study we formally assessed general practitioners' management of common skin disorders including malignancies against evidence-based guidelines.

Method 177 GPs were randomly selected from four participating PCTs in the SE of England. Participants were presented with a booklet of 20 colour images of skin lesions with a short history. Lesions included five types of malignant melanoma, one SCC, two BCCs and benign lesions (e.g. blue naevus, seborrheic wart). For each, participants were asked to choose one of seven courses of management (reassure, self-manage, referral etc.) and rate their confidence in that decision on a 10 point scale (10 being the most confident). Management decisions were assessed against evidence-based guidelines and rated as 'correct' or 'incorrect'.

Results 80 GPs returned completed booklets.There was wide variation between individual GPs: the median number of correct responses overall was 10.0 (range 6 to 15 correct) and the median number correct for the five malignant melanomas was 3.0 (range 0 to 5 correct). Median confidence in the management decision was high (7.0; range 5 to 10) but was only weakly correlated with correctness(per scenario correlation ranged from r=-0.03 to 0.34). High overall confidence did not predict overall performance: high confidence median correct=10.0; low confidence median correct=11.0; p>0.05). Years of experience, previous training in dermatology, size of practice and practice location were not associated with overall performance (all p>0.05).

Conclusions There was wide variation in the responses of GPs, with many selecting inappropriate management options. Despite this, confidence in these decisions was high, suggesting that they failed to recognise gaps in their own knowledge. Appropriate management was not linked to experience or previous training in dermatology.

B21

Interventions to increase the appropriateness of care for acute respiratory tract infections in children: a systematic review

Talley Andrews[1], Matthew Thompson[1,2], Patricia Lucas[3], Carl Heneghan[2], Christie Cabral[3], Jeremy Horwood[3], Rick Deyo[1], David Buckley[1], Alastair Hay[3]
[1]Oregon Health & Science University, Portland, OR, USA, [2]University of Oxford, Oxford, UK, [3]University of Bristol, Bristol, UK

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Introduction Respiratory tract infections (RTI) in children are common and generally self-limiting, yet often result in frequent consultations and unnecessary antibiotic treatment. Frequent consultations divert primary care resources from care for potentially more serious conditions. Overuse of antibiotics is associated with adverse effects and development of antimicrobial resistance, and has been shown to influence patient expectation of future antibiotic prescribing and care-seeking behaviour. We conducted a systematic review to assess the effectiveness of interventions designed to increase the appropriateness of consulting, antibiotic consumption, and antibiotic prescribing for RTI in children.

Method We searched PubMed, EMBASE, CINAHL, PsycINFO, Cochrane Library databases, and reference lists from selected studies for randomised controlled trials and non-randomised studies; no limits were used for language or publication year. One author screened titles and abstracts using predetermined criteria and two authors reviewed selected studies to determine inclusion. Data extraction and quality assessment were performed by two authors. We conducted a narrative analysis, focusing on the components of interventions, resources required, and outcomes.

Results We identified 5350 references, of which 33 studies met inclusion criteria. Interventions ranged from single educational strategies to multifaceted interventions, and assessed change in parent knowledge and consulting (7/33), parent attitude toward antibiotics and/or actual antibiotic use (12/33), and antibiotic prescribing (15/33). Studies often lacked data on adverse events and participant exposure to interventions. Based on provisional analyses, educational interventions delivered prior to illness episode reduced consulting by 40-50% and appear more effective than similar interventions taking place at the point-of-care. The majority of effective interventions to change prescribing combined clinician and parent education and occurred prior to consultation. In contrast, interventions to change parent attitude toward antibiotics are most often successful when presented to parents at the point-of-care. Providing parents with delayed prescriptions decreased antibiotic use without diminishing satisfaction.

Conclusion Interventions to increase the appropriateness of care for children with RTI appear to be most effective when designed to modify the expectations and behaviours of both parents and clinicians prior to an illness episode. Many studies in this area fail to report adverse outcomes and fidelity of participant exposure to interventions.

B22

Improving care of children with acute respiratory tract infections: a qualitative study of parents' needs

Christie Cabral, Jenny Ingram, Alastair Hay, Jeremy Horwood
Univeristy of Bristol, Bristol, UK

Introduction: Respiratory tract infections (RTIs) are a significant cause of anxiety for parents and the commonest reason why parents consult primary care in the UK. Little is known about parents' perceptions of what may help them when their children become ill, how this is affected by their concerns and beliefs, and what support they need to improve self-care and to make an appropriate decision to consult. The research reported here is part of the NIHR funded TARGET Programme that has an aim to help parents of children with active RTIs to use NHS services more appropriately. This qualitative study investigated parents' needs prior to consulting.

Method: Focus groups were used to explore parents' views and experiences of when their child had a RTI. Six focus groups were recruited using purposeful sampling to obtain groups from a range of socio-economic situations and with children of different ages (within the range 3m-12yrs). Researchers facilitated the semi-structured discussions and covered parents' concerns and needs before consultation, triggers and barriers to consulting primary care services, and the content, format, timing and modes of delivery of information presentation most useful to parents. The focus groups were audio-recorded, anonymised, transcribed and thematically analysed using NVivo8.

Results: Before consulting, parents sought information from a wide range of sources including family, friends, pharmacists, books, the internet and NHS Direct. Parents drew on multiple information sources to make sense of their children's symptoms, to find ways to make their child feel better (particularly less experienced parents) and to help them decide when to consult. Lay understandings of illnesses ‘going around' in the local community influenced parents' expectations of symptom severity and duration.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Parents' decision to consult or confidence to care for a child at home was influenced by a complex interaction of beliefs, experiences, lay knowledge and information from external sources.

Conclusions: The data suggest that parents need clear information about RTIs in children from a trusted source. Parents would welcome information about ways to relieve basic RTI symptoms when caring for children at home, signs of more serious complications, and knowledge about when to consult their GP.

B23

The effect of amoxicillin in lower respiratory tract infection (LRTI): a placebo controlled RCT in 16 primary care Networks from 12 countries in Europe

Paul Little[1], Beth Stuart[1], Theo Verheij[2], Chris Butler[3], Mike Moore[1], Samuel Coenen[4], Maciek Godycki-Cwirko[8], Artur Mierzecki[14], Slawomir Schlabicz[11], Toni Torres[15], Jordi Almirall[10], Peter Edwards[3], Tom Schaberg[6], Francesco Blasi[9], An De Sutter[5], Igor Svab[13], Helena Hupkova[12], Pia Touboul[7], Mark Mullee[1], Herman Goossens[4]
[1]University of Southampton, Southampton, UK, [2]Universitair Medisch Centrum Utrecht, Utrecht, The Netherlands, [3]Cardiff University, Cardiff, UK, [4]University of Antwerp, Antwerp, Belgium, [5]University of Ghent, Ghent, Belgium, [6]Diakoniekrankenhaus Rotenburg, Rotenburg, Germany, [7]Nice-Sophia-Antipolis University, Nice, France, [8]Medical University of Lodz, Lodz, Poland, [9]Institute of Respiratory Diseases, University of Milan, Milan, Italy, [10]Autonomous University of Barcelona, Barcelona, Spain, [11]Medical University of Bialystok, Bialystok, Poland, [12]Faculty of Pharmacy, Bratislava, Slovakia, [13]Ljubljana and Maribor Medical School, Jesenice, Slovenia, [14]Pomeranian Medical University, Szczecin, Poland, [15]University of Barcelona, Barcelona, Spain

Introduction. LRTI is the commonest acute presentation managed in primary care and still a major driver of antibiotic prescribing. Systematic reviews of placebo controlled studies are small (<1000).

Aim: to determine the effectiveness of amoxicillin for lower respiratory tract infection.

Methods. 2054 patients presenting with uncomplicated acute cough (<4 weeks) as the main symptom were randomised to amoxicillin 1g three times a day or placebo for 7 days. Patients completed validated symptom diaries for symptom severity (7 point scale) and duration. Notes were reviewed for repeat consultations

Results. 593 of trial population (28%) were aged 60+, and symptom severity documented and duration were documented in 87% of patients. There was no significant difference in symptoms severity in the first 4 days after seeing the doctor (placebo mean 1.69, antibiotic 1.62; difference -0.07 (-0.18 to 0.06)), and no significant difference in the proportion with moderately bad or worse symptoms at 7 days (47% vs 40% respectively, p=0.07 NNT 14). 5% more patients in the antibiotic group compared with the placebo group developed nausea, rash or diarrhoea (NNH 20).

Conclusion. Antibiotics are very unlikely to provide meaningful symptomatic benefit in LRTI for most patients, and any benefit is likely to be similar to the magnitude of harm.

B24

Adherence and recovery after immediate and delayed antibiotic prescription for LRTI: a prospective observational study

Nick Francis, David Gillespie, Kerenza Hood, Jacqui Nuttall, Christopher Butler
Cardiff University, Cardiff, UK

Introduction There is little data on how frequently immediate, delayed, or no antibiotic prescribing strategies are adopted in the primary care management of acute cough, or on use of antibiotics following consultations that have adopted these approaches.

Methods General practices in 13 European countries recruited patients with acute cough. Clinicians recorded clinical features and antibiotic prescribing. Patients recorded symptoms and medication use in a daily diary. Patient reported antibiotic consumption was compared with prescribed antibiotics. Factors associated with non-adherence were identified using logistic regression and time to recovery was compared using Cox proportional hazards model.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Results GPs recorded antibiotic prescribing decisions for 3,368 (99%) of recruited patients. 46.5%, 6.3%, and 47.6% received a prescription for immediate, delayed and no antibiotics respectively. Patient recorded follow up data was available for 2,690, and 71.5%, 54.7%, and 11.6% of each prescribing group reported taking an antibiotic during the follow-up period. Higher prescribing networks had a lower ratio of antibiotic consumption to antibiotic prescribing. Of 1290 patients who were prescribed immediate antibiotics and provided data on antibiotic use, 49.5% adhered. Having diabetes was associated with greater adherence, and being prescribed amoxicillin, tetracycline, or a longer treatment course, was associated with lower adherence. There was no difference in the rate of recovery between those who did and did not adhere to immediate antibiotic prescription (Hazard Ratio 1.07, 95%CI 0.93 to 1.23), or between those who adhered to an immediate prescription and those who were prescribed delayed antibiotics (Hazard Ratio 1.05, 95%CI 0.85 to 1.31).

Conclusions Less than half of the patients prescribed immediate antibiotics for acute cough adhered, with three out of ten taking no antibiotics at all. Overall, delayed antibiotic prescribing was infrequent, with about half of these patients taking an antibiotic. Antibiotic prescribing at the network level was not a reliable predictor of consumption, with high prescribing networks having a lower ratio of consumption to prescribing. Adherence to treatment was not associated with recovery.

B25

Relationship of infant feeding and morbidity in the first six months of life among Palestinian refugees in the Nablus area

Samar Ghazal Musmar[1], Shaden Qanadeelu[1]
[1]An-Najah National University, Nablus, Occupied Palestinian Territory, [2]Advanced Technology Lab, Nablus, Occupied Palestinian Territory

Introduction: Many studies worldwide have shown that breastfeeding is the ideal method for infant feeding ; it can decrease the incidence and severity of common infectious conditions .UNRWA(United Nations Relief and Works Agency for Palestine Refugees in the Near East) primary health care clinics, where Palestinian refugees receive health care, are promoting an international program to encourage exclusive breastfeeding. This study aimed to explore the immediate effect of different types of feeding (exclusive breastfeeding EBF, partial breastfeeding PBF, and exclusive formula feeding EFF) on infant morbidity in the first six months of age in Nablus refugee camps (Balata, Askar, and Ein Beit-elMa).

Methods: This cross-sectional retrospective analytical survey comprised 690 medical records of children who were born in 2007, residing in Nablus refugee camps and receiving health care in one of three UNRWA's clinics. Routinely recorded data about pattern of feeding and number of visits for acute illnesses included in the study were extracted. We calculated frequencies and percentages; Pearson Chi-square, and multiple logistic regression methods were used.

Results: During the study period, 283(41%) of infants had no clinic visits for acute illnesses. The average number of acute illness visits for the rest was 2.7. Common acute illness diagnoses were upper respiratory infection(79.1%),diarrhoea (19.4%) , gastroenteritis (19.2%), otitis media(13.5%), allergies(10.8%),lower respiratory tract infection(9.1%),wheezing (9.1%) and urinary tract infection(1.5%). The relationship between the type of feeding and number of visits showed that 88.7% of infants who had no clinic visit for an acute illness visit were exclusively breastfed, while 43.5% of infants who had > 4 visits were exclusively formula fed($P<0.00001$). After adjusting for mothers' and infants' demographic variables, and applying logistic regression model using EBF as a referent, there was a significant increment in the adjusted odds ratio of EFF group for all diagnoses except diarrhoea ($P \leq 0.05$); however for PBF, it was only significant for gastroenteritis and allergies.

Conclusion: Breast feeding, especially EBF, in the first six months of infant life is important element in preventing and decreasing common illnesses during this period. Primary health care physicians and nurses are encouraged to promote EBF among their clients.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

B26

A cohort study to measure the impact of statin therapy on short-term mortality following a pneumonia episode

Ian Douglas, Stephen Evans, Liam Smeeth
London School of Hygiene and Tropical Medicine, London, UK

Introduction A recent meta-analysis of observational studies suggests statins may protect against severe outcomes following a range of viral and bacterial infections. We aimed to see if statins protect against all-cause mortality following a diagnosis of pneumonia.

Methods We conducted a cohort study to assess the effect of statins on all-cause mortality following a diagnosis of pneumonia using a propensity score-based method to control for differences between people prescribed and not prescribed statins. The study was population-based using data from the United Kingdom Health Improvement Network database. The database contains the electronic primary care medical records of over four and a half million patients.

Every patient starting a statin between 1995 and 2006 was matched with up to 5 unexposed patients to form the cohort. 129,288 statin users were matched to 600,241 non-users, forming the main cohort. 9,073 patients had a recorded diagnosis of pneumonia, of whom 1,398 were statin users. The primary outcome was all cause mortality within 6-months of a pneumonia diagnosis.

Results Amongst statin users and non-users with comparable propensity scores, 95/942 users and 686/3,615 non-users died on the day of pneumonia diagnosis. In the following 6-month period, 109/847 statin users died compared with 578/2,927 non-users, giving an adjusted hazard ratio of 0.67 (0.49-0.91). If these observed benefits translated into clinical practice, 15 patients would need to be treated with a statin for 6 months following pneumonia to prevent a single death.

Conclusions Compared with people who were not taking statins, the risk of dying in the six month period following pneumonia was substantially lower among people who were already established on long term statin therapy when the pneumonia occurred. As with all observational studies, a causal relationship should not be assumed. Whether some or all of this protective effect would be obtained if statin therapy begins when a patient first develops pneumonia is not known. However, given that statins are cheap, safe and well tolerated, a clinical trial in which people with pneumonia are randomised to a short period of statin therapy is warranted.

B31

Women's evaluation of abuse and violence care in general practice (weave): Six-month outcomes on women's safety, quality of life and health

Kelsey Hegarty[1], Lorna ODoherty[1], Jane Gunn[1], Angela Taft[2], Jill Astbury[3], Stephanie Brown[4], Gene Feder[5]
[1]University of Melbourne, Victoria, Australia, [2]La Trobe Univesity, Victoria, Australia, [3]Monash University, Victoria, Australia, [4]Murdoch Childrens Research Institute, Victoria, Australia, [5]University of Bristol, Bristol, UK

Introduction Intimate partner abuse (IPA) is a common hidden problem among women attending general practice and is the leading cause of morbidity and mortality for women (15-44 years). While women report a willingness to disclose abuse, general practitioners (GPs) lack evidence-based guidance on how to respond. The weave project is the first large general practice based trial testing the effect of screening and intervention for abused women on quality of life, safety, and mental health.

Method: A cluster randomised controlled trial involving 55 GPs from Victoria, Australia. For each GP, 400 women (16-50 years) who visited in the last year were screened for fear of partner/ex-partner in last year. Following baseline assessment, GPs were randomly assigned either to basic education and usual care; or to an 8-hour Healthy Relationship training program and their 'fearful' patients invited for 3-6 sessions of counselling. Primary outcomes were quality of life, safety and mental health assessed by survey at 6 months. Group allocation (A or B) and 6-month analysis (n=140) has been blinded until full sample dataset is available in April.

Results: 5742/19879 women returned the screening survey. Of these, 731 (12.7%) were

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

afraid of a partner;388 women were eligible; 272 enrolled in the trial. At baseline, 58% of women had completed high school, 70% were employed, 56% had probable PTSD and 30% reported feeling depressed. Despite a trend towards higher QOL at 6 months in Group B, there were no differences between groups A and B on dimensions of WHOQOL-Bref: psychological [Diff=4.7 CI=-.8-10]; physical [Diff=5 CI=-2.5-12.4]; social [Diff=4.7 CI=-.8-10]; and environmental [Diff=2.1 CI=-4.6-8.8]. No differences were observed on ever having made a safety plan [OR=1.2 CI=.7-2], number of safety behaviours [OR=.7 CI=.3-1.6] or mental health score (SF-12) [Diff=1 CI=-2.4--4.4]. Group B perceived the participating GP as more supportive [diff=14.2 CI=1.2-27].

Conclusions: GPs should be alert to IPA given the high proportion of women (around one in 10) affected by fear of a partner and the significant co morbidity associated with it. Brief counselling by GPs using motivational interviewing and problem-solving techniques shows promise in improving how supported women feel and women's quality of life.

B32

Modelling the cost effectiveness of an intervention to identify and refer women experiencing domestic violence in a primary care setting

Angela Devine[1], Anne Spencer[1], Sandra Eldridge[1], Gene Feder[2]
[1]Barts and the London School of Medicine and Dentistry, London, UK, [2]University of Bristol, University of Bristol, UK

Introduction Domestic violence (DV) leads to economic and emotional costs to society. A randomised control trial (IRIS) compared the referral rate to specialist DV agencies in general practices that received a training and support intervention with the referral rate in practices with no intervention. The intervention practices also were given prompts in the electronic medical record and a simple referral pathway. The trial did not follow up women beyond the intermediate outcome of a referral to specialist agencies, which was higher in the intervention practices.

Method A Markov model was developed to extrapolate the intermediate outcomes from the trial to final costs and benefits over a ten year time horizon. The model captured the movements of women into and out of DV following referral to advocacy and associated cost effectiveness. The model included the following states: no abuse, abuse unidentified, advocacy, identified existing victim (IEV) and death. Transition probabilities, Quality Adjusted Life Years (QALYs) and costs were taken from the trial results and supplemented with data from literature and expert opinion. We determined the difference in mean cost and mean QALYs of the IRIS programme compared with usual care. A probabilistic sensitivity analysis (PSA) was conducted to identify parameters which had the greatest impact on model outcomes.

Results Compared with normal care, the model indicated that the intervention would result in a mean cost savings of £1,192 (95% CI £256 to £2,915) with a QALY gain of 0.0636 (95% CI -0.0402 to 0.1857) per woman over 10 years. The PSA indicated that the model was most sensitive to changes in the costs of abuse, QALYs gained for women in the abuse unidentified state, and the transition rate from IEV to no abuse.

Conclusion The model showed that the intervention has the potential to produce cost savings from the societal perspective in the long term. This method of extrapolation from intermediate outcomes in trials of complex interventions to ascertain cost effectiveness is an efficient method of translating trial findings into policy recommendations. Identifying and applying appropriate data from domestic violence literature was difficult due to the scarcity of research on the trajectory of abuse.

B33

"Don't be afraid to ask": The role of primary care clinicians in facilitating meaningful change for women experiencing domestic violence and abuse-why waiting for women to speak-up may be harmful

Alice Malpass[1], Kim Sales[3], Annie Howell[3,1], Medina Johnson[2,1], Roxanne Agnes-Davies[4,1]
[1]University of Bristol, Bristol, UK, [2]nextlink Bristol, Bristol, UK, [3]Nia project, London, UK, [4]Domestic Violence Training Ltd, London, UK

Introduction Women experiencing domestic violence and abuse (DVA) are more likely to be in

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

touch with health services than any other agency, yet doctors and nurses rarely ask about DVA, often failing to identify signs of DVA in their patients.

Aims: to understand women's experience of disclosure of DVA in primary care settings in the context of the IRIS trial (an RCT testing the effectiveness of DVA training for primary care clinicians); explore from the women's perspective what they identified as meaningful change; and the role, if any, of clinicians in supporting women to make meaningful changes in relation to improving their sense of safety.

Methods: This was a service-user led study using a qualitative research design. We recruited 12 women who had been referred to a specialist DVA agency by a GP taking part in IRIS. Women were interviewed by a survivor of DVA. Interviews were recorded and transcribed verbatim. Each transcript was coded by two members of the research team. Analysis was thematic involving constant comparison.

Analysis Our analysis identified internal and external barriers to disclosure. Negative experiences of attempted disclosure, in which GP's medicalised signs of DVA, reinforced internal barriers to disclosure, such as self-blame and shame.

Five important shifts were described by women as a consequence of GP referral to a specialised DVA advocate: an emotional shift away from a sense of shame, guilt and fear; a greater sense of control; a shift away from self-blame thoughts- realising the problem is the perpetrators; a shift in outlook- feeling excited and hopeful about the future; and lastly feeling motivated to make changes that were not externally driven.

Conclusions Women experiencing DVA see their primary care clinician's role as being one of referral to specialised advocacy services rather than being a source of direct-action. Drawing upon critiques of models of change, we highlight the types of GP behaviours that facilitate women at key points to initiate and maintain meaningful changes in well-being and safety.

B34

Pilot prevalence study of male victims and perpetrators of domestic violence in primary care settings

Marianne Hester, Emma Williamson, Sue Jones
University of Bristol, Bristol, UK

Introduction Men and women report domestic violence (DV) in national prevalence surveys, with incidence, severity and impact at lower rates for men. Health sector and general practices are accessed by male victims and perpetrators of DV, but there is no UK prevalence data of domestic violence in male clinical samples. Items to measure indicative prevalence of domestic violence were included in a patient survey instrument. Both men and women participated.

Method A brief survey instrument was devised to measure prevalence of experience and perpetration of DV in clinical populations, to ascertain whether patients had ever been asked about it by their general practitioner, and how comfortable they would feel about being routinely asked. Fear has been identified as a key impact factor that differentiates DV from other behaviours, and questions on fear and direct experience of violent behaviour were used. The surveys were administered to male and female patients aged over 16 in reception areas of four practices in the north east of England. Practices self-selected to take part. Survey data was added to an SPSS database to provide prevalence outcomes.

Results A total of 621 patients from the four practices completed the surveys, including 178 men (28.7% of total sample). Nineteen men (3.1%) reported being frightened because of the behaviour of a partner/someone at home, 26 men (4.2%) experienced violent behaviours and 29 self-identified as perpetrators. Of male patients experiencing violent behaviours six (23.1%) said they had discussed this with their GP. Overall 132 of the men (74.2%) thought it would be helpful to ask all patients about DV.

Conclusions It is possible to assess DV prevalence among men in primary care settings. We are now conducting a a cross-sectional survey of 1400 male patients in 16 practices selected to reflect the national demographic profile to provide a more robust and precise estimate DV prevalence in general practice populations and its associations with health status. This will inform a pilot educational and support intervention targeted at primary care clinicians to promote enquiry about men's experience or perpetration of DV and improved management after disclosure.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

B41

Multi-source feedback for revalidation - report of large scale national pilot. Modelling patient and colleague feedback on doctors' professional practices.

John Campbell[1], Christine Wright[1], Jacqueline Hill[1], Martin Roberts[1], Suzanne Richards[1], Michael Greco[2]
[1]*Peninsula Medical School, Exeter, UK,*
[2]*CFEP-UK, Exeter, UK*

Introduction All practising doctors in the UK have currently been issued with licences to practice. Revalidation will be implemented from 2012. Various models exist whereby a doctor might provide evidence that they are "up to date and fit to practice". We have been undertaking research over the last five years informing and developing the processes of using the GMC's patient and colleague questionnaires for multi-source feedback for doctors wishing to revalidate. The aim of the work is to assess the utility of the questionnaires for potential use in revalidation.

Method We invited 2,454 (944 GPs) index doctors from 11 trust settings across the UK to take part in a study using the GMC's patient and colleague questionnaires to obtain feedback from their patients and colleagues on their professional behaviours and practices . 1,067 doctors (363 GPs) participated. We examined the psychometric properties of both survey instruments. Multivariate modelling was undertaken to determine patient and colleague characteristics which independently predicted feedback scores.

Results Both questionnaires appeared acceptable to potential respondents. The median time to complete the patient survey was 66 days, and for the colleague survey 42 days. Reliability (G) in excess of 0.7 would be attained following the return of 35 patient questionnaires, or 15 colleague questionnaires. Both questionnaires have good internal consistency. 9% of index doctors had at least one of the nine core patient questionnaire items in which their mean item score was a statistical "outlier". 19% of doctors had at least one of the 18 colleague items as a statistical "outlier". Independent predictors of colleague feedback included the ethncity, country of qualification, medical specialty, grade, and locum status of the index doctor as well as the frequency of professional contact between the index doctor and the colleague providing feedback. Patient feedback was predicted by the ethnicity, country of qualification and clinical specialty of the index doctor, as well as by the proportions of white respondents, those rating their visit as 'very important', and those individuals seeing their 'usual doctor'.

Conclusions The GMC's patient and colleague questionnaires form a reasonable basis for providing evidence in respect of the revalidation of UK doctors.

B42

Title: Students' evaluation of serial educational workplace based assessments of their consultation skills in general practice with an email summary.

Robert Jones, Milan Mehta
Keele School of Medicine, Newcastle-u-Lyme, UK

Introduction/Objective*:* To describe students' evaluation of:

1) Serial workplace based assessment of their consulting skills with emailed summaries of the agreed feedback and educational prescription and

2) Their understanding of the tool on which the feedback was based, the Generic Consultation Skills assessment tool (GeCoS).

Design: Students' evaluation of the placement and assessment collected using a commercially available survey tool.

Setting: Keele School of Medicine's four week general practice placement (Consolidation of Clinical Skills (CCS)) in year 3.

Main Outcome Measures: Students evaluation of three serial formative assessments of their consultation skills and agreed personalised educational prescriptions on how to improve prepared using GeCoS and of email summaries of the feedback.

Results: Students rated the serial assessments, feedback and email summaries as follows:

Feedback was received from 88 students (67% of students who undertook CCS block).

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

· 85% felt they had an opportunity to ask additional questions

· 91% Received additional verbal feedback

· 76% Felt GeCoS was a useful tool to improve consultation skills

· 80% Felt GeCoS was a fair assessment

· 90% Understood what they needed to do to improve following GeCoS feedback

· 93% Understood what they had done well following GeCoS feedback

Free text comments in the feedback reinforce their perceptions of the benefit of these assessments, although some students did criticise the process.

***Conclusions**:* GeCoS is seen by the majority students to be a fair assessment tool and that the assessments performed with it have improved their consultation skills. However written feedback from some students has produced some criticism of GeCoS, which is not reflected by the majority.

A sound platform has been provided to discuss areas for improvement.

The use of GeCoS feedback contemparously helped students understand what they had done well and areas which needed improvement.

The majority of students perceived that they had opportunities to discuss what and how they should improve. Immediate feedback from their tutor with an emailed summary of the agreed educational prescription helped students understand what they had done well in addition to areas for improvement.

B43

A study of the Consultation and Relational Empathy CARE measure for medical students.

Nashwan Alnoman[1], Jon Dowell[1], Douglas Murphy[2]
[1]*University of Dundee, Dundee, Angus, UK,*
[2]*NHS, Glasgow, UK*

Introduction: The GMC is requiring medical schools to introduce patient assessment of students. The Consultation and Relational Empathy (CARE) questionnaire was developed and has been applied widely in general practice. Its value for assessing empathy amongst other postgraduate doctors has now also been demonstrated. This study aims to establish whether this evaluation tool offers a reliable, valid, and practical means of assessing senior clinical medical student's consultation skills.

Methods: Students completing two or three month GP attachments, 20% of all fifth years, were asked to participate during the academic years 2009/10 and 10/11. One month attachments were considered too brief. After explanation, 35 questionnaires were issued for distribution to consecutive patients with whom the student conducted an independent consultation. The form consists of 11 questions answered on a 5-point scale. Questionnaires are coded with a student ID but patients completed them anonymously and returned them to reception. Forms were collated and forwarded to the principle investigator. A minimum of 25 forms were sought from each student.

Results: Students and some tutors had reservations about using CARE which was reflected in a low response rate. 41% in 2009/10, 70% in 2010-2011, although participation was encouraged it was not a requirement. 620 patients rated the students providing an average of 27 forms per student. The mean score of the 23 students recruited to date was 4.51/5, 95% confidence intervals 4.05 - 4.97, suggesting most students were judged as 'excellent'. One student scored significantly lower than his peers and was also identified within a related OSCE as having poor consultation skills.

Conclusion: As a new assessment tool CARE proved challenging to introduce. Student scores were high, in fact higher on average than published norms for GPs. Patients' comments also reflected the high scores and included helpful specific guidance for students. CARE data will now be compared with block and year end OSCE results as well as Mini Cex and tutor scores. This analysis will be available for SAPC.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

B44

A mixed methods study evaluating the effect of a pedometer based educational intervention on medical students' exercise behaviours and their intentions to promote physical activity to patients.

PA Cooke[1], G Gormley[1], MA Tully[1,2], A Gilliland[1], ME Cupples[1,2]
[1]Queen's University, Belfast, UK, [2]UKCRN Centre of Excellence for Public Health (NI), Belfast, UK

Introduction More training of health professionals in physical activity promotion at undergraduate and postgraduate level has been recommended. It has been shown that doctors who are more physically active are more likely to counsel patients regarding this behaviour. We aimed to develop a participatory educational intervention to promote behaviour change and, using a mixed methods approach of a randomised controlled trial and focus groups, to examine its effect on students' behaviours and intentions towards physical activity promotion.

Method Four cohorts of fourth-year medical students at Queen's University Belfast were enrolled during their general practice attachments, within which they received teaching on health promotion (February-December 2010). Students wore a pedometer and recorded daily step counts for one week, after which they were randomly allocated to a brief intervention (supported personal strategy to increase daily steps) or control group. All recorded daily pedometer step counts for a second week, following which their attitudes towards promoting physical activity were measured using a questionnaire based on the Theory of Planned Behaviour, and explored in focus groups (4).

Results 136 students participated (intervention=71 (52%); control=65 (48%)). The intervention group increased their daily step counts during the second week of study significantly more than controls (+1295 steps/day, p<0.001, 95%CI 465-2043). Both groups reported significantly more perceived behavioural control (confidence, effectiveness and personal control) over physical activity promotion at the end of the second week of study and at ten week follow-up (p=0.003), with no difference between groups (p=0.42). Focus group participants who experienced the brief intervention reported that it had a positive effect on their intention to promote physical activity. Students also reported awareness of a lack of health promotion teaching in other areas of the curriculum.

Conclusions Medical students who participated in a structured brief intervention increased their physical activity but questionnaire responses did not indicate an effect on intentions to promote physical activity. However qualitative exploration suggested that students' awareness of health promotion and their likelihood of promoting physical activity increased following an experience of participating in the brief intervention. Further research in health promotion teaching and its place in the curriculum is needed.

B45

What are General Practitioners' self-perceived educational needs in relation to developing as a tutor for undergraduate medical students

Catherine Hyde[1,2], Lynne Allery[1]
[1]University of Manchester, Manchester, UK, [2]Cardiff University, Cardiff, UK

Introduction Undergraduate medical education is increasingly delivered in a community setting and General Practitioners are important stakeholders in its delivery. Previous studies have shown the benefits of supporting the development of undergraduate medical students' teachers. Little is known about the knowledge, skills and attitudes that General Practitioners' perceive they need in relation to developing as tutors for undergraduate medical students. The aims of this study were to explore these educational needs and the resources that tutors perceive as useful in meeting them.

Method This study was performed at a large UK medical school, where there is a programme of planned activities to support teaching in the community setting. This qualitative study used face-to-face, semi-structured interviews. An interview schedule was developed based on existing literature and informed by social-cognitive and work-place learning theories, and then piloted. General Practitioners who were teaching undergraduate medical students were purposively sampled to explore perspectives from as wide a range of teaching experience and environments as possible. A total of 15 General Practitioners were interviewed between October

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

and December 2010. Interviews were tape-recorded and transcribed and an inductive thematic approach was used to analyse the data. Participants were offered the opportunity to comment on the analysis.

Results Analysis suggested that tutors undergo a process of development. Four key themes emerged as educational needs: understanding and developing the role of the General Practice tutor; developing the tutoring environment; orientating students to community medicine; orientating to the programme and student. Four resources emerged as aiding General Practitioners' development: tutors' own experiences of teaching and learning; dialogue with students; contact with the University; learning from peers.

Conclusions General Practitioner tutors appear to perceive diverse educational needs which included role development, and competencies of management and leadership which enabled tutors to shape their environment. These needs were perceived in addition to knowledge of the programme and skills of assessing students, and may represent a focus for enabling tutors' development. Resources that tutors perceived as aiding their development such as dialogue with students and learning from peers are likely to be viewed as useful in providing formal support for tutors' development.

B46

Foundation Programme doctors as teachers in the primary care setting

Catie Nagel, Jane Kirby, Bruno Rushforth, David Pearson
University of Leeds, Leeds, UK

Introduction: Teaching is a core competence outlined in the Foundation Programme curriculum. We will report data from a larger postal questionnaire study asking GP trainers and GP programme directors in the Yorkshire & Humber Deanery whether Foundation Year 2 (FY2) doctors were undertaking teaching roles in this setting. We also aimed to explore their attitudes towards FY2s as teachers.
Method: A questionnaire was designed asking whether FY2s had been present in the practice and if so what teaching methods they had undertaken. The responder was then asked how comfortable they would feel with an FY2 doctor undertaking certain teaching roles. Responses were prompted using a 9 point Likert scale. Free text comments were analysed using content analysis to identify common themes.
Results: The response rate was 74% (216/291). 37% (n=80) of respondents stated that FY2s had been present in their surgery in the last 12 months. 16% (13/80) went on to say that those FY2 doctors had undertaken teaching roles. Respondents felt more comfortable with FY2s undertaking teaching of practical skills (median=6, interquartile range 5-7on Likert scale) and giving one-to-one tutorials to medical students (median=6, IQ range 4-7), but uncomfortable with them clinically supervising medical students (median=3, IQ range 2-5) and giving one-to-one tutorials to fellow FY2s (median=4, IQ range 2-5). Of the 101 free text comments the most prominent theme was that of variability; with 24/101 statements concluding that the ability to teach was down to the individual's capability, skill and enthusiasm. Several (10/101) further comments expressed high levels of concern about the quality of the FY2 doctors coming through, suggesting that some were "disappoint[ing],""underwhelm[ing]" or " less capable" than those a few years ago.
Conclusions: The results suggest reluctance in GP trainers and GP programme directors in the Yorkshire & Humber Deanery towards letting FY2 doctors undertake the full range of teaching opportunities potentially available in the primary care setting. With reduced hours resulting in a decrease in exposure to teaching experience during hospital rotations, it is important that these doctors are given adequate opportunities during primary care placements to improve skills in this area.

B51

Complexities of retention in primary care randomised trials: A thematic analysis of in-depth interviews.

Valerie Brueton[1], Fiona Stevenson[4], Claire Vale[2], Seeromanie Harding[3], Greta Rait[1,4], Irwin Nazareth[1,4]
[1]MRC General Practice Research Framework, London, UK, [2]MRC Clinical Trials Unit, London, UK, [3]MRC Social and Public Health Sciences Unit, Glasgow, UK, [4]UCL Research Department Primary Care Population Health, London, UK

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Introduction Loss to follow-up in randomised trials can cause bias, compromise study power, and affect the generalisability and reliability of results. Many strategies are used to retain participants in randomised trials. Little is known about the experiences of trialists implementing such strategies, or their perspectives of successful or unsuccessful strategies. The complexity of these experiences and perceptions about loss to follow-up in randomised trials may influence the type of strategies used in different disease areas and with different population groups. We have explored factors that may contribute to loss to follow-up in randomised trials, and whether some strategies to improve retention are perceived to be more successful than others.

Methods 30 UK trialists including principal investigators, research nurses, and trial managers were purposively sampled from published randomised trials conducted in primary care. Randomised trials with high >20%, moderate 20-5%, and low <5% rates of loss to follow-up were included. In-depth interviews were digitally recorded, anonymised, and transcribed verbatim. ATLAS ti 6.1 was used to organise and explore coded transcripts. A concurrent thematic analysis was conducted. Themes around each category were verified and confirmed by constant comparison and searching across all interviews for similar themes and categories for analysis.

Results To date, 19 in-depth interviews have been conducted with 4 principal investigators, 6 trial managers, and 9 research nurses from randomised trials in mental health, nutrition, elderly care, and chronic diseases. A major theme emerging across all interviews is the importance of communication between participants and staff. Factors contributing to retention included: rapport between participant and trialist, participant altruism, and flexibility around appointment schedules. Giving information about what the randomised trial involves at the initial recruitment visit was considered to influence retention. Reducing burdens, both financial and physical, by provision of transport and reimbursement of costs were also considered useful.

Conclusions The findings will provide a deeper understanding of the complexity of retention in randomised trials and inform future use of strategies to reduce loss to follow-up by trialists. We will highlight strategies or combinations of strategies that should be evaluated prospectively.

B52

Kernel analysis as a tool to define the boundaries of General Practice catchment areas

Eleni Sofianopoulou[1], Stephen Rushton[2], Tanja Pless-Mulloli[2]
[1]Durham University, Durham, UK, [2]Newcastle University, Newcastle upon Tyne, UK

Introduction There is no formal definition of boundaries of UK general practice catchment areas. The population of any given area can be affiliated to a number of general practices. Consequently, general practice catchment areas form overlapping polygons, such that they limit spatial analysis of primary care health data. A traditional way to define general practice catchment areas has been to align them to administrative boundaries. We aimed to define catchment areas and reduce the degree of overlapping, without making them conform to existing administrative boundaries. Defining a catchment area, as close to reality as possible, can help to identify practices that share substantially similar areas and potentially assist in health services commissioning. It can also improve accuracy when measuring local area characteristics that can influence health but do not follow administrative patterns, such as air quality.

Method We obtained over 2 million GP patients' postcodes for 64 practices in Northeast of England, for the years 2002-2006. We used kernel analysis to define catchment areas representative of the spatial distribution of registered patients' addresses. We first created continuous maps of patient density distribution, by practice. We then created borders of catchment areas within which 99%, 98% and 95% of registered patients were expected to live, respectively. We used three cut off points in order to check the sensitivity of the analysis.

Results We created boundaries of 64 catchment areas for each of 5 years. We found the best fit was the area in which 98% of registered patients were expected to live. The analysis responded well by depicting changes when using different cut off points. Very little variation existed in boundaries of service areas through the years of the study.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Conclusion Kernel analysis defines the catchment areas of general practices primary care while reducing the degree of overlap, allowing them to be meaningful surveillance tools. This method of analysis is not restricted to primary health care and can be used to define catchment areas in other health care settings.

B53

Spatial analysis of primary care performance in England

Michael Soljak, Edgar Samarasundera, Azeem Majeed
Imperial College London, London, UK

Introduction Limited growth in NHS resourcing and the need to license primary healthcare providers add an additional imperative to monitor the quality of primary health care more rigorously. Two service aspects central to management of chronic diseases are identification of new cases and effectiveness in reducing hospital admissions. Here we demonstrate spatially explicit methods for assessing geographical variations and clustering in primary care performance, and, after adjusting for population factors, displaying the results in a useful format. To the best of our knowledge spatial analytic methods have not been applied previously to UK primary care data. Cerebrovascular disease (stroke) is used as an illustrative case study.

Methods We used data from the Quality Outcomes Framework (QOF), Hospital Episode Statistics, and socio-demographic datasets including age, sex, deprivation, ethnicity, and smoking prevalence for England. Two phases of analyses were implemented, both at the general practice level. The first involved investigation of patterns in the difference between modelled prevalence and QOF-recorded prevalence (i.e. possible under-diagnosis levels), using spatial cluster/outlier detection methods. The second phase involved using spatial regression methods to assess the relationship between primary care factors and hospital admissions, while controlling for population factors.

Results Statistically significant clustering in possible under-diagnosis was found, particularly in much of inner London and the West Midlands. Similarly while the majority of practices appeared to be managing stroke effectively once population factors were accounted for, there were clear groupings of practices in northeast England which had a lesser association between primary care factors and hospital admissions than might be expected, indicating potential over-achievers. Conversely an apparent group of underachieving practices in inner east London with respect to admissions was revealed.

Conclusions There is evidence that, after adjustment for population factors, there is strong spatial variation in over- and under-performance. Spatial analytic methods may be useful for future primary care regulation and development. Practice-level mapping is helpful in visualising these associations.

B54

Quantitative versus qualitative notions of validity: investigating the validity of PSYCHLOPS as an patient outcome measure in trials of insomnia and sleep

Zowie Davy[1], Casey Quinn[2], Helen Wilson[3], Fiona Togher[1], A Niroshan Siriwardena[1]
[1]*University of Lincoln, Lincoln, UK,*
[2]*University of Nottingham, Nottingham, UK,*
[3]*Lincolnshire PCT, Lincoln, UK*

Introduction PSYCHLOPS ('Psychological Outcome Profiles') is a novel patient-reported outcome measure developed by Ashworth and colleagues that allows clients to evaluate their progress by measuring severity scores for self-defined problems at the start of, during and after therapy. PSYCHLOPS was administered in a study, 'Resources for Effective Sleep Treatment (REST)', designed to assess the feasibility of training primary care clinicians (GPs and nurses) to deliver 'problem focused therapy' for insomnia to improve sleep outcomes in adults with insomnia. We aimed in this sub-study to assess both qualitative and quantitative notions of validity of PSYCHLOPS in sleep studies.

Methods PSYCHLOPS was administered by a practice nurse to trial participants in two intervention primary care sites (participants offered 'problem focused therapy') and two control sites (participants offered sleep hygiene information) as part of a cluster randomized feasibility study. Other predetermined outcome

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

measures including the Pittsburgh Sleep Quality Index (PSQI), Insomnia Severity Index (ISI), Beck Depression Inventory (BDI) and sleep diaries. We investigated qualitative and quantitative markers of validity including content validity (nature of response to items), internal validity (reliability), criterion validity (strength of relationship with a related variable) and construct validity (strength of relationship with an underlying variable).

Results A qualitative analysis of test content showed a representative sample of the behavior domain expected in relation to sleep problems including sleep, sleep-related problems and underlying psychosocial and physical problems such as anxiety, worry and arthritis. A positive, statistically significant correlation was found between PSYCHLOPS and ISI (Kendall's tau = 0.47, $p<0.001$) but not between PSYCHLOPS and PSQI (Kendall's tau = 0.13, $p=0.24$) suggesting partial criterion validity with regards to insomnia impact. We also found a positive correlation between PSYCHLOPS and BDI and (Kendall's tau = 0.47, $p<0.001$) indicating construct validity.

Conclusion PSYCHLOPS demonstrated aspects of quantitative validity supporting its wider use in this study setting. However, applying qualitative notions of validity uncovered a number of assumptions and response biases that should be acknowledged in future studies using the tool. Qualitative analysis added an additional dimension to the assessment of validity which should be considered in other validation studies that use idiographic measurements.

B55

Using qualitative research to inform development of diagnostic algorithms: findings from the DUTY- Quali Study

Isabel de Salis, Alastair Hay, Penny Whiting, Jonathan Sterne
University of Bristol, Bristol, UK

Introduction Urinary tract infections (UTIs) in children are potentially serious, and under diagnosed. The HTA-funded DUTY study was established to develop a diagnostic algorithm to improve the recognition of UTIs in under 5s. Little is known about how clinicians currently diagnose UTIs in young children: the most useful signs, symptoms and tests; and the difficulties and uncertainties. The aim of this study is identify features that clinicians find useful in diagnosing UTIs for comparison with the final diagnostic algorithm developed by DUTY, and to contextualise the quantitative findings of DUTY in clinical practice.

Method Semi-structured interviews with nurses and doctors working with under 5s in General Practices and Emergency Departments.

Results Symptoms and signs widely reported as useful included fever, and to a lesser extent abdominal pain, vomiting, and urinary symptoms in older children. Other signs (e.g. enlarged groin lymph nodes) were mentioned less often. Clinicians noted specific qualities of fever (high, prolonged duration, and intermittent) useful for diagnosis. Reasons for diagnostic difficultly included lack of confirmatory evidence for suspected UTI because urine samples are difficult to obtain and not always sent for laboratory confirmation. What constitutes evidence varies according to social and clinical context (for example clinicians are more likely to use clinical than laboratory evidence on Friday evenings) and with specific parent groups (e.g. those who delayed help-seeking). Clinicians would welcome evidence to help them correctly diagnose UTI in young children.

Conclusions Diagnosing UTI in young children is hampered by the non-specific symptoms and difficulties obtaining urine samples. The symptoms and signs proposed as useful by front-line clinicians are mostly being measured in the DUTY study, though more attention could have been paid to eliciting specific features of symptoms such as fever. Use of a qualitative data collection phase when developing a prediction rule can inform which (and how) symptoms and signs are measured as well as raising issues to address when translating research findings into clinical practice.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

B56

Consent procedures in cluster-randomised trials in residential facilities for the aged. A systematic review

Karla Diaz-Ordaz[1], Sandra Eldridge[1], Robert Froud[1], Rachel Potter[2], Anne-Marie Slowther[2]
[1]Centre for Health Sciences, Blizard Institute, Queen Mary University of London, London, UK, [2]Warwick Medical School, University of Warwick, Warwick, UK

Introduction: Cluster randomised trials (CRTs) occur with increased frequency in the settings of residential facilities for the aged (RFAs). Nonetheless, ethical principles governing medical research are still mostly tailored to consider their participation as individuals and not as part of a larger unit. The inherent frailty of the older adults living in care facilities adds to the complexities of carrying research on this population. Cognitive impairment common in ageing populations requeres specific processes for assessing capacity to give informed consent.

Methods: An electronic searched with no language or year of publication restrictions was supplemented by hand-searching 5 journals and contacting 4 experts in the area, in order to identify reports of CRTs where randomisation was at facility level. We extracted information on informed consent at the individual and cluster level as well as details on informed consent procedures, if available. We used a pre-specified set of criteria to judge the overall quality of the reported consent procedure as high, fair or poor.

Results: We included 69 papers reporting original trials. Of those, 48 reported obtaining individual informed consent and 20 did not required individual consent because of the type of intervention. Two of those obtained consent to participate from the GPs and nurses since the intervention was aimed at them, and not at the residents. The process to assess capacity was in general not reported. From the twelve papers that reported assessing capacity, 4 asked the GP or main staff carer and three used an instrument to measure cognitive ability. Only 5 reported to have interviewed each eligible patient. Thirty-four trails reported using proxies for consent, most commonly next of kin. We found 4 trials where consent process was different between control and intervention arms.

Conclusions: Consent procedures are poorly reported. Often, it's difficult to judge whether researchers are adhering to good practices because too little detail is available on written reports. An effort to report the consent process, including any modification made to allow for cognitive impairement should be encouraged by reviewers and publishers. It appears there is lack of knowledge from trialists about what constitutes good practice, with regards to assessing capacity to consent to participate in research.

B61

What are the risk factors for pelvic inflammatory disease? Commmunity-based prospective cohort study.

Sarah Kerry, Phillip Hay, Sally Kerry, Adamma Aghaizu, Pippa Oakeshott
St Georges University of London, London, UK

Background Pelvic inflammatory disease (PID) is common, polymicrobial, and can lead to infertility, ectopic pregnancy or chronic pelvic pain. C.trachomatis causes <30% of PID and can be prevented by screening, but what are the other risk factors? In particular, what is the role of sexual lifestyle or co-infections such as bacterial vaginosis? We investigated risk factors for PID in women in the community.

Methods In 2004-6, 2529 multiethnic, female, London students, mean age 20.8 years, provided self-taken vaginal samples and completed questionnaires at recruitment to the POPI (prevention of pelvic infection) chlamydia screening trial. After 12 months they were followed up by questionnaire backed by medical record search and assessed by three blinded GUM physicians for incidence of PID.

Results 79% (2004/2529) of participants completed follow up questionnaires of whom 32 (1.6%) were diagnosed with PID over 12 months. Predictors of PID included age<20 years (Relative Risk 3.8, 95% confidence interval 1.8 to 8.1), black ethnicity (RR 2.1, 1.1 to 4.3), baseline symptoms of vaginal discharge (2.6, 1.2 to 5.8) or pelvic pain (3.7, 1.8 to 7.6), sex with a new partner (3.0, 1.4 to 6.7) or with two or more partners during 12 months follow up (4.3, 2.0 to 9.3), baseline C.trachomatis (5.7, 2.6 to 15.6), baseline bacterial vaginosis (2.1, 1.0 to 4.4) and baseline Mycoplasma genitalium (3.5, 1.1 to 11.1). Age<20, baseline symptoms and multiple partners

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

remained significant after adjustment for baseline C.trachomatis.

Discussion This is the first UK community-based prospective study of PID. The main limitations are the small number of PID cases and that the diagnosis of PID lacks sensitivity and specificity. Age<20 and sex with a new partner or with two or more partners were independent risk factors for PID. Safer sex messages might be targeted at these high risk groups.

B62

Chlamydia screening: Managing barriers to a complex intervention in the general practice setting

Meredith Temple-Smith[1], Simone Poznanski[2], Alaina Vaisey[2], Anna Wood[2], Jennifer Walker[2], Jane Hocking[2], Nicola Low[3], Basil Donovan[4], Jane Gunn[1], Matthew Law[4], John Kaldor[4], Rebecca Guy[4], Christopher Fairley[5]
[1]General Practice and Primary Health Care Academic Centre, University of Melbourne, Melbourne, Victoria, Australia, [2]Melbourne School of Population Health, University of Melbourne, Melbourne, Victoria, Australia, [3]Institute of Social and Preventive Medicine, University of Bern, Bern, Switzerland, [4]National Centre in HIV Epidemiology and Clinical Research, Sydney, New South Wales, Australia, [5]Melbourne Sexual Health Centre, Melbourne, Victoria, Australia

Introduction In response to rising chlamydia diagnosis rates, the Australian Government has funded a pilot of chlamydia screening for young people aged 16-29 years attending general practice. The Australian Chlamydia Control Effectiveness Pilot (ACCEPt) aims to assess the feasibility and acceptability of chlamydia testing in primary care using a cluster randomised controlled trial design. Issues of public health concern, such as screening, are often not well addressed in general practice, being an additional burden in an already time-poor setting.

Methods An earlier small study of 12 practices had identified potential structural or procedural barriers to chlamydia screening. This information was used to refine a Practice Assessment Tool (PAT), to be used in the main trial. From the PAT and field notes, a screening pathway, tailored to each practice, was designed. This, along with their own baseline chlamydia prevalence data, formed part of the package of information given to the practices before randomisation into the intervention or control group. Over 300 study clinics, mostly in rural eastern Australia, were selected on the basis of the proportion of young people aged 15 to 30 years living in the area.

Results Data from the first 20 clinics will be presented. In rural areas, all existing general practice clinics in a single postcode were recruited. Patient participation in the prevalence survey (n=615, 65% females, 35% males) ranged from 50-85%. Chlamydia prevalence varied between rural, 6.9% (95%CI: 3.4%, 10.4%) and urban, 2.2% (95%CI: 0.6%, 3.8%) practices. Project officers reported that practice capacity (practice organisation and attitude), caseload of young people, and staff attitudes to sexual health affected engagement in the study. This, along with the profile of Australian rural general practice, provided limitations to our ability to engender the changes needed to introduce a complex intervention.

Conclusions The implementation of the screening pathway will be discussed in the context of the Normalisation Process Model which offers a framework to assist the embedding of a complex intervention in a clinic. The extent to which this model assisted in the uptake of chlamydia screening will be discussed.

B63

Prevalence, incidence and persistence of genital high risk human papillomavirus (HR HPV) infection in sexually active young women: community based cohort study

Pippa Oakeshott[1], Adamma Aghaizu[1], Phillip Hay[1], Fiona Reid[1], Charles Lacey[2], Simon Beddows[3], Rebecca Howell-Jones[3], Kate Soldan[3]
[1]St George's, Univeristy of London, London, UK, [2]York University, London, UK, [3]Health Protection Agency, London, UK

Introduction High risk human papillomavirus (HR HPV) genotypes cause 98% of cervical cancers, but there is a dearth of UK data on HPV in women not attending health care facilities. The English HPV immunization programme vaccinates

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

adolescent schoolgirls against HR HPV-16 and HPV-18 which cause around 60% of cervical intraepithelial neoplasia (CIN). We obtained vaginal samples from sexually active female students taking part in the POPI (prevention of pelvic infection) chlamydia screening trial, and requested repeat postal samples after 12 months. This enabled us to investigate the prevalence, incidence and persistence of type-specific HPV.

Methods

Design

Cohort study using stored vaginal samples

Setting (unique, non-healthcare)

20 London universities and Further Education colleges.

Participants

2187 women mean age 20.9 years (range 16-27) who provided duplicate self-taken vaginal swabs and completed questionnaires at baseline. Their mean age at sexual debut was 16 years, 6% had chlamydial infection at recruitment, 43% reported two or more sexual partners in the previous 12 months, 38% were from ethnic minorities and 31% were smokers. In 2009-10, stored samples were tested for HPV.

Results Of 2187 samples, 18% (404) were positive for high risk, oncogenic HPV. The prevalence of HPV-16 and HPV-18 was 5% and 2 % respectively. Infection was commoner in women reporting two or more partners in the previous year, women who smoked, women of black ethnicity, and those co-infected with chlamydia, *Mycoplasma genitalium* or bacterial vaginosis. The incidence of HPV-16 in 821 (38%) uninfected women who returned repeat postal samples after a median of 16 months (range 11-32) was 6% (n=36). Of 46 women with HPV-16 at baseline who returned repeat samples, 11 (24%) had persistent infection.

Conclusions This is the first UK community-based study of HPV in multiethnic, sexually active young women. The prevalence and annual incidence of HPV-16 was around 5%. A quarter of women with HPV-16 at baseline had persistent infection which is a risk factor for CIN. Although the current vaccination also offers some cross protection against CIN2+ associated with other HR HPV genotypes, GPs should ensure women are aware of the need for cervical screening.

B64

Young Asian Sexual Health (YASH): What can South Asian Young People tell us about their beliefs, attitudes and behaviours regarding their Sexual Health and Sex Education

John Reynolds-Wright, Alice Nunn, Michelle Marshall, Hina Kanabar
University of Sheffield, Sheffield, UK

Introduction Young people's sexual health in the UK has been a concern for public health policy[1] and, despite falling teenage pregnancy rates, sexually transmitted infections (STIs) among young people have shown an increase[2]. Although the numbers of Asian teenagers engaging in sexual intercourse is reportedly lower than their Black counterparts, there is some evidence that Asian young people report 'regretful intercourse', 'unequal willingness' and higher rates of anal intercourse[3], and are still at high risk of STIs through their behaviour. This project will inform the development of culturally competent relationship and sexual health education.

Methods Focus groups are being conducted with 16-19 year old South Asian people, recruited from NHS and community sites. Six single sex FGs (3 female, 3 male) are planned with 2 facilitators of the corresponding sex. The Topic guide was developed following a literature review, advice from the steering group and a pilot FG. Following each FG, analysis is performed and emergent themes investigated in subsequent groups. NVivo 8 software is assisting with data management[4].

Results Preliminary analysis has identified observation by other members of their community and being reported on, responsibility to the family, and lack of parental communication regarding sex, as emerging themes. Full analysis will be completed and reported in the conference presentation.

Conclusion This study has highlighted several specific health needs of an otherwise neglected group in terms of Sexual Health and will inform the development of Sex and Relationships education programmes for young South Asian people and those working with them.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

1. Tripp, J. and R. Viner (2005). "Sexual health, contraception, and teenage pregnancy." BMJ **330**(7491): 590-3.

2. HPA (2005). Diagnosis of selected STIs by region, age and sex seen at GUM clinics. HPA. London, HPA.

3 Coleman, L. and A. Testa (2007). "Sexual health knowledge, attitudes and behaviours among an ethnically diverse sample of young people in the UK." Health Education Journal 66(1): 68-81.

4. Ritchie J. and L. Spencer - Analyzing qualitative data, 1994. Chapter 9 Qualitative data analysis for applied policy research.

B65 also poster P2.02

"They think it's all up to the girls": gender, risk and responsibility for contraception

Sally Brown
Durham University, Durham, UK

Introduction Despite a reduction in the numbers of teenage pregnancies during the ten years since the implementation of the Teenage Pregnancy Strategy, the UK continues to have the highest teenage pregnancy rates in Western Europe, and reducing them remains a priority for the UK Government. There remains a need to understand why so many unintended conceptions still occur, despite widespread availability of contraception.

Methods We re-analysed the data from our two earlier qualitative studies, with an emphasis on findings related to responsibility. The first study investigated unintended conceptions and in particular, reasons for non-use of contraception amongst 16-20 year old women soon after or prior to termination of pregnancy. Interviews focussed on knowledge of and views on contraception, sex education, and sexual health services. The second study involved focus groups with two groups of 14-18 year old men to explore their views on sex education, sexual health, and knowledge of and responsibility for contraception. The interview and focus group transcripts were analysed using a grounded theory approach.

Results The issue of gendered responsibility for contraception emerged during the interviews with young women, with interviewees reporting assumptions by young men that women should take responsibility for contraception. Almost all the young women interviewed reported some form of pressure from young men not to use condoms, and that young men viewed contraception as "not their job". However, in the young men's focus groups, they expressed the view that responsibility for contraception should be shared.

Conclusions There are clear gender differences in assumptions about responsibility for contraception, and in accounting for decisions about use of contraception.

Despite free condoms being relatively easily available, health professionals' emphasis on hormonal methods of contraception reinforces the gendered assumptions of responsibility; although it may result in fewer unintended teen conceptions, there are implications for rates of sexually transmitted infections.

B66

The UK national guidelines for HIV testing: Lessons from one general practice

Paul Arkell[1], Elizabeth England[2], Beck Taylor[2]
[1]*West Midlands Deanery, Birmingham, UK,*
[2]*The University of Birmingham, Birmingham, UK*

Background: In 2008 the British HIV Association (BHIVA) published guidelines aimed at increasing testing for HIV outside the traditional setting of sexual health clinics. For the majority of GPs who practice in relatively low HIV-prevalent areas of the UK, diagnostic testing in response to indicator diseases is recommended. There is currently little evidence concerning the level to which the BHIVA guidelines have been incorporated into primary care, or the practical barriers faced when attempting to increase HIV testing in this setting. This study aimed to assess the feasibility of implementing the BHIVA guidelines in one routine general practice, and to measure adherence.

Methods: Cases of indicator disease presentation in adults during sample period 1st Jan 2009 - 31st June 2009 were identified by searching read-codes on practice EMIS® software. Data collection was by retrospective manual review of patient notes. Demographic and presentation-related variables were collected, with primary outcome 'HIV test considered or done within 3 months of presentation'. Feasibility of

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

implementing the BHIVA guidelines was assessed by the primary researcher.

Results: One-hundred-and-forty-eight indicator disease presentations were identified, and estimated incidence was 32.54 per 1000 adult patients per year (95%CI = 27.30-37.79). The most common indicator diseases were 'any sexually transmitted infection' (40 individuals), and 'bacterial pneumonia'(35 individuals). Overall adherence to BHIVA guidelines was 16% (95%CI=11-23%), and this was lowest for indicator diseases diagnosed outside general practice.

Conclusion: Low adherence indicates missed opportunities for HIV testing in the practice studied. Potential difficulties in applying the guidelines in this setting include difficulty defining and identifying indicator disease presentations, lack of communication between primary and secondary care, and unawareness of local as well as national guidance on HIV testing among GPs. The BHIVA guidelines could be adapted or revised for use in primary care.

C11

"A false sense of security?" Understanding the role of the Human Papillomavirus (HPV) vaccine on future cervical cancer screening behaviour - a qualitative study of UK parents and girls of vaccination age

Alison Clements[1], Lorna Henderson[1], Joan Austoker*[1], Clare Wilkinson[2], Sue Wilson[3]
[1]University of Oxford, Oxford, UK, [2]Cardiff University, Cardiff, UK, [3]University of Birmingham, Birmingham, UK

on behalf of the HPV Core Messages Group

Introduction: The Human Papillomavirus (HPV) vaccination programme was introduced in the UK in 2008. The HPV vaccine used in the UK programme is effective against the two most common high risk HPV types (16 and 18), and offers 70% protection against cervical cancer. Vaccinated girls will need to attend cervical screening in the future to ensure protection against cervical cancer caused by high risk HPV types not included in the vaccine. There is concern that the importance of future screening may not be fully realised, and that misunderstandings and lack of information may have an impact on making informed decisions about vaccine acceptance. This study explores parents and vaccination-aged girls' understandings of the HPV vaccination in relation to vaccine acceptance, and potential future cervical cancer screening behaviour.

Method: In-depth interviews were conducted with parents (thirty) and girls (fifteen) who were offered the HPV vaccine at the introduction of the UK programme. They were interviewed individually; a thematic analysis of verbatim transcripts was undertaken.

Results: A lack of clarity amongst both parents and girls about the link between the HPV vaccine and future cervical screening behaviour was apparent. In some cases parental consent for their daughters to receive the vaccine was based on the false belief that cervical screening would not be necessary. There was a profound lack of awareness about cervical screening amongst girls of vaccination age.

Conclusions: For informed decisions about HPV vaccination to be made, the provision of information about the ongoing need to attend cervical screening is imperative. These findings have the potential to improve information and educational materials for parents, eligible girls and health professionals. To ensure the uptake of cervical screening is not adversely affected, future invitations for screening will need to stress the importance of attendance regardless of HPV vaccination status.

* Dr Joan Austoker died in January 2010 during the course of this study.

C12

'Why it's not for us': the views of UK parents and girls who declined the Human Papillomavirus (HPV) vaccination - a qualitative study

Alison Clements[1], Lorna Henderson[1], Joan Austoker[1], Clare Wilkinson[2], Sue Wilson[3]
[1]University of Oxford, Oxford, UK, [2]Cardiff University, Cardiff, UK, [3]University of Birmingham, Birmingham, UK

Introduction: The UK HPV vaccination programme for girls aged 12-13 commenced in autumn 2008. At the time of implementation it was

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

not known what the vaccination uptake would be, or on what basis decisions to accept or decline the vaccination would be made. As part of a larger study to develop and evaluate key HPV messages relevant to eligible girls, parents and health professionals, a qualitative study was conducted to explore the reasons for non-uptake among girls and their parents. This is one of the first studies to examine and report on the behavioural responses to HPV vaccination invitation, and the underlying rationales.

Method: Invitations to participate were sent via school nurses within one UK Primary Care Trust to all girls aged 12-13 years who had declined the offer of the HPV vaccination, and to their parents. In-depth, one-one interviews were carried out with all responding girls (15), and parents (20). Parents and girls were interviewed individually; a thematic analysis of verbatim transcripts was undertaken.

Results: Reported reasons from girls and parents for non-uptake of the HPV vaccination included: the behavioural relevance of vaccination; feeling pressured for an immediate decision with insufficient information; the perception of girls as 'guinea pigs' for an unproven vaccine; uncertainty about the duration of protection offered, and the impact of personal health histories and other health-related experiences. Information needs which underpinned the reasons for non-acceptance of the vaccination were identified. Decision-making was shown to be a considered and thorough process, with the desire for detailed rather than superficial information, and a willingness to reconsider the decision in the future.

Conclusions: Information needs were identified either by the participants, or were apparent through their stated (mis)understandings. These findings have the potential to assist in the development of interventions to ensure that vaccination decisions are made not on misunderstandings about HPV and the vaccine. Primary health care professionals have a potential role enabling HPV vaccination for those who declined through the school based system; awareness of the issues associated with initial non-uptake could assist discussions, and lead to ultimate decisions being made on an informed basis.

C13

The impact of pneumococcal conjugate vaccination on primary care consultations in the UK.

Caroline Trotter[1,2], Irene Petersen[2], Jonathan Sterne[1], Andrew Hayward[2]
[1]University of Bristol, Bristol, UK, [2]University College London, London, UK

Introduction: Pneumococcal conjugate vaccines (PCV) were introduced into the UK immunisation schedule in September 2006, with the aim of preventing meningitis, septicaemia, pneumonia and ear infections caused *Streptococcus pneumoniae*. Declines in invasive pneumococcal disease have been observed, but it is also important to measure common non-invasive outcomes, the burden of which falls mainly on primary care.

Methods: We analysed primary care records of children aged <15 years registered with a general practice participating in The Health Improvement Network (around 5% of UK population) between 2000-09. We estimated PCV uptake from 2006 onwards and compared the annual age-specific incidence of all-cause otitis media and pneumonia before and after PCV introduction. We measured the effectiveness of PCV against these endpoints using the self-controlled case series method.

Results: In total, 154,934 children eligible to receive PCV7 from 412 general practices were included. Annual incidence calculations were based on a denominator of approximately 33,000 person years per year of age. High uptake of PCV was achieved, with more than 87% of children receiving the recommended 3 doses by age 24 months. The annual incidence of consultations for otitis media declined from 76 to 68 per 1000 (adjusted rate ratio 0.88; 95% CI 0.87,0.89) and for pneumonia from 1.2 to 0.9 per 1000 (adjusted RR 0.69; 95% CI 0.61, 0.78) between 2005/06 and 2008/09. In children offered one dose of PCV in a catch-up campaign in the second year of life, vaccine effectiveness was estimated to be 16.4% (95% CI 3.5%, 27.7%) against otitis media but there was insufficient power to estimate the effect on pneumonia.

Conclusions: The introduction of childhood PCV immunisation was well accepted, and was associated with declines in primary care consultations for otitis media and pneumonia.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

These results are consistent with RCTs and observations elsewhere, and indicate the contribution of the pneumococcus to the burden of disease (many cases will have a viral aetiology). The relative reductions in otitis media are modest but nonetheless important, equating to around 100,000 fewer consultations per year when extrapolated to the whole of the UK.

C14

Is it worth introducing a new meningococcal vaccine in England?

Hannah Christensen[1], Caroline Trotter[1], Matthew Hickman[1], John Edmunds[2]
[1]University of Bristol, Bristol, UK, [2]London School of Hygiene and Tropical Medicine, London, UK

Introduction *Neisseria meningitides* is an important cause of meningitis and septicaemia. The difficulty faced by clinicians and the public is that the early signs and symptoms of meningococcal disease can be non-specific, while progression can be rapid and fatal within hours. Vaccination is therefore key to preventing disease. Serogroup B (MenB) causes most disease in the UK - there is currently no broadly effective vaccine against this group, but new 'MenB' vaccines are expected to go to licensure shortly. Our objective was to assess (using mathematical models) the epidemiological and economic impact of introducing a meningococcal vaccine, able to protect against MenB disease, into the English vaccination schedule.

Methods Two types of model - a cohort model assuming direct protection only, and a transmission dynamic model incorporating herd immunity - were developed, following hypothetical birth cohorts over their lifetime (100 years). Epidemiological parameters and the costs of meningococcal disease and vaccination to the health service (including practice staff costs) were estimated from contemporary data; future costs and benefits were discounted back to 2008. Several routine and catch-up vaccination strategies were simulated.

Results The cohort model predicts routine infant vaccination (vaccination at 2,3,4+12 months of age, 75% effective vaccine coverage, 36 months average protection following booster) could prevent 20% of meningococcal disease cases annually, but is only likely to be cost-effective if the vaccine costs £7 per dose. Catch-up campaigns (≤17 years) are unlikely to be cost-effective without an effect on carriage. However, if the vaccine has a reasonable (60%) effect on reducing carriage, routine infant immunisation plus a catch-up campaign could reduce the annual number of cases by 71% after 10 years. The results are sensitive to assumptions about: disease incidence and case fatality; sequelae rates; the profile of the vaccine; carriage prevalence; population mixing patterns; and discount rates.

Conclusions Introducing new meningococcal vaccines could reduce disease levels, but under most scenarios considered are unlikely to be considered cost-effective at £40 per vaccine dose. If the vaccines can prevent carriage then disease levels could be substantially reduced and programmes may be considered cost-effective if the vaccines are competitively priced.

C15

Systematic review of the protective efficacy and safety of Hepatitis A vaccines

Greg Irving, John Holden, Daniel Pope
University of Liverpool, Liverpool, UK

Introduction: In many part of the world hepatitis A represents a significant cause of morbidity and socio-economic loss. Whilst hepatitis A vaccines have the potential to prevent disease, the degree of protection afforded against clinical endpoints and within different populations remains uncertain.

Method: Search strategy: The Cochrane Hepato-Biliary Group control trials register, Cochrane Central Register of Controlled Trials, MEDLINE, EMBASE, Science Citation Index Expanded and China National Knowledge Infrastructure were searched up to September 2010.

Selection criteria: Randomised control trials comparing HAV vaccine with placebo, control vaccines or no intervention

Results: 18 Randomised control trials including 1,450,415 participants met the inclusion criteria. Meta-analysis demonstrated that despite the included trials being of variable methodological quality there is convincing evidence that compared to placebo, other vaccines or no vaccination both inactivated and live attenuated HAV vaccines has good clinical protective efficacy (random effects

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

RR = 0.09 95% CI [0.05 - 0.16], fixed effects RR = 0.08 95% CI [0.06 - 0.11]). The review also found that inactive HAV vaccine results in the significant production of sero-protective anti-HAV Ig-G and a comparable risk of adverse events. There was insufficient data to draw conclusions on sero-protection and adverse events for the live attenuated HAV vaccines.

Conclusion: This is the first systematic review conducted under Cochrane methodology that explores the clinical protective efficacy of inactivated and live attenuated HAV vaccines. Clinical protective efficacy is an important outcome to consider as it provides direct evidence of the beneficial effect of the HAV vaccine; other surrogate outcomes only provide indirect evidence of efficacy. The findings of this review have important implications for current WHO policy surrounding HAV vaccination.

C16

Recalling the shots- A systematic review of primary care strategies to improve childhood immunisation uptake.

Nia Williams, Helen Woodward, Azeem Majeed, Sonia Saxena
Department of Primary Care and Public Health, Imperial College London, London, UK

Introduction Vaccine preventable diseases continue to cause public health concern in the UK as suboptimal immunisation coverage has led to decreased herd immunity and outbreaks of infectious diseases. We conducted a systematic review of strategies to optimise immunisation uptake within the preschool paediatric population.

Methods We systematically searched electronic databases including MEDLINE, EMBASE, PsycInfo, Cochrane and OpenSIGL, contacted experts in the field and hand searched the reference lists of eligible studies. Two reviewers independently performed the data search and abstracted data from the included studies using a standardized mark scheme.

Results 46 studies were included for analysis, published between 1980 and 2009. 26 studies were randomised controlled trials, 11 were before and after trials and 9 were controlled intervention trials. Parental reminders showed a statistically significant increase in immunisation rates in 34% of included intervention arms. These effects were reported with both generic and specific reminders and with all methods of reminders and recall. Strategies aimed at immunisation providers were also shown to improve immunisation rates with a median change in immunisation rates of 7% when reminders were studied, 8% when educational programmes were studied and 19% when feedback programmes were studied.

Conclusions General Practitioners are uniquely positioned to influence parental decisions on childhood immunisation. A variety of strategies studied in primary care settings have been shown to improve immunisation rates. This review supplies primary care practitioners with the most up to date, evidenced based research strategies to improve immunisation rates within their preschool paediatric population.

C21

A randomised controlled trial of mobile phone text messaging smoking cessation support: the txt2stop trial

Cari Free[1], Rosemary Knight[1], Steven Robertson[1], Robyn Whittaker[2], Phil Edwards[1], Wei Wei Zhou[1], Anthony Rodgers[3], John Cairns[1], Mike Kenward[1], Ian Roberts[1]
[1]LSHTM, London, UK, [2]CTRU, Auckland, New Zealand, [3]George Institute, Sydney, Australia

Background We assessed the effectiveness of an automated mobile phone text messaging smoking cessation programme (txt2stop) on continuous abstinence which was bio-chemically verified at 6 months.

Methods 5,800 smokers who were willing to make a quit attempt were randomly allocated 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 primary outcome was self-reported continuous abstinence bio-chemically verified at six months. All analyses were by intention to treat. This study was registered (ISRCTN80978588).

Results 2,915 smokers were allocated to the intervention and 2,885 were allocated to the control group. Primary outcome data were

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

available for 5,337 (92%) participants. Bio-chemically verified continuous abstinence at six months was significantly increased in the txt2stop group: 10.7% txt2stop versus 4.9% control, relative risk 2.20 (95% CI 1.80 to 2.68) p<0.0001. Similar results were obtained when participants that were lost to follow up were treated as smokers: 9.2% txt2stop versus 4.3% control, relative risk 2.14 (95% CI 1.74 to 2.63), p<0.0001, and when they were excluded 9.8% txt2stop versus 4.4% control, relative risk 2.20 (95% CI 1.79 to 2.71), p<0.0001. There was no significant heterogeneity in any of the pre-specified subgroups.

Conclusion The txt2stop mobile phone text messaging smoking cessation programme substantially increased quit rates at six months and should be considered for inclusion in smoking cessation services.

C22

Experiences of seeking help for alcohol misuse online: Qualitative results from the DownYourDrink trial.

Zarnie Khadjesari[1], Elizabeth Murray[1], Fiona Stevenson[1], Christine Godfrey[2]
[1]*University College London, London, UK,*
[2]*University of York, York, UK*

Introduction Around one quarter of adults in England are drinking above recommended safe limits and are at risk of alcohol-related harm. Although these patients attend general practice, relatively few are identified as having an alcohol problem. Reasons for this include GP fear of offending patients and a shortage of available services for those identified as needing further help. We recently completed a large (8,000 participants) online trial of an internet intervention to help hazardous and harmful drinkers reduce their alcohol consumption (the DownYourDrink trial or DYD-RCT). We undertook a qualitative study of DYD participants' experiences of seeking help for their alcohol problem.

Method Semi-structured interviews were conducted with DYD trial participants. Recruitment continued until theoretical saturation was achieved. Interviews were recorded and transcribed verbatim. Data were analysed by a multidisciplinary team using the framework approach.

Results Eighteen participants were interviewed with saturation achieved after 14 interviews. Three main themes emerged: a) uncertainty about what constituted safe drinking, and whether the individual was drinking safely or hazardously; b) a perceived lack of appropriate resources for non-dependent drinkers seeking help, with most services perceived as catering for dependent drinkers ready to abstain from all alcohol; c) an appreciation of the convenience and anonymity of the internet as a help-seeking forum.

Conclusions These results will be of interest to primary care clinicians who encounter hazardous and harmful drinkers in general practice as they illuminate these patients' needs. The results also suggest the need for clearer public health messages about safe limits to alcohol consumption and provision of a wider range of services which can meet the needs of hazardous and harmful drinkers.

C23

Reporting of factorial trials of complex interventions in community settings: a systematic review

Alan Montgomery, Margaret Astin, Tim Peters
University of Bristol, Bristol, UK

Introduction Standards for the reporting of factorial randomised trials remain to be established. We aimed to review the quality of reporting of methodological aspects of published factorial trials of complex interventions in community settings.

Method We searched MEDLINE, EMBASE, PsychInfo and the Cochrane Controlled Trials Register to identify factorial randomised trials of complex interventions in community settings from January 2000 to August 2009. We also conducted a citation search of two review papers published in 2003. Data were extracted by two reviewers on 22

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

items relating to study design, analysis and presentation.

Results We identified 5940 unique titles, from which 115 full papers were obtained and 75 were included in the review. The included trials reflected a broad range of target conditions and types of intervention. The median sample size was 391 (interquartile range 190-998). Most (88%) trials employed a 2 × 2 factorial design. Few trials (21%) explicitly stated the rationale for using a factorial design. Reporting of aspects of design, analysis or presentation specific to factorial trials was variable, but there was no evidence that reporting of these aspects was different for trials published before or after 2003. However for CONSORT items that apply generally to the reporting of all trials, there was some evidence that later studies were more likely to report employing an ITT approach (77% vs 52%), present appropriate between-group estimates of effect (88% vs 63%), and present standard errors or 95% confidence intervals for such estimates (77% vs 56%). Interactions between interventions and some measure of precision were reported in only 13 (17%) trials.

Conclusions Reports of factorial trials of complex interventions in community settings vary in the amount of information they provide regarding important methodological aspects of design and analysis. This variability supports the extension of CONSORT guidelines to include the reporting of factorial trials.

C24

Physical Activity Promotion in Primary Care: A Systematic Review and Meta-Analysis of Randomised Controlled Trials (RCTs)

Gillian Orrow, Ann Louise Kinmonth, Simon Sanderson, Stephen Sutton
General Practice and Primary Care Research Unit, University of Cambridge, Cambridge, UK

Introduction

Study questions:

- 1. Do trials of primary care-based physical activity promotion demonstrate a sustained effect of interventions on the physical activity and/or fitness levels of sedentary adults?
- 2. Are exercise referral interventions more effective than interventions that do not include referral for a programme of exercise?

Methods Seven electronic databases and reference lists of relevant articles were searched for RCTs of physical activity promotion interventions that recruited sedentary adults from primary care, had a minimum of 12 months of follow up, reported physical activity and/or fitness as outcome measures and employed intention-to-treat analyses. Searches were completed in May 2010. Two reviewers independently appraised study quality and performed data extraction. Odds ratios (OR) and standardised mean differences (SMD) with 95% confidence intervals (CI) were calculated for studies with dichotomous and continuous outcome data, respectively. Pooled effect sizes were calculated using a random effects model.

Preliminary Results: 8,745 participants were studied across 15 RCTs. There was wide variation in the types of intervention studied. In the 13 trials that described self-reported physical activity at 12 months, small to medium positive intervention effects were seen (OR 1.42, 95% CI 1.17 to 1.73; SMD 0.34, 95% CI 0.11 to 0.57). In the four trials that reported cardio-respiratory fitness at 12 months, moderate positive effects were seen but these were not statistically significant (SMD 0.51, 95% CI -0.18 to 1.2) and were associated with high statistical heterogeneity. Three trials studied exercise referral interventions and found small but non-significant effects on self-reported physical activity at 12 months (OR 1.38; 95% CI 0.98 to 1.95; SMD 0.20, 95% CI -0.21 to 0.61).

Conclusions: Primary care-based physical activity promotion has a positive effect on self-reported physical activity, which is sustained at 12 months. Effects on cardio-respiratory fitness are uncertain. Evaluations of exercise referral interventions are few and show no significant effect on self-reported physical activity at 12 months. These findings support the use of resources within primary care to promote physical activity. Further research should employ objective assessment of physical activity and determine the

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

relative effectiveness of exercise referral schemes compared to other types of intervention.

C25

Effectiveness and cost-effectiveness of the national exercise referral scheme in Wales: a randomised controlled trial and economic evaluation

Simon Murphy[1], Larry Raisanen[1], Graham Moore[1], Rhiannon Edwards[2], Pat Linck[2], Nefyn Williams[3], Nafees Ud Din[3], Laurence Moore[1]
[1]Cardiff Institute of Society and Health, Cardiff School of Social Sciences, Cardiff University, Cardiff, UK, [2]Centre for Economics and Policy in Health, Institute of Medical and Social Care Research, Bangor University, Bangor, UK, [3]Department of Primary Care and Public Health, School of Medicine, Cardiff University, North Wales Clinical School, Wrexham, UK

Introduction: The evidence base for the effectiveness of Exercise Referral Schemes in the UK is equivocal. Previous evaluations have compared interventions of variable content and intensity and have found only modest improvements in physical activity in the short term. The aims were to assess the effectiveness and cost-effectiveness of a national exercise referral scheme in Wales

Methods: In 12 local health boards in Wales health professionals referred 2,160 patients to an exercise referral scheme as part of a pragmatic randomised controlled trial. Participants were inactive and had coronary heart disease (CHD) risk factors or mild to moderate mental health problems. The intervention was a 16 week programme of exercise supervised by a qualified exercise professional; the control group received an information leaflet and usual care.

Results: Participants referred to the scheme for CHD risk factors only demonstrated higher levels of activity with an odds ratio of higher physical activity in ordinal logistic regression of 1.29 (95% CI 1.04 to 1.60) and also lower levels of anxiety (-0.32, 95% CI -0.95 to 0.31) and depression (-0.60, 95% CI -1.18 to -0.02) at 12 months compared to those receiving normal care. Amongst those referred for CHD and mental health reasons or mental health only, there were significantly lower levels of anxiety (-1.56, 95% CI -2.75 to -0.38) and depression (-1.39, 95% CI -2.60 to -0.18), but no significant effect on physical activity (1.06, 95% CI: 0.73 to 1.55). A bootstrapped incremental cost-effectiveness ratio was £12, 111 per QALY (89% probability of cost-effectiveness). Sub-group analysis showed that all effects were significantly greater, with a marginal cost saving, for those completing the 16 week programme compared with those who failed to complete.

Conclusions: The National Exercise Referral Scheme in Wales was effective in increasing physical activity amongst those referred with CHD risk factors. Those referred for mental health issues benefited from reduced anxiety and depression without increasing their physical activity. It was also likely to be cost-effective. These effects are dependent on adherence to the programme. Understanding and addressing barriers to programme adherence provides opportunities to further improve the effectiveness of the scheme.

C26

General Practitioners' beliefs about physical activity for managing depression: Qualitative findings from a trial in primary care

Aidan Searle, Michael Calnan, Katrina Turner, Debbie Lawlor, John Campbell, Melanie Chalder, Glyn Lewis
University of Bristol, Bristol, UK

Introduction Clinical guidance recommends physical activity for patients with persistent sub-threshold depressive symptoms or mild to moderate depression. However, little is known regarding how General Practitioners (GPs) view physical activity as a treatment for depression. We explored GPs' experience of promoting physical activity in the consultation and recruitment to the TREAD - a pragmatic trial of facilitated physical activity for managing depression in primary care. Also explored were GPs general views of physical activity, the extent of promotion of physical activity within the course of consultations and awareness of clinical guidance for physical activity as a treatment for depression.

Methods In-depth interviews were conducted with 15 GPs from practices participating in TREAD. The GP was sample was selected purposively to

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

geographical locations , study centres and extent of recruitment to TREAD. All interviews were transcribed verbatim and read and re-read for familiarisation of the data and identification of emerging themes. Emerging themes were then discussed by two researchers until consensus was achieved. A coding frame was developed with reference to both a priori and emerging themes were coded accordingly and summarised using the Framework approach.

Results Most GPs felt that physical activity could be an effective treatment for depression and were in favour of its promotion in primary care primarily as an adjunct to antidepressant medication. GPs also stated that many patients were looking for alternative approaches to treating depression but were also aware of many barriers to physical activity. However, in general GPs promotion of physical activity was not based on an awareness of current evidence or clinical guidelines.

Conclusion The findings have implications for clinical guidelines regarding the recommendation of physical activity for patients with depression. It is also suggested that GPs should explore patients' perceptions of physical activity as a treatment and their ability to engage with physical activity prior to recommending physical activity for the management of depressive symptoms in primary care.

C31

Hospital admissions of UK nursing home residents: a qualitative study of GP decision making

C.R McDermott[1], R.J. Coppin[2], P.S. Little[1], G.M. Leydon[1]
[1]Primary Medical Care Group, University of Southampton, Southampton, UK, [2]Overton Surgery, Hampshire, UK

Introduction: Decisions regarding hospitalization of nursing home residents may present a difficult dilemma for GPs. There are pressures to admit very frail patients with exacerbations of illness even though such frailty may limit the possible health gains. As 'gatekeepers' to NHS services, GPs are expected to make best use of resources and may be criticised for 'inappropriate' admissions. Little is understood about the influences on GPs as they make such decisions.

Objective: To explore GPs views on the factors influencing decisions on admitting frail nursing home residents to hospital.

Design: Qualitative study using semi-structured one-to-one interviews.

Participants: 21 GPs from two counties in the South of England, purposively sampled for age, gender and general practice background.

Methods: Data were analysed using the constant comparative method.

Results: Decision-making was perceived as a multi-factorial process influenced, not only by clinical factors, but also by contextual aspects, including patients' and relatives' wishes, quality of life issues and level of training/confidence of nursing home staff. Peer advice from other medical colleagues was generally regarded as more helpful in guiding decision making than policy guidelines or research.

Inadequate access to information was perceived by all participants as the most common barrier to making optimal decisions. Improved training of nursing home staff was also widely perceived as a central issue in making it feasible to keep more patients in the nursing home environment when the GP felt this was clinically appropriate. Some GPs reported local initiatives to address these issues, whereas in other areas, GPs felt that these issues remained a problem.

Conclusion: This study revealed a number of key factors influencing hospital admissions for frail nursing home residents. The findings also suggest geographical variations in the extent to which these factors are currently being addressed. This study indicates that there is scope to improve current practice and to evaluate current initiatives addressing these issues.

C32

Predicting hospital admission in community dwelling adults: a systematic review of the Probability of Repeated Admission (Pra) score

Susan Smith[1], Tim Hinchey[1], Dimitrov Dimitrov[1], Kathleen Bennet[2], Tom Fahey[1]
[1]HRB Primary Healthcare Research Centre,

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Dublin, Ireland, [2]*Trinity College, Dublin, Ireland*

[3]*Manchester Mental Health and Social Care Trust, Manchester, Greater Manchester, UK*

Introduction People with multimorbidity are more likely to be at risk of hospital admission. The Probability of Repeated Admission (Pra) score is the most commonly used risk score designed to predict admission It was originally derived in 1993 and was designed to predict future hospital admission in older community dwelling adults. We aimed to carry out a systematic review and meta-analysis of the Pra score in community dwelling adults to validate its performance in a range of studies in different settings.

Methods We searched the literature to identify all studies that have validated the Pra score in community dwelling people. Two authors identified eligible studies and independently extracted data relating to hospital admissions and other health service utilisation.

Results We identified eight validation studies describing ten cohorts of patients. The Pra score successfully predicted admission and future health service use across all studies in a range of settings. We carried out a meta-analysis of predicted versus observed (p/o) admissions including five cohorts of patients which indicated that the Pra score reliably predicted admission in high-risk patients as intended, with an overall risk ratio (RRp/o) of 1.01 (95% confidence interval 0.93, 2.61).

Conclusions The Pra score is a clinical prediction rule that may be useful when trying to identify older people living in the community at increased risk of hospital admission. Further validation is necessary is populations of patients with broad risk of re-admission to determine the validity of the Pra risk and enhance its generalisability.

C33

"You've just got to go" - the use of unscheduled care in patients with long-term conditions: a qualitative study

Cheryl Hunter[1,3], Susanne Langer[2], Carolyn Chew-Graham[1], Jessica Drinkwater[1], Else Guthrie[3], Peter Salmon[2]

[1]*University of Manchester, Manchester, Greater Manchester, UK,* [2]*University of Liverpool, Liverpool, Merseyside, UK,* [3]*Manchester Mental Health and Social Care Trust, Manchester, Greater Manchester, UK*

Introduction: Unscheduled care (UC) is defined as non-routine face-to-face care, such as accident and emergency care, out-of-hours care or walk-in-centres. Patients with long-term conditions have high rates of UC. Reducing UC is a Department of Health priority. Current health care policy emphasises the potential role for routine primary care in reducing UC use. Aims: This study is part of the 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. The current study aims to identify and explore factors which influence UC use from patients' perspective and to inform development of an intervention to help patients choose appropriate care in an emergency.

Methods: Patients recruited from those participating in a cohort study in CHOICE and identified from disease registers at 12 practices in one PCT in NW England. Semi-structured interviews with consenting patients with one or more of the long-term conditions: asthma, coronary heart disease (CHD), chronic obstructive pulmonary disease (COPD), and diabetes. Interviews recorded and transcribed verbatim. Data analysed using framework approach.

Results: 45 interviews have been conducted. Initial analysis suggests that patients, faced with a perceived health crisis, seek UC based on the value and meanings that they attribute to available, and previously experienced, services. In particular, many respondents, faced by what they experience as life-threatening crises, see hospitals as places offering safety associated with technology and attentive staff. For some, primary care is not considered a key player in responding to crises.

Conclusions: The meanings and value attributed to secondary care and the limited role the GP is seen to play in managing health crises contrasts with current policy initiatives. A single intervention is unlikely to be appropriate to reduce UC in people with long term conditions. A multifaceted intervention will need to include reducing the health crises that prompt UC, influencing patients' expectations and experience of secondary care, primary care and self-management in responding to these crises and modifications to the care pathways that patients have to negotiate.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Tensions between health policy and patients' perceived needs will be discussed.

C34

A qualitative study to inform the development of interventions to reduce primary care sensitive admissions

Rosemary Simmonds, Sarah Purdy
University of Bristol, Bristol, UK

Introduction Unplanned admissions to hospital are expensive, create uncertainty for those planning and delivering services and can be distressing for patients and carers. Primary care sensitive admissions (PCSAs) constitute about 34% of unplanned admissions and ideally should be averted by the provision of care outside hospital. Although interventions have been introduced to reduce PCSAs these have had limited success and have not generally been based on research evidence. There is a need for large scale trials of primary care interventions to reduce rates of PCSAs; barriers to undertaking trials include a lack of research evidence on complex decision making around admissions, incentives and disincentives to hospital admission and the views of patients and carers. Therefore, prior to any large scale trials, in-depth qualitative research is needed.

Method

Aims: To explore factors influencing clinician decision making around hospital admission; to elicit decision makers' views on interventions to avert admissions; to explore the experiences/views of patients/carers on hospital admission and alternative care.

Method: Twenty-one qualitative, in-depth interviews were completed with a purposive sample of health/social care professionals and patients/carers. Interviews were analysed thematically.

Results Factors influencing clinician decision making include the accessibility of patient information and management of risk, particularly within target/protocol driven services. Clinicians' views on interventions varied from 'nothing works' to 'works but lacks capacity'. Concerns about costs savings, funding issues and lack of continuity in inter-service delivery underpinned these accounts. Professional tensions were expressed between primary/secondary care clinicians on the organisational location of interventions. Patients/carers were happy to be cared for at home finding hospital admissions disruptive. Patients/carers found the service co-ordination role of the Community Matron particularly helpful.

Analysis of interviews indicated tensions between several health and political/economic discourses, such as competitive market forces approaches to service provision versus person-centred/holistic approaches

Conclusion Interview data showed commonalities on factors influencing clinician decision making around hospital admission. However, there was lack of consensus on the desirability, cost-effectiveness and efficacy of primary care based interventions to avert hospital admissions contrasting with positive evaluations of patients/carers. Conflicting discourses underpinned a lack of consensus on primary care based interventions to avert hospital admissions.

C35

Emergency hospital admission rates in children after the introduction of the new general practice contract in 2004

Peter Gill[1], Michael Goldacre[2], Valerie Seagroatt[2], David Mant[1], Anthony Harnden[1]
[1]Department of Primary Health Care, University of Oxford, Oxford, UK, [2]Unit of Health-Care Epidemiology, Department of Public Health, University of Oxford, Oxford, UK

Introduction: The organisation of primary care in the UK has undergone several major changes with the introduction of a new general practice contract in 2004. The study objectives are to determine if the new contract has resulted in increased geographic variation in hospital admissions rates in children in England and to determine what organisations provided out-of-hours (OoH) care after the contract change.

Method: We completed an analysis of emergency hospital admissions in England for the financial years 1998/99-2007/08 (1999-2008) using

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Hospital Episode Statistics (HES). The number of admissions, variation in admissions and correlation with deprivation was analysed in five age categories (<1, 1-4, 5-9, 10-14, <15) for each 352 local authority. Subsequently, we completed a cross-sectional observational study using primary care trust (PCT) data obtained under the Freedom of Information Act 2000. We contacted all co-terminous PCTs and requested them to classify their OoH care providers and provide the number of practices that opted out of providing OoH care in 2006/07-2007/08 (2006-2008).

Results: The number of hospital admissions fell in all age groups between 1999-2008 despite the contract change in 2004, but in children age <1 year the 16% reduction from 1999-2004 was almost cancelled out by a 14% increase after 2004. The wide variation in admission rate between local authorities increased between 1999-2008 as did the correlation between admission rate and area deprivation index, doubling in children aged <5-9 years (0.2 to 0.4) and aged 10-14 (0.2 to 0.4). Three-quarters of PCTs have a single OoH care provider (19% NHS/PCT body, 36% small private organisation and 20% large private organisation) while one-third use a large private organisation. Nearly all general practices opted out of providing OoH care.

Conclusions: The study indicates that there is significant and increasing geographic variation in emergency hospital admissions in children, particularly after the introduction of the new general practice contract. Since 2004, most practices have opted out of providing OoH care and been replaced with both small and large private organisations. Further research is required to determine the implications of different OoH care providers on the variation in emergency hospital admissions in children.

C36

How sick is this child? Predicting severity of illness in primary care using three vital signs.

Susannah Fleming[1], Matthew Thompson[1], Lionel Tarassenko[2]
[1]Department of Primary Health Care, University of Oxford, Oxford, UK, [2]Institute of Biomedical Engineering, University of Oxford, Oxford, UK

Introduction Vital signs are known to be predictive of serious illness in children, but measuring them accurately and interpreting their values lacks evidence in primary care. Combining vital signs in a simple score may be a more useful and practical way of identifying children at risk of serious illness.

Method An existing primary care dataset containing heart rate, temperature, and oxygen saturation measurements from 873 children was used. Severity of illness was assessed by checking for hospital admission in the following 7 days.
Classification was carried out using the heart rate, temperature, and oxygen saturation elements of an existing paediatric scoring system (PAWS), designed for use in secondary care. In addition, a variety of data fusion models, including regression and distribution modelling, were developed using the same three vital signs. Jack-knifing was used to obtain accurate estimates of model quality.

Results The existing scoring system had a potential range of 0-9 points, and showed best separation of the data when a score ≥1 was used to identify serious illness. This gave a sensitivity of 64.3%, and specificity of 80.5%. The area under the ROC curve was 0.74, which was below the 10th percentile for area under the ROC curve in the nine best-performing data fusion models.
The best-performing model produced a median area under the ROC curve of 0.83 (10th-90th percentile 0.81-0.85), with a sensitivity of 79% (75.7-84.3) and specificity of 75.8% (70.7-79.8). This method fitted three-dimensional Gaussian distributions to the vital signs data from each group, allowing the probability of membership into each class to be calculated for each child.

Conclusion Data fusion of three vital signs (heart rate, temperature, and oxygen saturation) provides moderate accuracy for predicting serious illness in children, and outperforms existing scoring systems. Although this type of score cannot easily be calculated by hand, it could be incorporated into commonly-available handheld phone applications, or into an integrated device incorporating a thermometer and pulse oximeter. Such a device would require a means of entering the patients age, as the technique uses evidence-based curves to allow for the normal variation of heart rate during childhood.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

C41

Why do women attend late for antenatal booking? A qualitative interview study exploring the perspectives of service users and stakeholders. Part 1: the service users.

Rosalind Haddrill[1], Georgina Jones[1], Caroline Mitchell[2], Dilly Anumba[3]
[1]University of Sheffield, School of Health and Related Research (ScHARR), Sheffield, South Yorkshire, UK, [2]University of Sheffield, Academic Unit of Primary Medical Care, Sheffield, South Yorkshire, UK, [3]University of Sheffield, Department of Obstetrics and Gynaecology, Sheffield, South Yorkshire, UK

Introduction: Delayed access to antenatal care ("late booking") has been linked to increased mortality and morbidity for mother and baby. The Confidential Enquiry into Maternal Deaths in the UK (2007) found that 17% of the women who died from *Direct* or *Indirect* causes booked for maternity care after 22 weeks gestation, had missed >4 routine antenatal visits or didn't seek care at all. UK estimates of the percentage of women booking after 18 weeks are between 2.5% and 16%. Little explanatory qualitative research has been undertaken outside the USA.

The study aimed to explore the perspectives of pregnant women who booked after 19 weeks gestation on: pregnancy, their reasons for delayed access, their attitudes and expectations towards current and future antenatal care.

Method: Purposive diverse sample of women booking >19 weeks gestation, from hospital, community and specialist antenatal clinics. Semi-structured, face-to-face, taped individual interviews undertaken in women's homes, hospital clinics and children's centres. Data transcribed, coded and organised using NVivo software. An inductive, iterative, self-conscious thematic analysis undertaken with independent verification.

Results: Recruitment was challenging; 80 women consented, 27 were interviewed. Participant demographics: greater diversity of women (age, parity, socioeconomic status, ethnicity) than stereotypical 'late bookers' reported elsewhere. 4 key groups of women identified with explanatory subthemes for late booking, relating to personal attitudes and behaviours, knowledge and experience, and professional and organisational factors:

1. the 'not knowers' (absence of classic symptoms, misinterpreters, not believing pregnant);

2. the 'knowers – avoiders' (ambivalence, fear, DIY care);

3. the 'knowers – postponers' (fearful, on the move, undecided, not valuing antenatal care);

4. The 'knowers – delayees' (professional and system failures, knowledge and acceptance of the 'system').

Conclusion: In this largest UK qualitative study to date we identified service user and healthcare factors which delay access to antenatal care, including delayed diagnosis of pregnancy, poor reproductive health knowledge, contraceptive failure, lack of lay facilitation of engagement with antenatal care, and individual socio-cultural risk factors. These factors should be considered by service commissioners and health and social care practitioners in order to promote the provision of timely antenatal care for all women.

C42

Why do women attend late for antenatal booking? Part 2. A qualitative interview study exploring the perspectives of maternity health and social care stakeholders.

Rosalind Haddrill[1], Georgina Jones[1], Caroline Mitchell[2], Dilly Anumba[3]
[1]University of Sheffield, School of Health and Related Research (ScHARR), Sheffield, South Yorkshire, UK, [2]University of Sheffield, Academic Unit of Primary Medical Care, Sheffield, South Yorkshire, UK, [3]University of Sheffield, Department of Obstetrics and Gynaecology, Sheffield, South Yorkshire, UK

Introduction: Delayed access to antenatal care ("late booking") has been linked to increased mortality and morbidity for mother and baby. The Confidential Enquiry into Maternal Deaths in the UK (2007) found that 17% of the women who died from Direct or Indirect causes booked for maternity care after 22 weeks gestation, had

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

missed >4 routine antenatal visits or didn't seek care at all. UK estimates of the percentage of women booking after 18 weeks are between approximately 2.5% and 16%. Little explanatory qualitative research has been undertaken outside USA, particularly the views of professionals in healthcare settings.

The study aimed to explore barriers to antenatal care as perceived by key maternity stakeholders (multidisciplinary teams and individual health & social care practitioners) involved in care of antenatal 'late bookers', and ways that services might be developed to facilitate timely access and improved antenatal care for all women.

Method: Purposive and snowball sampling of midwives, doctors, social workers and link workers, from community and hospital settings. Interviewed individually and in small and focus groups, with a semi-structured format. Interviews taped, data transcribed, coded and organized using NVivo software. An inductive, iterative, self-conscious thematic analysis undertaken, with independent verification.

Results: 42 stakeholders consented to interview; 4 focus groups, 4 small group and 9 individual interviews conducted. Main themes:

Stereotypical view of socio-cultural and educational status of late bookers (in contrast to the more diverse sample of women interviewed in part 1).

Patient factors: lack of pregnancy planning and knowledge; ambivalence towards pregnancy/antenatal care; socio-cultural influences (chaotic lives, substance misuse, immigration, housing); vulnerability and support (influence of family and peers); fear, denial and avoidance (concealment, relationships with professionals, expectations); practical and organisational barriers to timely care.

Conclusions: This largest UK study to date of multiprofessional maternity stakeholders has identified perceived barriers and facilitators to early antenatal booking. These highlight the need for: a multiagency approach to pre-conception and antenatal health promotion; better reproductive education for women of all ages; increased awareness in primary and social care of risk factors for late booking; flexibility and continuity of care for women who book late.

C43

Double-blind, placebo randomised controlled trial of nicotine patches for smoking cessation in pregnancy: *SNAP* trial findings

Tim Coleman, Sue Cooper, Matthew Grainge, Sarah Lewis, John Britton, Kim Watts, Jim Thornton
University of Nottingham, Nottingham, UK

Introduction Smoking in pregnancy is a public health challenge. Nicotine replacement therapy (NRT) is effective outside pregnancy, but because women metabolise nicotine and cotinine faster in pregnancy, it is unclear whether NRT will be effective for smoking cessation in pregnancy. Despite this lack of evidence for NRT use in pregnancy, NICE recommends and NHS health professionals routinely offer this treatment to pregnant smokers. This double-blind, placebo RCT investigated whether or not 15mg/16hr nicotine patches, used in addition to behavioural smoking cessation support, are effective or safe when used for smoking cessation in pregnancy.

Methods In 7 hospitals across the Midlands, we recruited women smoking >5 daily cigarettes as they attended for ante natal ultrasound scans. Enrolled women all received behavioural cessation support and were randomised to eight weeks' treatment with active or placebo patches. Further behavioural support was provided by trial research midwives and local NHS cessation service staff. The trial primary outcome was prolonged smoking cessation between a quit date set within 2 weeks of randomisation and delivery, validated by either or both of exhaled air carbon monoxide and saliva cotinine. Birth outcomes were monitored to investigate potential fetal harm.

Results Findings below are initial and may vary slightly from those presented at conference.1051 women were recruited between May 2007 and February 2010, with 521 receiving NRT and trial groups being well-balanced. Participants were recruited at a mean (SD) of 16.2 (3.5) weeks gestation and were highly nicotine-addicted, with 33.6% reporting smoking their first daily cigarette within 5 minutes of waking. There was no evidence that NRT had any impact on prolonged cessation measured at delivery; 49 (9.4%) in the NRT group were validated as not smoking compared with 40 (7.5%) who received placebo,

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

unadjusted OR (95% CI) 1.27 (0.82-1.96). Birth outcomes were broadly similar in both groups.

Conclusions Adding a 15mg/16hr nicotine patch to behavioural cessation support provided to pregnant women is not effective for smoking cessation and has neither a beneficial nor negative impact on birth outcomes.

The trial is funded by the NHS HTA trials programme. ISRCTN07249128. Protocol available here.
http://www.biomedcentral.com/1472-6963/7/2

C44

Preferences of women and their partners for antenatal screening tests for Down's Syndrome: a discrete choice experiment.

Fran Carroll[1], Hareth Al-Janabi[2], Terry Flynn[3], Alan Montgomery[1]
[1]University of Bristol, Bristol, UK, [2]University of Birmingham, Birmingham, UK, [3]University of Technology, Sydney, Australia

Introduction Deciding whether or not to undergo antenatal screening for Down's Syndrome is an important decision facing couples in early pregnancy. Although NHS screening is available to all pregnant women, there is also the option to undergo a privately provided test. This test is conducted earlier in pregnancy and offers a higher detection rate than the NHS test, but incurs a cost of approximately £200.

This study aimed to elicit pregnant women's and their partners' preferences for attributes of antenatal screening test options for Down's Syndrome.

Method: A stated preference discrete choice experiment was conducted among a sample of women and their male partners recruited through community midwifery services, attending early pregnancy appointments. One 4-level attribute (cost) and three two-level attributes (time to wait for results, detection rate and gestation in pregnancy test occurs) were used to generate a computer based questionnaire offering eight pairs of tests.

Results: N=106 participants completed the questionnaire (65 female, 41 male). Latent class analysis showed a three preference class structure for the sample. A group of participants whose main concern is cost (n=47), a second whose main concern is detection rate (n=44) and a third whose main concern is the time to wait for results (n=12). There was no association between sociodemographic variables and preference class. Willingness to pay calculations show that participants whose main concern is cost would be prepared to pay £179 for the 'best test' option as compared with the 'worst test', whereas those most concerned with detection rate would be willing to pay £800.

Conclusion: This study shows test cost, detection rate and time to wait for results are all important attributes to women and their partners making Down's Syndrome screening decisions. Further work is required to characterise the groups of participants with regards to sociodemographic or other identifiable features. If such characteristics can be defined, there are implications for care providers to tailor information that addresses the main concerns of each group. As it stands, it is important that midwives are aware of the attributes couples deem important and ensure the information they provide covers these factors.

C45

Female General Practitioners' perceptions of their personal maternal healthcare: a qualitative study.

Anna MacKenzie, Lesley Roberts
University of Birmingham, Edgbaston, Birmingham, UK

Introduction As the number of female General Practitioners (GPs) increases, so does absolute numbers of doctors experiencing pregnancy. Therefore the need to understand delivery of maternity care to this group becomes increasingly important. Previous studies suggest doctors face additional barriers in accessing healthcare compared to other patients and difficulties managing doctor-patients include: difficulties adopting a patient role; the treating doctor feeling intimidated and judged, communication problems due to assumptions about knowledge and the doctor-patient feeling embarrassed asking simple questions. Little is known about GPs' personal maternal healthcare experiences and whether their occupation facilitates or compromises care. GP training involves some obstetrics care, although in practice this is minimal. GPs as family doctors may be perceived as being

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

knowledgeable about pregnancy and postnatal care, making them different to other specialities, and this may be reflected in the care they receive. This study explores female GPs' personal experiences of maternal healthcare and their perceptions of how their occupation impacted on this.

Method Female GPs who had children aged 6 months to 5 years were recruited from South Birmingham Primary Care Trust with subsequent snowballing. Data were obtained using semi-structured interviews and constant comparison analysis was applied to the data to develop themes and categories.

Results Fourteen GPs participated and no new themes emerged after interview 10 suggesting data saturation was achieved. Overall GPs felt they received improved care due to their occupation and where an established relationship between the GP and the healthcare professional existed, communication and care satisfaction was enhanced. However, assumptions about GPs' knowledge led to a lack of information provision and some problems in care provision, especially during labour and early motherhood when women were most vulnerable and unable to rely on work skills to address information deficits.

Conclusion This research supports the growing body of evidence that there are unique problems facing doctor-patients and clinicians treating them. However, contrary to expectations derived from anecdotal evidence, GPs in this study overall felt care was enhanced due to their occupation. This study raises awareness of areas for consideration when female GPs approach pregnancy and healthcare professionals deliver maternal healthcare.

C46

Qualitative evaluation of the Health Research Support Service Primary Care Pilot Project: facilitators and barriers to successful implementation

Fiona Stevenson, Paul Wallace
University College London, London, UK

Introduction Primary care database research using resources such as GPRD, Q-Research and THIN is now well established and highly productive. This is restricted to psuedo-anonymised data and accounts for only 20% of practices. There is considerable interest in more widespread coverage so research may achieve its full potential as a 'core' activity of the NHS. The Health Research Support Service (HRSS) is a major National Institute of Health Research initiative to process patient-identifiable information from medical records independently of both the data source and the researcher that requires the data ('honest broker' function). A HRSS Pilot Programme was set up to test the viability and benefits of the proposed service. We conducted an independent evaluation of this in primary care. The findings have significant implications for any future roll-out of a national programme.

Method We used participant observation in practices and meetings about the project alongside focus groups and interviews with key stakeholders (GPs, practice staff, patients). We explored participants' understandings of the processes involved, their views of the acceptability of the HRSS and what they think happens to data from medical records. We were particularly interested in discussions around trust and guardianship of medical records. All data were transcribed verbatim and subject to thematic analysis.

Results There was widespread support for a national implementation of the HRSS. The patient information pack was however criticised by all stakeholders for its failure to present a clear account of the HRSS and the implications for patients of involvement. Even more contentious was that participation in the HRSS was on the basis of an 'opt out' as opposed to an active opt in. This was described by some as 'opt in by default' suggesting a failure to obtain active informed consent.

Conclusions These findings have significant implications for the debate surrounding the use of GP records for research, particularly in relation to how informed consent is obtained. The research raised a number of concerns that will need to be addressed if research is to achieve its full potential as a 'core' activity of the NHS.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

C51

The ProCEED Trial: a Randomised Controlled Trial of structured pro-active practice nurse led care for patients with chronic or recurrent depression in primary care

Marta Buszewicz[1], Mark Griffin[1], Jeni Beecham[2], Elaine McMahon[1], Kate Walters[1], Michael King[1]
[1]University College London, London, UK, [2]London School of Economics and Political Science, London, UK

Introduction: People with long-term depression often receive inconsistent care, with significant psychological, physical and social morbidity and high direct and indirect societal costs.

Our primary objective was to establish whether structured, pro-active care of primary care patients with chronic or recurrent depression leads to cost-effective improvement in medical and social outcomes compared with usual general practitioner (GP) care.

Methods: Participants were recruited from 42 UK general practices. Eligible participants had chronic major or recurrent major depression or chronic dysthymia confirmed using the Composite International Diagnostic Interview (CIDI) and scored 14 or above on the Beck Depression Inventory (BDI-II). Consented participants were randomised to GP treatment as usual (controls) or the practice nurse intervention. This involved a comprehensive baseline assessment and regular 3 monthly reviews over the two years of the study. Where indicated the nurses suggested appropriate pharmacological, psychological or social interventions according to evidence based guidelines. They were also given basic training in simple problem solving and motivational interviewing techniques.

The primary outcome was the BDI-II, measured at baseline and 6 monthly. Secondary outcomes at baseline and 2 years included social functioning (Work and Social Activity Scale, WASAS), quality of life (EQ-5D) and economic analysis data (modified Client Services Receipt Inventory, CSRI). GP health service data was collected for 24 months before baseline and the two years of the study.

Results: 558 participants were recruited and randomised to the trial and 430 (77%) were involved in the final assessment. Preliminary data analysis indicates positive outcomes for the intervention arm compared with controls for the BDI-II, WASAS and EQ-5D. We are conducting further analyses to investigate the relationships between the outcome and the number of treatment sessions attended, as well as with individual nurses delivering the intervention. The full economic analysis is also underway. All results will be available by the time of the conference.

Conclusions: The trial results are likely to have significant implications for the care of people with longer-term depression in primary care and to indicate a potential role for practice nurses in their management.

C52

Exploring clinical decision making about depression in primary care: the influence of gender and ethnicity

Ann Adams[1], Christopher Buckingham[2], Laura Vail[1]
[1]University of Warwick, Coventry, Warwickshire, UK, [2]Aston University, Birmingham, UK

Introduction: Evidence suggests that the quality of depression care can vary by patient gender and ethnicity. Different explanations have been provided for this, often locating disparity mechanisms in different cultural presentations and help seeking behaviours exhibited by patients. This study examines an alternative explanation, by seeking to uncover how disparities can arise out of primary care doctors' thought processes when diagnosing depression and making treatment decisions about different groups of patients.

Method: A random sample of US and UK primary care doctors (n=128) stratified by gender and years of clinical experience were randomised to view a videotaped scenario of a simulated patient presenting key symptoms of depression. The gender and ethnicity of simulated patients (Afro-Caribbean or African American versus white) was varied systematically, but patient presentations were otherwise identical. After watching the scenario, doctors were invited to think aloud about the patient and their problems, and how they would treat and manage them. Doctors' decision

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

making accounts were coded and analysed using the Cliniclass system, which attaches codes to the micro-components of clinical decision making, e.g. cues considered, inferences made, uncertainty statements, potential outcomes considered, reasoning processes, and the different knowledge structures doctors draw on.

Results: Results show systematic differences in how diagnostic and intervention decisions are made for different patient groups, with particular reference to the risks doctors assess, and consideration of health care system constraints. More potential outcomes are considered for white compared with black patients, and health care system constraints are mentioned more frequently in relation to interventions for female versus male patients. The implications for health disparities will be drawn out and the role of doctors' gender on decision making is also explored.

Conclusions: It is possible to identify sources of disparity in doctors thinking during clinical decision making about patients presenting with symptoms of depression. Awareness of how and why this occurs will help to improve clinical practice.

C53

Physical activity as a treatment for depression - findings from the TREAD study

Melanie Chalder[1], Katrina Turner[1], Alan Montgomery[1], Nicola Wiles[1], Sandra Hollinghurst[1], Tim Peters[1], Ken Fox[1], Anne Haase[1], Adrian Taylor[4], Michael Calnan[2], Debbie Sharp[1], Debbie Lawlor[1], John Campbell[3], Glyn Lewis[1]
[1]University of Bristol, Bristol, UK, [2]University of Kent, Canterbury, UK, [3]Peninsula Medical School, Exeter, UK, [4]University of Exeter, Exeter, UK

Introduction Depression is one of the leading reasons for disability in the UK and the third most common reason for consulting a general practitioner. The vast majority of people with depression are treated within the primary care setting, almost invariably involving some form of antidepressant medication. Whilst antidepressants provide clinically effective treatment, many patients and healthcare professionals would value an effective non-pharmacological alternative, particularly for the more common, less severe forms of depression. Research to date suggests that physical activity could be beneficial for this patient population.

The TREAD study investigated whether a systematic programme of physical activity, in addition to usual GP care, changed depression outcomes or altered subsequent use of antidepressants.

Method TREAD was a pragmatic, multi-centre, randomised controlled trial into which patients reporting depressive symptoms were recruited from general practices in the Bristol and Exeter areas. Those satisfying the eligibility criteria and consenting to participate were randomised to one of two treatment arms; physical activity plus usual GP care or usual GP care alone, and were followed up for a period of twelve months. The trial's primary outcome was clinical symptoms of depression measured using the Beck Depression Inventory (BDI -II) at 4-months post-randomisation. A range of other secondary outcomes including engagement in physical activity, exercise expectations, quality of life and antidepressant use were measured at the 4, 8 and 12 month follow-up points.

Results The study recruited 361 patients from general practices in Bristol and Exeter areas of the United Kingdom, achieving 80% retention at the 4-month follow-up point. No significant treatment effect was observed in relation to either mood or antidepressant use at any time point in the trial. However, the amount of physical activity undertaken by intervention subjects increased significantly over time and, importantly, was sustained beyond the end of the intervention itself.

Conclusions Given the current prevalence of depression and its associated economic burden, these results provide a timely contribution to the evidence-base on treatment options for depression and have implications for the future development of clinical guidelines relating to depression and physical health within the UK.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

C54

The health and health care of people with serious mental illness (SMI) in England: implications for policy and practice

Siobhan Reilly, Claire Planner, Mark Hann, David Reeves, Helen Lester
NIHR School for Primary Care Research, University of Manchester, Manchester, UK

Introduction The objective of this study is to describe the health and health care of people with SMI and to explore whether receipt of collaborative care (CC) is associated with the number of hospital admissions and length of hospital stay (LOS).

Method A two year cohort study of adults with psychoses on the SMI registers of 64 practices across England in 2009/10. Health service use and outcome data were extracted from up to twenty randomly selected patients' notes by trained research nurses.

Results Of the cohort of 1154 patients: 51% male, mean age 52.8 years, 87% Caucasian, 52% diagnosis of schizophrenia; 37% bipolar disorder; 11% other diagnoses.

25% of patients were seen and treated only in a primary care setting. Patients had an average of 7 contacts per year with their primary care facility. Over half of the cohort had at least one physical health co-morbidity with cardiovascular conditions and diabetes over represented compared to the general population.

Continuity of care, appeared better in secondary care compared to primary care but over 10% of patients in both sectors had poor continuity. There was no information about the outcomes of referral to secondary care in over 25% of patients' records.

CC (defined: i)multi-professional approach to care, ii)care augmented by guidelines, iii)scheduled follow up appointments and iv) mechanisms to improve health professional communication) was relatively rare in the 75% of the cohort who were seen in both primary and secondary care. All four elements appeared to be present for 25% of these patients. Although there is no association between CC and the number of hospital admissions, a significantly greater proportion of admissions were emergencies in the CC group (63% vs. 51%; $p < 0.05$). The median LOS was also significantly longer in this group [9 days, IQR (2, 48) vs. 3 days, IQR (0, 16); $p < 0.001$].

Conclusions Interpersonal continuity of care is variable and there is poor informational continuity across the interface. Further exploration is needed of the associations between CC and hospital admissions and LOS before CC can be developed as a model of care for people with SMI.

C55

The prevalence of comorbid depressive disorders and depressive symptoms in adults with osteoarthritis and/or joint pain: systematic review and meta-analyses

Magdalena Rzewuska, Christian Mallen, John Belcher, Barbara Nicholl, Kay Benyon, George Peat
Arthritis Research Campaign UK Research Centre, Keele University, Keele, Staffordshire, UK

Introduction: Recent NICE guidance recommends the management of depressive symptoms in chronic physical conditions. As the commonest chronic condition managed in primary care, and linked with depression, osteoarthritis (OA) can be considered within these recommendations. However, with an estimated 8 million OA sufferers in the UK, the scale of detecting and managing comorbid depression may be considerable. Accurate estimates of the prevalence of comorbid depressive disorders and depressive symptoms in people with OA are needed. We conducted a systematic review and meta-analyses to ascertain these estimates.
Method: Electronic bibliographic databases and reference lists were searched from inception to November 2009. Random effects meta-analyses (for log-transformed estimates) were conducted for observational studies in primary care/general populations reporting the prevalence of depressive disorders and/or symptoms in adults with OA/joint pain. Standardized sensitivity analyses were implemented to estimate pooled prevalence with a pre-specified acceptable level of homogeneity ($I^2 \leq 50\%$). Subgroup meta-analyses and meta-regression analyses were conducted.
Results: 10601 titles were identified and 746 abstracts were screened. 55 studies described in 89 articles were included. There was substantial between-study heterogeneity in findings (sources

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

included study design, study setting, different case definitions, methods of ascertainment, geographical locations, and populations of interest). Overall pooled prevalence estimates were obtained independently for depressive disorders and depressive symptoms including: major depression (8%, 95% CI 7.1-9.1; 25 estimates; I^2=94.1%, p<0.001); dysthymia (2.6%, 95% CI 2-3.6; 19 estimates; I^2=82.2%, p<0.001); mild-severe depressive symptoms (21.4%, 95% CI 18-25.3; 27 estimates; I^2=98.6%, p<0.001); moderate-severe depressive symptoms (13%, 95% CI 9-18.7; 8 estimates; I^2=97%, p<0.001). The following prevalence estimates were pooled from studies with the acceptable level of homogeneity: major depression 6.6% (95% CI 5.8-7.6, 14 estimates); dysthymia 2.7% (95% CI 2.3-3.2, 18 estimates); mild-severe depressive symptoms 23.3% (95% CI 21.2-24.8, 8 estimates); moderate-severe depressive symptoms (unobtainable). Mild-severe depressive symptoms appeared more common in older age groups, women, and primary care patients [the pooled prevalence for primary care was 28% (95% CI 25.6-30.7); 6 estimates; I^2=84.7%, p<0.001]. **Conclusions:** Comorbid depressive symptoms, typically minor/subsyndromal, are present in one in four primary care patients with OA. Gender, age and health status differences support person centred detection programs.

C56

Impact of screening for depression on new diagnosis and antidepressant treatment in patients with coronary heart disease or diabetes.

Christopher Burton, Colin Simpson, Niall Anderson
University of Edinburgh, Edinburgh, UK

Introduction Patients with chronic illnesses including coronary heart disease (CHD) and diabetes have an increased prevalence of depression and this is associated with impaired quality of life. Structured treatment for depression in patients with these conditions is beneficial and several guidelines now recommend screening patients with chronic illness for depression. However, there is a lack of evidence that screening leads to effective intervention. The UK Quality and Outcomes Framework (QOF) introduced routine annual screening for depression for all patients with CHD or diabetes in primary care in April 2006. We aimed to examine the impact of screening by comparing the rate of new diagnosis or treatment of depression in the four weeks after screening with other times.

Method A large database study using the PCCIU-R database comprising anonymised data from 1.3million Scottish patients in the year commencing 1st April 2007. The study population comprised 2290 patients who had CHD or diabetes, were screened for depression during the year and either received a new diagnosis of depression or commenced a new course of antidepressant (excluding those commonly used to treat diabetic neuropathy). The primary outcome was the relative risk for being diagnosed with depression or commencing antidepressant treatment in the period 1-28 days after screening compared to other time periods using the self controlled case series method.

Results The individual relative risk for diagnosis during the 28 days after screening was 3.12 (95% CI 2.49 to 3.91) and for treatment was 1.70 (1.54 to 2.05). Screening resulted in an extra 67 (59 to 73) diagnoses of depression and 98 (79 to115) new antidepressant treatments, giving a number needed to screen for diagnosis of 1002 (919 to 1137) and for new antidepressant treatment of 685 (584 to 850).

Conclusions Systematic screening for depression in patients with chronic disease in primary care results in a significant but small increase in new diagnosis and treatment in the following four weeks. Screening for new cases is likely to have a minimal impact on the overall burden of depression in chronic illness.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

C61

In which clinical areas are clinical prediction rules recommended? Systematic review of clinical guidelines

Clare Bankhead[1], Grainne Cousins[2], Rose Galvin[2], Karen Kearley[1], Claire Keogh[2], Daniel Lasserson[1], Uriell Malanda[3], Susan Mallett[1], Ivan Moschetti[4], Kirsty O'Brien[2], Sharon Sanders[5], Danielle Van der Windt[6], Emma Wallace[2], Richard Stevens[1]
[1]University of Oxford, Oxford, UK, [2]Royal College of Surgeons Ireland, Dublin, Ireland, [3]VU University Medical Centre, Amsterdam, The Netherlands, [4]General Practice, Milan, Italy, [5]University of Queensland, Brisbane, Australia, [6]Keele University, Keele, UK

Introduction Research on clinical prediction rules (CPRs) has boomed in recent years, with CPR publications multiplying more than ten-fold since 1991. However, there is little evidence that this multiplying research output reflects real clinical need. We hypothesize that there is only a need for CPRs in some specific clinical areas. To determine which areas find CPRs valuable, we reviewed clinical guidelines in selected medical areas for which CPRs are known to exist.
Methods We identified clinical guidelines for incident breast cancer, cardiovascular risk, incident diabetes, depression, fracture and osteoporosis, influenza and infections in children, musculoskeletal conditions of the lower limb and transient ischaemic attack (TIA), by searching PubMed, the US Guidelines Clearing House and the Scottish Intercollegiate Guidelines Network (SIGN). Search results were reviewed against inclusion criteria including: systematically developed statements or recommendations for health care practitioners; produced by a recognised medical specialty association, professional society, public or private organization, government agency or health care provider; available in full text in English. Guidelines meeting these criteria were hand-searched for recommendations to use CPRs. We defined CPRs as a prespecified combination of questions/symptoms/signs/tests providing information on risk, diagnosis or prognosis (excluding formal diagnostic criteria).
Results Recommendations to use CPRs were made by 3/31 incident diabetes guidelines, 14/39 breast cancer guidelines, 30/66 cardiovascular risk guidelines, 12/26 fracture/osteoporosis guidelines, 6/15 musculoskeletal (lower limb) guidelines, 10/16 TIA guidelines, and 12/17 depression guidelines. In paediatric guidelines, CPRs were recommended by 2/20 influenza, 0/5 urinary tract infection, 0/3 croup, 0/11 gastroenteritis, 0/6 otitis media, 1/5 bronchiolitis, 0/4 conjunctivitis and 3/7 tonsilitis guidelines. Within cardiovascular risk, CPRs were recommended by 21/30 guidelines for the general population and 9/36 guidelines for high risk groups such as diabetics and those with chronic kidney disease.
Conclusions Although CPRs have been published for all these areas, they have made little or no impact on disease areas such as childhood infections and incident diabetes. Before investing time and effort in the development of CPRs, researchers should consider whether there is likely to be a clinical need, and if so how best to meet it.

C62

Multiple External Validation of Clinical Prediction Rules (CPRs), Adjusting CPRs and Individual Patient Data meta-analysis: methodological challenges.

Jan Verbakel[1], Richard Stevens[2], Frank Buntinx[1]
[1]Department of General Practice, University of Leuven, Leuven, Vlaams-Brabant, Belgium, [2]Department of Primary Health Care, University of Oxford, Oxford, UK

Introduction The most useful CPRs are those that can be applied across multiple settings, have clinical validity and improve patient outcome. In a previous study we systematically identified CPRs to detect serious infection (SI) in acutely ill children. (e.g. Yale Observation Scale (YOS), a 5-stage decision tree) First, we verified the CPRs' validity across an international dataset network. Secondly we investigated the value of adding vital signs to improve CPRs, through individual patient data (IPD) meta-analysis and the inherent methodological challenges.

Method We used 7 datasets (11,045 children) to validate the CPRs. When positive, CPRs can substantially raise the probability of illness if the positive likelihood ratio is more than 5.0, or, when negative, lower the probability if the negative likelihood ratio is less than 0.2. To improve a CPR by adjusting its components, the effects on validity need to be re-assessed. First we pool all data of

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

the existing datasets to perform an IPD meta-analysis to predict the likelihood of SI. The challenges are: dealing with missing values, sensitivity and specificity correlations, defining methodology of the pooling and rule development, and adjusting for multicenter-aspect. Finally the resulting CPR will be ready for validation and impact analysis.

Results The YOS provided no rule-out value (LR- ranging from 0.46 to 0.97). A 5-stage decision tree provided minimal ruling in value (LR+ from 0.88 to 1.64), LR- was above 0.2 in all datasets except one low prevalence validation-dataset (LR- of 0.11). Referral pattern did not influence the likelihood ratios.

Conclusions The YOS did not meet our rule-out criteria in any dataset. The 5-stage decision rule met our criteria in one data set. CPRs offer different diagnostic value, depending on setting and prevalence. Heterogeneity can explain the reduced accuracy, through differences in definition of predictors, the case mix, and random error. Reproducibility and transportability should be assessed to ensure generalizability. Validating existing rules is urgently needed in order to better prepare their impact on clinical practice.

If the new rule is externally validated in an independent population, IPD meta-analysis can improve the CPR development and validation process through assessment of the methodological challenges.

C63

Designing large cohort studies for cancer clinical prediction rules: a protocol for the Cancer Diagnosis Decision (CANDID) study of breast and colorectal cancer in primary care on behalf of the CANDID investigators

Paul Little[1], Tom Fahey[2]
[1]*University of Southampton, Southampton, UK,* [2]*Royal College of Surgeons of Ireland, Dublin, Ireland*

Introduction. In cancer diagnosis, avoiding delays and prioritizing high risk patients for urgent referral while avoiding over-investigation are major concerns for both patients and doctors. Recent evidence offers hope that Clinical Prediction Rules (CPRs) could be developed to improve all these aspects for both breast and colon cancer, but to date there have been no prospective studies in primary care with sufficient power to develop and test such rules. Methods. In designing the cohort key methodological issues were: justification of variables to include in developing the CPRs; differing sample size considerations for derivation and validation cohorts; and the logistics of data capture to minimise selection bias and maximise recruitment.

Results. We propose using a review of the prior literature, qualitative work, and a Delphi study to confirm the variables for inclusion in CANDID. To detect variables with an ORs≥2 with 90% power we need approximately 10,000 patients to derive the CPR, and assuming at least 100 cancer cases per cohort are needed for validation approximately 2,000 patients will be required. Brief web based standardised proformas will be used, further data collection (e.g. sample for genomic studies) will be optional, and mechanisms to prompt GPs to recruit and/or ensure missed patients are captured will be used. 1600 GPs across 8 regions of the UK will be needed to recruit the cohorts.

Conclusions. Derivation and validation of CPRs for cancer requires huge numbers but our experience with studies such as DESCARTE shows that we can achieve cohorts on this scale. Funding applications are in progress for the Cancer Diagnosis Decision (CANDID) study.

C64

Framework for the impact analysis and implementation of Clinical Prediction Rules (CPRs)

Emma Wallace[1], Susan Smith[1], Rafael Perera-Salazar[2], Paul Vaucher[3], Colin McCowan[4], Gary Collins[2], Jan Verbakel[6], Monica Lakhanpaul[5], Tom Fahey[1]
[1]*Royal College of Surgeons in Ireland, Dublin, Ireland,* [2]*University of Oxford, Oxford, UK,* [3]*Geneva University, Geneva, Switzerland,* [4]*University of Dundee, Dundee, UK,* [5]*University of Leicester, Leicester, UK,* [6]*Katholieke University, Leuven, Belgium*

Introduction Clinical Prediction Rules (CPRs) are tools that quantify the contribution of symptoms, clinical signs and available diagnostic tests, and in doing so stratify patients according to the probability of having a target disorder. Most focus

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

on the derivation stage with only a minority progressing to validation and very few undergoing impact analysis. Impact analysis studies remain the most efficient way of assessing whether incorporating CPRs into a decision making process improves patient care. Consequently, most CPRs are never utilised outside their development setting. One obstacle is the lack of clear methodology for the design of high quality impact studies.

Methods We have developed a sequential four-phased framework based on the literature and the collective experience of our international working group to help researchers identify and overcome the specific challenges in designing and conducting an impact analysis of a CPR.

Results

Phase I: Exploratory phase

This phase focuses on the whether the CPR is ready for impact analysis. Prior to impact analysis a CPR needs to have been derived and broadly validated using pre-defined methodological criteria.

Phase II: Preparation for impact analysis

This phase is concerned with assessing the acceptability of the CPR to providers and patients and identifying potential barriers to its use including feasibility, setting, delivery mode and clinical preparation.

Phase III: Experimental phase-impact analysis study

The aim of this phase is to determine whether the CPR is effective i.e. that it improves the process of care, increases cost-effectiveness and ultimately improves patient outcomes. This phase uses clinical examples to discuss study design and common challenges encountered in conducting impact analysis studies.

Phase IV: Dissemination and long term implementation

This phase focuses on translation of the CPR from a research setting into everyday clinical practice delivered by the wider community of clinicians.

Conclusion There is a need to shift emphasis from deriving new CPRs to validating and implementing existing CPRs if improving patient outcomes in an efficient manner is to be achieved. This novel framework provides a structured approach to this topical and complex area of research.

D11

Diagnosis of Chronic Kidney Disease (CKD) with an improved formula to estimate glomerular filtration rate (eGFR): age and sex effects and national impact

Daniel Lasserson[1], Brian Shine[2], Christopher O'Callaghan[3]

[1]Department of Primary Health Care, University of Oxford, Oxford, UK, [2]Department of Biochemistry, John Radcliffe Hospital, Oxford, UK, [3]Nuffield Department of Clinical Medicine, University of Oxford, Oxford, UK

INTRODUCTION Primary care plays a key role in the management of patients with chronic kidney disease (CKD), from diagnosis and monitoring to control of vascular risk factors. In practice, CKD is defined by proteinuria or an estimated glomerular filtration rate (eGFR) < 60 ml/min/1.73 m^2; the majority of patients are diagnosed using eGFR. We assessed the likely effect on primary care CKD registers by switching laboratory reporting to a more accurate eGFR equation.

METHODS All primary care requests for renal function at a laboratory serving a population of 600,000 patients in Oxfordshire from October 2009 to January 2011 were used to derive eGFR values using the UK standard Modified Diet in Renal Disease (MDRD) equation and the new Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) equation. Reclassification using CKD-EPI was stratified by age and sex at the diagnostic cut point of eGFR < 60. As the Oxfordshire population is homogenous (97% Caucasian) ethnicity effects were tested with bootstrapping. Estimates of reclassification at national level were based on 2009-2010 UK CKD registers of 2,148,176 patients.

RESULTS The first creatinine values for 175,561 individual patients were analysed. Using CKD-EPI, 4021 primary care patients would have been reclassified (eGFR increased to >60 in 76%). Increases to values no longer in the CKD range were only seen in men under 75 years and women under 80 years. Age effects were seen in the % reductions in CKD diagnoses in men (43%, <50 years vs 3%, 70 -75 years) and woman (59%, < 50 years vs 4%, 75 - 80 years). The greatest increases in patient numbers with CKD diagnostic values were seen in men >80 years (12%

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

increase). Switching to the CKD-EPI equation could change the CKD diagnosis of 275,000 patients nationally with a net reduction of 143,000 diagnoses.

CONCLUSION Improving the accuracy of eGFR reporting would result in changes at national level, with substantial numbers of patients taken out of, and brought into a monitoring program with implications for prescribing and primary care workload. However, evidence based therapies will be more cost effective if delivered to patients with a more accurate diagnosis of CKD.

D12

Assessing CVD Risk in an Ethnically Diverse Population – a comparative study of different risk score methods

Peter Schofield[1], Nicola Crichton[2]
[1]*King's College London, London, UK,*
[2]*London South Bank University, London, UK*

Introduction In recent years risk screening has played an increasingly prominent role in CVD prevention. The original, and most widely used, CVD risk estimation method is the Framingham risk score (Anderson et al 91). Based on an analysis of a predominantly white middle class US cohort, this has been acknowledged to under-estimate the effect of ethnic, and socio-economic, differences (Lip et al 07). Two alternative methods, QRISK (Hippisley-Cox et al 08) and ETHRISK (Brindle et al 06), have recently been developed in the UK, both including ethnicity as a risk factor. QRISK and another recently developed UK measure, ASSIGN (Woodward 07), are also designed to take account of social deprivation. However, little is known about the extent to which these measures can make a difference when applied to black and minority ethnic (BME) patients in a primary care setting with high levels of social deprivation.

Method We compared the performance of all three measures alongside the Framingham measure when applied to risk factor data from primary care records collected for all (around 192,000) patients in 27 practices in Lambeth, South East London. This is an area with a large Afro-Caribbean population and high levels of social deprivation. We also compared the age standardised mean CVD risk ratios by ethnic group with national mortality data.

Results The QRISK score diverged most from Framingham: 14% of black patients not considered a high risk (i.e. less than 20% risk of a CVD event within 10 years) under Framingham were reclassified as high risk under QRISK (chi-squared = 391.5, df = 1, $p > 0.0001$). Conversely, 8% considered to be high risk under Framingham were no longer so under QRISK.
Initial results suggest that, for men, ETHRISK and then QRISK most closely fit national patterns for ethnic differences in CVD risk whereas for women a more complex picture emerges, with QRISK more closely approximating national figures.

Conclusion Type of CVD risk score method can make an important difference to CVD risk estimates in BME patients. Comparisons with national data suggest that QRISK and ETHRISK more clearly reflect ethnic differences in CVD outcomes.

D13

Exploring the Burden of Treatments for Stroke Patients, a Qualitative Systematic Review.

Katie I Gallacher[1], Deborah Morrison[1], Patricia J Erwin[2], Victor M Montori[2], David Eton[2], Carl R May[3], Peter Langhorne[1], David Batty[4], Frances S Mair[1]
[1]*University of Glasgow, Glasgow, UK,* [2]*Mayo Clinic, Rochester, USA,* [3]*University of Southampton, Southampton, UK,* [4]*University College London, London, UK*

Introduction Stroke patients endure complicated management plans that require significant personal investment. Non-adherence to therapies is a global problem, despite effective therapies being available. We propose that patients who become overburdened by the active contributions required to manage their illness can fail to adhere to therapies. The aim of this systematic review is to examine the available qualitative literature on treatment burden (the workload of healthcare and its impact on patient functioning and well-being) in stroke from the patient perspective.

Method Search strategies were created using a combination of free text search terms and MeSH terms centred around 3 main concepts: stroke; treatment burden; and patient experience. ASSIA, CINAHL, Embase, Medline & PsycINFO databases were searched. Studies were limited to

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

those using a qualitative method of analysis, English language and those published 1990 onwards. Reference, footnote and citation tracking followed. 2 reviewers independently carried out title, abstract and full paper screening; quality appraisal; data extraction; and data analysis. Data was analysed using a coding framework informed by Normalization Process Theory, adapted and refined during analysis.

Results Stroke patients are required to personally invest in making sense of their treatments by gaining information, prioritising therapies, understanding limitations, and calculating safety risks. They interact with various health professionals, cope with deficits in services such as staff shortages, negotiate discharge, manage appointments, set goals for recovery and cope with disability. They make strategic adjustments in their ways of thinking, interacting and behaving due to the demands of stroke management.

Conclusions The management of stroke can be extremely demanding for patients, leading to non-adherence to therapies. By identifying and describing areas of high burden as highlighted by patients, we can inform changes to clinical practice and health policy, with the aim of improving patient outcomes.

D14

Scope for improved management of anaemia in chronic kidney disease (CKD): cross-sectional study of the quality improvement in CKD (QICKD) trial data

Olga Dmitrieva[1], Simon de Lusignan[1,2], Jeremy van Vlymen[1], Antonios Ntasioudis[1], Hugh Gallagher[1,3], Kevin Harris[4], Charlie Tomson[5], Safia Debar[1], David Goldsmith[6]
[1]St. George's - University of London, London, UK, [2]University of Surrey, Guildford, UK, [3]SW Thames Renal Unit, St. Helier Hospital, Carshalton, UK, [4]University Hospitals of Leicester, Leicester, UK, [5]Southmead Hospital, Bristol, UK, [6]Guy's and St Thomas' Hospital, London, UK

Introduction: The Quality Improvement in CKD (QI-CKD, ISRCTN5631023731) trial is a study of quality improvement interventions, including anaemia management, in patients with CKD. This study aimed to report the prevalence of anaemia and identifying whether anaemia in CKD is associated with risk factors amenable to management in primary care.

Method: We collected anonymised routine primary care data from 127 practices across England including 1,099,292 patients and determined the prevalence of anaemia in people with stage 3-5 CKD using SPSS 18.

Results: The prevalence of CKD is 5.33%. The mean haemoglobin value is lower in CKD patients (13.2g/dl) compared with non-CKD group (13.7g/dl). The proportion of patients with CKD and anaemia is 8.6% where Hb≤11g/dl, 3.0% where Hb≤10g/dl and 1% where Hb≤9g/dl.

80.5% (n=3,744) of people with CKD and Hb≤11 have normocytic anaemia; the proportion falls to three quarters (73.4%) for Hb≤10g/dl; and to two thirds (67.6%) where Hb≤9g/dl.

As Hb falls the proportion of people with microcytic anaemia increases: from 13.4% where Hb≤11g/dl; to 20.1% where Hb≤10g/dl; to a quarter of those with Hb≤9g/dl.

83% of people with CKD and microcytic anaemia (Hb≤11g/dl) have a low ferritin (<100ug/mL); compared with 59% of those with normocytic anaemia.

The prevalence of cardiovascular diseases is higher for patients with anaemia and CKD, compared with non-anaemic CKD patients. For example, hypertension prevalence is 67% vs. 54% and IHD is 27% vs. 17%.

61% of people with CKD and anaemia are taking aspirin; three-quarters (73%) are taking non-steroidal anti-inflammatory drugs (NSAID); and 14% are taking warfarin and 12% clopidogrel. 53% are taking aspirin and NSAID. 62% of people with CKD and anaemia are taking oral iron; 42% in the last two years.

Conclusions: Iron-deficiency anaemia is common in CKD. Over three-quarters of people with CKD and anaemia are on one or more medication which may exacerbate anaemia. Three quarters of people with microcytic anaemia and over half of those with normocytic anaemia appear to be on oral iron which does not appear to have corrected their anaemia. There is scope to improve anaemia management in CKD in primary care.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

D15

A meta-analysis of angiotensin-converting enzyme inhibitor and angiotensin receptor blocker treatment on renal outcomes in patients stratified by type of diabetes and urinary albumin levels

Jennifer Hirst[1,2], Kathryn Taylor[1,2], Richard Stevens[1,2], Claire Blacklock[1,2], Nia Roberts[2,3], Chris Pugh[4], Andrew Farmer[1,2]
[1]Department of Primary Health Care, University of Oxford, Oxford, UK, [2]National Institute for Health Research School of Primary Care, Oxford, UK, [3]Bodleian Health Care Libraries, University of Oxford, Oxford, UK, [4]Nuffield Department of Clinical Medicine, University of Oxford, Oxford, UK

Introduction Angiotensin-converting enzyme inhibitors (ACE) and angiotensin receptor blockers (ARB) are used for the treatment of early diabetic nephropathy, a known cardiovascular and renal risk factor. We have previously shown results from ACE or ARB treatment of patients with normoalbuminuria. We now extend this work to include patients with microalbuminuria to examine the impact of treatment on renal outcomes in patients stratified by type 1 and type 2 diabetes and UA levels.

Methods Randomised controlled trials were identified from a literature search of MEDLINE, EMBASE and the Cochrane Library (January 2005 to August 2010) and from reference lists of two Cochrane reviews published in 2005 and 2006. Inclusion criteria were: trial duration of at least 6 months, ACE or ARB in treatment arm only and patients grouped by type of diabetes and baseline UA levels. The ratio of UA levels at the end of the trial in the intervention to comparator arms were pooled in a meta-analysis.

Results Fifty trials were identified from the Cochrane reviews (35 trials) and searches (15 trials) for inclusion in the meta-analysis. In type 1 diabetes, treatment did not significantly affect UA levels in normoalbuminuria (p=0.5), however UA levels in the microalbuminuria patients were 68% lower (95% CI 55-77%, I^2 = 82%) in the treatment arm than the comparator arm. In type 2 diabetes, there was a significant reduction of UA levels with treatment in both normoalbuminuria and microalbuminuria groups, with UA levels 20% (CI 7-31%, I^2 = 84%) and 28% (CI 15-38%, I^2 = 87%) lower respectively than comparator group. Exploratory analyses showed that geographic setting, comparator type and degree of baseline imbalance in UA levels accounted for most of the heterogeneity, reducing I^2 to 40%.

Conclusions ACE or ARB treatment reduces UA levels in type 1 diabetes with microalbuminuria, and in type 2 diabetes both with normoalbuminuria and microalbuminuria, against comparators. We found no evidence of a reduction in UA with treatment in type 1 diabetes with normoalbuminuria. There is a difference in response to treatment, stratified by background UA level.

D16

Referral and triage of patients with TIAs to an acute access clinic: risk-stratification performance in an Australian setting.

Parker Magin[1], Daniel Lasserson[2], Christopher Levi[1,3], Mark Parsons[1,3], Susan Goode[1], Malcolm Evans[3], Michelle Russell[1]
[1]University of Newcastle, NSW, Australia, [2]University of Oxford, Oxford, UK, [3]Hunter New England Area Health Service, NSW, Australia

Introduction Transient Ischaemic Attack (TIA) entails a 10-15% risk of completed stroke within 90 days, with much of this risk occurring within 48 hours. This risk is dramatically reduced by prompt intervention. Furthermore, a well-validated TIA risk stratification tool ($ABCD^2$ - incorporating age/blood pressure/clinical symptoms/duration/diabetes; maximum score 7) has good predictive value for completed stroke risk. Consensus guidelines for TIA management in Australia and the UK reflect this evidence - recommendations are that TIAs with $ABCD^2 \geq 4$ be seen by stroke specialist within 24 hours, and $ABCD^2 \leq 3$ within seven days.

We sought to establish time from TIA event to assessment and management at an Australian neurologist-staffed acute TIA clinic, and associations of this time.

Method A prospective study of referrals from GPs and Emergency Departments to this clinic over a 14-month period. Data (including demographics, event/referral/consultation date, $ABCD^2$ and diagnosis) were extracted from referral letters and from neurologists' clinic notes.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Associations of time from event to consultation were modelled using Cox proportional hazards regression.

Results There were 127 GP and 104 ED referrals. Mean time from event to being seen in the clinic was 17.2 days (SD 27.1, Median 10). Of patients with $ABCD^2$ ≥4, 36.7% were seen within 24 hours of event; 38.5% of patients with $ABCD^2$ ≤3 were seen within 7 days.

Being referred from ED rather than general practice and receiving a final diagnosis of TIA were associated with shorter time to being seen. $ABCD^2$ was not a significant independent variable in this Cox regression model.

Conclusion The majority of patients were not seen within recommended time-frames (consistent with UK experience). This partially reflects resource limitations and underlines the need for efficient triage of patient appointments. An interpretation of final 'positive' diagnosis of TIA, but not $ABCD^2$ score, being associated with promptness of being seen is that clinicians' referrals contained sufficient information to perform appointment triage on the basis of diagnosis but not prognosis (risk of stroke). Recommended triage is on the basis of risk-stratification (prognosis). Education of GPs and ED clinicians to calculate $ABCD^2$ as part of their referral process may result in safer appointment triage.

D21

Incorporating the experiences of children with diabetes and their parents in the development of communication skills training (the DEPICTED Study) for health-care staff in paediatric diabetes services

Kamila Hawthorne[1], Kristina Bennert[2], Lesley Lowes[1], Sue Channon[3], Michael Robling[1], John Gregory[1]
[1]Cardiff University, Cardiff, UK, [2]Bristol University, Bristol, UK, [3]Cardiff and Vale University Local Health Board, Cardiff, UK

Introduction : The aim of this study was to describe children's and parent's experiences of a paediatric diabetes service, to inform the development of an intervention to teach paediatric diabetes staff without specialist psychological training improved skills when discussing behaviour change in routine diabetes care (the DEPICTED Study).

Method: Focus group methods were adapted for paediatric settings. Six audio-recorded discussion groups (two with parents, two with children and two with teenagers, 32 participants in total) were facilitated by two non-clinical researchers. Verbatim transcripts of the discussions and notes were coded thematically (supported by NVivo software). Analytic themes were developed in discussion between the focus group lead researcher, a clinician from primary care with an interest in diabetes, and a clinical psychologist.

Results: Three main themes emerged: (1) the lack of two-way conversation about glycaemic control in clinic settings, (2) the restricting experience of daily living with diabetes, and (3) the difficult interactions around diabetes the children had with their schools.

Doctors in particular were seen as struggling to link these themes of everyday life in their consultations with children and their parents, and often came across as having unrealistic expectations. Diabetes specialist nurses, and dieticians were perceived as having better rapport with patients and their families, and a better understanding of the strains of day to day choices and issues for children living with diabetes. Children felt marginalised in clinics, despite active involvement in their own blood glucose management at home.

Conclusions: Health professionals need to balance a requirement for good glycaemic control with realism and appreciation of their patients' efforts. There is a need for a systematic approach to consulting, in particular using the technique of 'agenda setting' to ensure the issues of both the patient and the professional are addressed. A framework for a conceptual approach is discussed. HOW a patient is involved is as important as WHAT is communicated during a consultation.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

D22

What role do patients want to play when making a decision about starting insulin? Results from the PANDAs study.

Brigitte Colwell[1], Alastair Bradley[1], Nigel Mathers[1], Mike Campbell[1], Chirk Jenn Ng[2]
[1]*University of Sheffield, Sheffield, UK,*
[2]*University of Malaya, Malaya, Malaysia*

Introduction Type 2 diabetes (T2DM) is a common illness, affecting about 2.8 million people in England in 2010. Despite lifestyle changes and glucose lowering drugs, a significant number of these people continue to have poorly controlled blood sugar. As this can potentially lead to an increased risk of developing complications, doctors will advise that insulin therapy be initiated. Using data from the PANDAs study we can explore the role that patients want to play when making a decision about starting insulin.

Method PANDAs (Patients ANd Decision Aids) is a cluster randomised controlled trial (RCT) being conducted across South Yorkshire. Its aim is to establish whether the use of a patient decision aid improves the decision quality and health outcomes of patients with T2DM who are considering insulin therapy. Patients recruited into the study were asked to complete a questionnaire before and after their consultation with their usual Health Care Professional, which explored their decision-making preferences. Patients in the intervention arm completed a decision aid prior to their consultation, and some of this cohort were interviewed, providing some qualitative data concerning patient preferences regarding decision making.

Results A total of 175 patients were recruited into the study, 95 into the intervention arm, 80 into the control arm. The mean age was 65 years.

Pre-consultation, about 50% of patients in both arms of the study indicated that they prefer to be responsible for decisions concerning their treatment.

Post-consultation, 64% of patients in the intervention arm indicated that they made the final decision about their treatment, compared to 42% in the control arm.

From the interview data most (7/8) patients expressed the opinion that, by using the DA they were more aware of symptoms, treatment options and complication risks and were better able to discuss their diabetes with the HCP.

Conclusions Patients in the intervention group expressed their willingness to be included in the decision-making process by the change in their questionnaire responses pre and post consultation. DAs are an acceptable tool, not only for improving knowledge and reducing decisional conflict but also for including patients in the decision-making process of their illness.

D23

Heart failure patients' beliefs and expectations of self-management strategies: a meta-ethnography of the qualitative evidence.

Jennifer Wingham[1], Geoff Harding[1,2], Hasnain Dalal[1,2], Nicky Britten[2]
[1]*Royal Cornwall NHS Hospitals Trust, Truro, Cornwall, UK,* [2]*Peninsula College of Medicine and Dentistry. University of Exeter, Exeter, UK*

IntroductionThe 2010 National Institute of Health and Clinical Excellence (NICE) guidelines recommend cardiac rehabilitation (CR) for patients with chronic heart failure (HF), although there is a lack of consensual knowledge about the content of the CR intervention. We aimed to identify the attitudes, beliefs and self-management strategies of patients with HF. Our objective was to conduct a qualitative meta-ethnography of the evidence.

Method A systematic bibliographic search identified eighty-four papers which were evaluated by two experienced qualitative researchers for their appropriateness and methodological rigour. Nineteen key papers were ultimately included and their data systematically extracted. Key concepts from each paper were entered into a grid to enable systematic translation of concepts between papers using the method of meta-ethnography. These concepts were then used to develop a conceptual model of self-management in HF.

Results Our conceptual model commences with patients' initial experiences of disruption associated with signs and symptoms of HF. Patients' ensuing strategies, shaped by their

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

beliefs and expectations, include: passive/fatalistic acceptance leading to disinclination to fully engage with self-management; actively embracing self management; disinclination to acknowledge their diagnosis; and total rejection of self-management responsibility. Each strategy has as it's aim a quest to "best fit" their diagnosis into everyday life to minimise its disruption - ranging from fully engaging with their self management regimen - to complete abdication of self management responsibility for HF. This model suggests the quest for "best fit" is not linear but contingent on a range of interplaying factors - social and psychological that either facilitates or acts as barriers in achieving this. Establishing a patient's reaction to HF and when they are best able receive their self-management regimen is key to achieving optimal implementation. Our theoretical interpretation of the data suggests that for some HF patients the timing of any intervention should ensure patients have the necessary emotional, psychological and social resources in place to make full use of it.

Conclusion This synthesis forms the evidence-base which could inform the development of specific CR interventions that enable people with HF to make informed decisions about their self-management strategies.

D24

Socioeconomic status, quality of life and healthcare access in COPD: A systematic review

Sofia Georgopoulou, Helen Booth, Hannah Thornton, Alison Wright, John Weinman, Patrick White
King's College London, London, UK

Introduction Socioeconomic deprivation is a significant determinant of health especially in respiratory diseases such as COPD. The aim of this study is to review the medical literature addressing socioeconomic status and Quality of Life (QoL) and healthcare access in patients with COPD.

Methods Medline, Embase, Web of Science, PsychInfo, IBSS, Ingenta Connect and CINAHL were searched for studies published during the period 1947-2011 using the broad terms “COPD” and “prevalence”. Papers were included if they provided statistical results on associations between socioeconomic status and any aspect of quality of life and healthcare access involving individuals of all ages >18 yrs. Only quantitative studies and studies published in the English language were considered. Data extraction of identified studies is currently underway. If sufficient studies provide adequate evidence of the strength of these associations, a meta-analysis will be conducted as part of the systematic review.

Results A total of 6889 papers were screened, 1088 abstracts were assessed for inclusion and 65 studies were reviewed after duplicate removal, abstract filtering and reference consultation. Studies were categorised depending on outcome measures either into “quality of life” (n=35) or “healthcare access” (n=30).

“Quality of life” outcome measures included: disease severity, exacerbations, psychological status, physical functioning and activity, pulmonary function, respiratory symptoms and mobility. 74.3% (n=26) of the studies yielded the consistent negative effect of low SES on QoL. 20% (n=7) showed no effect while 5.7% (n=2) found a positive influence of low SES on QoL.

“Healthcare access” measures included: hospitalisation rates, prescription patterns, medication adherence and use and diagnostic procedures conducted. 70% (n=21) provided supporting evidence for the negative influence of socioeconomic deprivation on healthcare access. 20% (n=6) showed no effect whereas 10% (n=3) found a favourable influence of low SES on healthcare access.

Conclusion Low socioeconomic status was consistently found to be associated with unfavourable outcomes in various domains of both QoL and healthcare access in patients with COPD. Current results support the existence of a potential interaction between poor QoL and decreased healthcare access thus reinforcing the negative effect of SES.

D25

An exploration of the views held by health professionals regarding nutrition care provided by general practitioners: an Australian perspective.

Lauren Ball, Michael Leveritt, Roger Hughes, Ben Desbrow
Griffith University, Queensland, Australia

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Introduction Healthy nutritional intake is a cornerstone to the prevention and management of lifestyle related chronic disease. In Australia, general practitioners (GPs) are the first port of call for patients requiring non-emergency health care, and are widely utilised for nutrition care relating to chronic disease management. However, interdisciplinary health care for the management of chronic disease is becoming increasingly important in the Australian general practice setting, and many different health professionals may also incorporate nutrition care into their practice.

The boundaries and optimal interactions between the health professionals providing nutrition care are currently unclear. The aim of the current study was to explore the perceptions of key health professionals regarding nutrition care provided by GPs in the context of the Australian health system. Exploring these views provides an understanding of the factors influencing nutrition specific interdisciplinary collaboration, perceived professional practice boundaries and opportunities for improved patient care.

Method Twenty-eight health professionals across a range of disciplines (GPs (n=11), practice nurses (n=3), dietitians (n=5), naturopaths (n=5), and exercise physiologists (n=4)) participated in a qualitative individual semi-structured telephone interview, guided by an inquiry logic informed by the literature. Interviews were transcribed verbatim and analysed thematically using a constant comparison approach.

Results Health professionals, including GPs, perceived that nutrition care provided in the general practice setting was mostly ineffective at improving patient nutrition behaviour due to 1) a perceived lack of nutrition knowledge held by GPs, 2) a lack of time to provide nutrition care within the current health system, and 3) perceived poor attitudes towards nutrition held by GPs. A clear sense of frustration was noted between the groups of health professionals interviewed which may be hindering the successful implementation of multidisciplinary nutrition care for patients with chronic disease.

Conclusion Further research is required to identify strategies to improve nutrition care provided to the general public within the current Australian health care system.

D26

A randomised controlled trial of a theoretically based primary care intervention to increased consultation behaviour of people with symptoms of serious lung disease.

Sarah Smith[1], Neil Campbell[1], Graham Devereux[2], Marie Johnston[1], Amanda Lee[1], Una Macleod[3], Peter Murchie[1], Marianne Nicolson[2], Rachel Powell[4], Sally Wyke[5]
[1]University of Aberdeen, Aberdeen, UK, [2]Aberdeen Royal Infirmary, Aberdeen, UK, [3]Hull York Medical School, Hull and York, UK, [4]Aston University, Birmingham, UK, [5]University of Stirling, Stirling, UK

Objectives - To evaluate whether a theoretically based primary care intervention could increase consultation behaviour of people with symptoms of serious lung disease

Design - Open randomised controlled trial comparing intervention with usual care.

Setting - Two general practices in NE Scotland Participants - 212 smokers and ex-smokers aged 55 years or older entered the trial and 206 completed.

Interventions - A theoretically based behavioural intervention comprising a single nurse consultation at their general practice and self-help booklet.

Main outcome measures - Consultations with new chest symptoms during the year after the intervention nurse consultation; consulting intentions one and six months after the intervention nurse consultation.

Results - Comparing intervention with usual care, the rate ratio of consultations with new chest symptoms was 1.20 (95% confidence intervals 0.93, 1.55). After one month, the intervention group intended to consult 34 (10, 58) days earlier than the usual care group over four different chest symptom scenarios and this difference persisted at six months.

Conclusions - A theoretically based intervention in primary care shortened the time people at high risk of lung disease intended to take before

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

consulting with new chest symptoms, but did not significantly increase their consultation rate.

Trial registration - UKCRN 3804; ISRCTN 22421875

D31

Time efficacy of a Nurse Triage System for an Out-of-Hours Service

Brendan O'Shea[1,2], Regina Reulbach[3], Ken Bailey[2], O'Kelly Fergus[1], Udo Reulbach[1]
[1]Trinity College Dublin, Dublin, Ireland, [2]Kildare and West Wicklow Doctors On Call Ltd., Naas, Kildare, Ireland, [3]National Digital Research Centre, Dublin, Ireland

Introduction: Nursing Triage systems are thought to be beneficial in terms of cost effectiveness and efficiency. GP co-operatives are regarded as successful in providing good quality 'out of hours' (OOH) service. Some of those use a telephone Nurse Triage system. This paper explores the aspects of time efficacy with and without a triage system in a GP co-operative with 120 participating GPs.

Method: Data was provided by Kildare and West Wicklow doctors on call (K Doc) which delivers out of hours GP care for a regional population of about 240,000 patients. On average, K Doc has about 42,000 patient contacts, out of hours, per year. Two periods at the main treatment centre were compared (1st July 2008 to 30th June 2009 for the Nurse Triage system period 1st July 2009 to 30th June 2010 without Nurse Triage). Time to diagnosis was calculated from the time the call was received until the time the diagnosis was made. Data was analysed using a nonparametric techniques, applied to clinical records maintained electronically on Adastra, a standard clinical software records system widely used in this care setting.

Results: The overall time to diagnosis improved significantly (Z=-3.4; p=0.001) when the Nurse Triage system was abolished. The median time saving per call was one minute. The new system was most effective when the encounter led to doctor's advice (Z=-5.1; p<0.001) or to a visit of the treatment centre (Z=-22.2; p<0.001). Significant time savings (p<0.001) were observed particularly when patients were children or adolescents (aged 17 years and below). In extremely busy periods of the year such as Christmas time, the Post Nurse Triage period was more efficient than the Nurse Triage system. Time to diagnosis improved significantly during the Christmas period without a Nurse Triage System in place. The time saving per call was in median 29 minutes per call in this period.

Conclusions: In summary, removing a Nurse Triage system was effective in terms of time saving. Particularly in busy periods, Nurse Triage tends to slow down the process time significantly.

D32

A systematic review and meta-ethnography of qualitative research on organisational culture in general practice teams

Suzanne Grant
University of Dundee, Dundee, UK

Introduction Organisational culture represents shared beliefs and values that may influence quality of care in healthcare teams, and which could be manipulated as a means of achieving quality improvement. However, as reportedly small-scale 'personality-driven enterprises' (Chesluk & Holmboe 2010), general practice organisational responses to recent NHS managerial reforms are potentially highly varied, leading to widespread uncertainty regarding how performance in general practice teams can be improved. This study is a systematic review and meta-ethnography to examine the key dimensions of organisational culture in general practice teams and any association between practice organisational characteristics and performance within qualitative research to date.

Method A systematic search of five electronic databases was carried out, supported by hand searches of key journals. A modified version of the CASP (Critical Appraisal Skills Programme) checklist was then used to appraise potentially relevant qualitative papers. A synthesis was then conducted using techniques of meta-ethnography described by Noblit & Hare (1988) involving translation and re-interpretation.

Results 16 papers were included in the meta-ethnography, with 28 'second order constructs' (Noblit & Hare *ibid.*) identified, centering on the themes of practice characteristics, teamwork, workload, professional identity, professional boundaries, and communication. The papers fell

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

into two related groups: (1) Papers whose focus was on national strategies for organisational change towards effective interprofessional teamwork, and (2) Papers whose focus was on dimensions of interprofessional interactions and work relations. The synthesis indicated that common strategies to improve the development of general practice teamwork had been employed internationally, with key dimensions of team dynamics (namely professional hierarchies, formal communication and interprofessional trust) remaining problematic. Furthermore, there was a limited association made between practice-level culture and quality of care.

Conclusions Variation in quality improvement outcomes was not directly attributed to practice-level organisational culture or teamwork in the qualitative papers synthesised, although there was widespread consensus that particular interprofessional relations and means of formal and informal communication impacted on the effectiveness of teamwork between professionals. Further empirical research should preferably combine qualitative and quantitative methods to gain a more detailed understanding and measurement of the dimensions of organisational culture at practice level.

D33

The MRC PhysioDirect trial: A pragmatic randomised controlled trial of 'PhysioDirect' telephone assessment and advice services versus usual care.

Chris Salisbury[1], Nadine Foster[2], Annette Bishop[2], Jo Coast[3], Angelo Franchini[1], Jeanette Hall[4], Sandra Hollinghurst[1], Cherida Hopper[1], Sean Grove[4], Surinder Kaur[1], Alan Montgomery[1]
[1]University of Bristol, Bristol, UK, [2]Keele University, Keele, UK, [3]University of Birmingham, Birmingham, UK, [4]Bristol Community Health, Bristol, UK

Introduction Patients with musculoskeletal problems referred by GPs for physiotherapy often experience long delays before treatment. Some physiotherapy services have introduced a new treatment pathway called PhysioDirect, involving initial telephone assessment and advice, with written self-management and exercise advice sent by post. They are invited for face-to-face treatment only when necessary. Our hypothesis was that PhysioDirect would be equally clinically effective compared with usual care, but more cost-effective, with increased patient satisfaction and shorter waits for treatment.

Method Design: Multi-centre pragmatic individually randomised trial comparing PhysioDirect versus usual care (patients join a waiting list and receive face-to-face care). PhysioDirect services were established in four PCTs. Adults with musculoskeletal problems, either self-referred for physiotherapy or referred from primary care, were invited to participate and randomised (by remote web-based allocation) in a 2:1 ratio to PhysioDirect or usual care. Outcome data were collected at baseline, 6 weeks and 6 months after randomisation. Outcomes were collected by patient self-report and from medical records, blind to treatment allocation. The primary clinical outcome was SF36 PCS at 6 months ; secondary outcomes included MYMOP, QoL (EQ5D), patient satisfaction and preference, waiting times, time lost from work. Incremental cost-effectiveness was assessed using cost per QALY.

Results 2,256 patients were recruited and randomised (1,513 PhysioDirect, 743 Usual Care). 1,921 (85%) were followed up at 6 months. PhysioDirect was equally clinically effective on our primary outcome (difference in mean PCS -0.01, 95% CI -0.80 to 0.79) and using the MYMOP measure (-0.02, 95% CI -0.16 to 0.11). Patients receiving PhysioDirect were equally satisfied regarding both their consultation (-0.13, 95% CI -0.265 to 0.004) and accessibility of care (-0.05, 95% CI -0.20 to 0.09), Findings about waiting times and the cost-effectiveness of PhysioDirect, from the perspectives of patients, the NHS and society, will be presented.

Conclusions A system of physiotherapy based on initial telephone and advice, offering face-to-face care only when necessary, is equally clinically effective and acceptable to patients compared with usual care. Final results available at the conference will demonstrate whether PhysioDirect is more cost-effective and provides faster access than usual care.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

D34

Acceptability to patients of PhysioDirect telephone advice and treatment services: a qualitative investigation

Jennifer Pearson, Jane Richardson, Mike Calnan, Chris Salisbury, Nadine E Foster
Keele University, Staffordshire, UK

Introduction In response to long waiting lists and problems with access to primary care physiotherapy, several Primary Care Trusts (PCTs) have developed telephone assessment and treatment services led by physiotherapists. The MRC funded PhysioDirect trial is a randomised trial comparing this approach with usual physiotherapy care, where patients join a waiting list for face-to-face physiotherapy, in 4 PCTs. This nested qualitative study aimed to explore and understand the key issues that determine patient acceptability of the PhysioDirect service.

Method Semi-structured interviews were conducted with 57 purposively sampled patients with musculoskeletal problems participating in the randomised trial, including those in the PhysioDirect and usual care groups. The Framework method was used to analyse the qualitative data.

Results Acceptable features of the new PhysioDirect service were that patients perceived it to be a prompt, accessible and efficient service. However, these benefits were often 'traded off' with less acceptable features. For example, patients perceived the PhysioDirect telephone assessment to be less personal than face-to-face contact, some patients found it difficult to explain functional problems over the telephone, some expressed concern about trusting the expertise and knowledge of the PhysioDirect physiotherapist and 'not knowing' the physiotherapist personally. Some patients, although advised by the physiotherapist to re-contact the PhysioDirect service if their symptoms continued, chose not to. Explanations for this included reluctance to explain their problem again, fears about miscommunication, inability to recall the advice from the first telephone call in addition to prior unmet expectations of the service. Some patients found the telephone itself was a barrier to contacting the PhysioDirect service. Despite these reservations, most patients could foresee PhysioDirect within future physiotherapy services.

Conclusions Overall, patients found the PhysioDirect service acceptable and perceived it to be prompt, accessible and efficient, yet these benefits were traded off with several less acceptable features that centred on communication concerns and the lack of 'personal' contact.

D35

Quality of Medical Care in Nursing, Dual Registered and Residential Homes: Association of number of practice registrations with provision of regular visiting

Gillie Evans[1], John Grimley Evans[1], Dan Lasserson[1]
[1]Green Templeton College, Oxford University, Oxford, UK, [2]Green Templeton Colllege, Oxford University, Oxford, UK, [3]Department Primary Health Care, Oxford University, Oxford, UK

Introduction: Regular visiting of complex patients in care homes enables proactive and anticipatory care. Surveys of nursing home managers have found that there is marked variation in delivery of medical care to residents yet little is known about the factors influencing the visiting patterns of GPs. We examined whether practice level factors including the numbers of patients registered at a practice influenced regular visiting.

Method: Postal questionnaires were sent to the 73 Care Homes (residential, dual registered and nursing) of the European Care Group in England, Wales and Scotland. Separate questionnaires, to the 303 General Practices providing medical care to the Care Homes, requested information on the number of salaried GPs, partners and training status. As data were not normally distributed, non-parametric tests compared patient registered numbers in practices who regularly visited versus those whose visiting was problem-led.

Results: 47 (64%) of care homes responded, describing the care provided for 1867 patients by 162 general practices. Overall, 37 (23%) of practices visited regularly but there was a marked difference depending on Care Home type (Residential 7%, Dual registered 23%, Nursing

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

40%). Practices visiting regularly had significantly more patients than practices that did not [Median(IQR) 32 (28) vs 3(5), Mann-Whitney U = 469, Z=-7.4, P<0.001]. This overall trend was most marked for the nursing home subcategory [Median(IQR) 37(33) vs 3(6), U = 31, Z = -4.7, P<0.001]. 95 (31%) of general practices responded showing a similar association of registrations with regular visiting [Median(IQR) 20 (37) vs 4 (4), Mann-Whitney U= 557, Z=-3.29, P<0.001] . There was no association between numbers of full time partners or numbers of salaried partners and assistants on regular visiting, and no effect of being a training practice. Six practices were paid a retainer fee of which five regularly visited.

Conclusion: The number of registered patients is strongly associated with the regularity of care home visiting, although the cause of this association at practice level remains unexplained. A policy of aligning the fewest number of practices with care homes thereby increasing the number of registered patients per practice could encourage proactive and anticipatory care.

D36

Strands of professional control: the feasibility of primary care professional engagement in telehealth initiatives for managing long term conditions

Julia Segar
University of Manchester, Manchester, UK

Introduction Telehealth is viewed as having the potential to provide support for patients with long term conditions (LTCs) who may be underserved by the health service. Previous studies suggest that health care professionals are less enthusiastic about telehealth than are patients.

This paper presents professional views about telehealth and explores the convergence and divergence of professional opinion. GPs and nurses play different roles in engaging and supporting patients with LTCs which has bearing on their attitudes towards telehealth. These differing roles and perceptions have important implications for those wishing to develop and implement telehealth interventions.

Method This paper is based on research done in the qualitative arm of a project investigating the expansion of NHS Direct to support patients with LTCs. Over 60 health care professionals were interviewed including some who work in an existing telehealth scheme as well as staff in GP practices. These interviews were recorded and transcribed and then analysed using a process of comparison and verification.

Results Primary care professionals undertake different strands of work with respect to supporting patients with LTCs. This gives rise to diverse perceptions about the function and utility of telehealth.

GPs voice strong commitment to the delivery of holistic care fearing that telehealth could undermine their work. Their main areas of unease are: (a) scepticism over the utility of telehealth (b) worries about fragmentation of services (c) concerns over communication between telehealth services and GPs.

It is nurses, however, who undertake much of the support for patients with LTCs particularly around lifestyle change while GPs find this work onerous and time consuming. Nurses in general practice embrace this role and were more positive about telehealth. Those nurses currently delivering telehealth believed they were providing care not adequately provided by GP practices.

Conclusion In a landscape where GPs will increasingly be making choices about which services to commission important groundwork needs to be done with GPs themselves before designing and launching new telehealth services. Nurses may be at the frontline of delivery of telehealth and may be enthusiastic proponents of these services but control over access to such services remains with GPs.

D41

An evaluation of pre-emptive prescribing (the "Just-in-Case box") in terminally ill patients in primary care

Laurence Kemp[1], Richard Holland[1], Stephen Barclay[2]
[1]*University of East Anglia, Norwich, UK,*
[2]*Universit of Cambridge, Cambridge, UK*

Introduction In the UK most terminally ill patients would prefer to die at home, but relatively few

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

achieve this. One of the challenges in facilitating home death is ensuring adequate symptom control is achieved at home. Access to appropriate medications in the community, especially out of hours, has been identified as key problem in this area. A potential solution is "Pre-emptive prescribing" - a strategy which involves the prescription of a set of medicines to a terminally ill patient, in advance of need.

Aims

To evaluate pre-emptive prescribing with respect to:

1) Its prevalence in GP care of the terminally ill

2) The factors influencing its use

3) Its association with likelihood of home death

4) Its impact on utilisation of health care in the last month of life

Methods Retrospective examination of the records of all deaths in during 2009 in 12 diverse Cambridgeshire GP practices.

Results Pre-emptive prescribing was used in 16% of predictable deaths. Levels of usage varied widely between practices, and was more common in younger patients (median age 79 v 83 in patients without pre-emptive prescriptions, P=0.004), those with malignant disease (56% v 30%, P<0.001), those on a practice palliative care register (74% v 40%, P<0.001) or with a documented "preferred place of death"(41% v 14%, P<0.001), those with family support (89% v 71%, P=0.001) and those from more affluent postcodes(median IMD score 75 v 59, P=0.001). The use of pre-emptive prescribing was associated with increased chance of home death (88% v50%, P<0.001), decrease risk of hospitalisation (11% v 47%, P<0.001), and increase GP contacts (4.8 v 2.7, P<0.001). There was no observed effect on hospice admissions (P=0.71) or OOH care (P=0.46).

Conclusions This is the first study to evaluate the use of pre-emptive prescribing in a primary care setting. The results indicate that it is effective in enabling home death and preventing hospital admissions, but the active component of the intervention remains unclear. There are large discrepancies in levels of usage between practices and between different patient groups.

D42

What are the views of patients, carers and the public on assisted dying? A systematic review and qualitative synthesis

Maggie Hendry, Diana Pasterfield, Daniel Hodgson, Ellen Richards, Clare Wilkinson
Cardiff University, Cardiff, UK

Background The possibility of legalising assisted dying (AD) in the UK has caused significant debate; the majority of the public appears to support changing the law and the majority of doctors do not. Lord Joffe's Assisted Dying for the Terminally Ill Bill was rejected in 2006. However, the question of AD remains topical. Credible evidence is needed to inform this debate. We conducted a systematic review of published literature investigating lay people's views, attitudes and experiences in relation to AD, whether they want a change in the law, for whom, and in what circumstances?

Method We searched eleven databases and included qualitative studies or surveys investigating the views of any lay population (not health professionals) on AD, defined as an explicit request to be helped to die and an action with the explicit purpose of ending life. Two reviewers independently screened titles and abstracts, considered papers for inclusion and assessed quality. Qualitative synthesis was conducted by two reviewers collaboratively, using the framework approach and survey findings aggregated in a narrative synthesis.

Results Fifteen qualitative studies and 88 surveys met our inclusion criteria; only 1 qualitative study and 2 surveys were from the UK. Three qualitative studies and 17 surveys took place in jurisdictions where AD is legal. Study populations included people with disabilities, terminal illness, depression, HIV/AIDS, cancer and neurodegenerative disorders; religious and minority groups; relatives and carers, and the general public. Main themes were: stance on the legalisation of AD and reasons, the physical and psycho-social elements of quality of life and quality of death, and the perceived role of physicians. Some supporters feared loss of dignity, physical and functional decline, or being a burden. Others, nearing the end of life, described

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

a diminished sense of self. However, misgivings were expressed about the potential for abuse.

Conclusions Our findings illustrate the depth of feeling on this complex and emotive issue, albeit from studies largely conducted outside the UK. This is likely to remain a "hot topic" and further relevant, reliable research in UK settings is needed to provide a proper understanding of UK opinion to inform this important debate.

D43

Making Sense of End Stage Heart Failure

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

Introduction Heart failure is a terminal condition. The prognosis for heart failure is worse than for many cancers, yet it has been demonstrated that health professionals (HPs) lack confidence in diagnosing end stage heart failure (ESHF) and communicating a poor prognosis to patients.

The present study seeks to explore patient and carer level of understanding of the diagnosis and prognosis, and how ESHF patients and carers make sense of their condition and plan for the future, and what part HPs play.

Method This study involves semi-structured interviews with 22 ESHF patients and their carers and explored their knowledge and understanding of the condition and its prognosis. Qualitative data were analysed using thematic analysis but informed by Normalization Process Theory (NPT). Inclusion criteria: at least Grade 3 or 4 NYHA classification HF; who have ongoing symptoms despite optimal therapy; and have a history of admissions for this condition and their carer (defined as the person most closely involved with them).

Results While patients and carers understood that the patient had heart problems and that their condition could not be 'cured' or reversed, there was little evidence they were aware of the terminal nature of their prognosis. Patients seldom described themselves as having "heart failure", rather, they described long histories of managing heart "problems" and perhaps consequently had failed to recognise the deterioration of their condition.

Some reported discussions with health professionals where end of life issues had been broached, for example, conversations about future care, including the role of the hospice, andconversations concerning deactivation of implanted cardiac defibrillators. However these conversations were a source of confusion as patients and carers were unable to reconcile them with their own understanding of the seriousness of the illness. Also oblique commentsby health professionals such as, "your sicker than you think you know" sometimes left individuals struggling to interpret what was meant by this.

Conclusions This study has highlighted the continuing problem with of ESHF patients and their carers lacking understanding of their poor prognosis and the difficulties this lack of understanding poses for planning end of life care.

D44

ACP in primary care: knowledge, views and experience.

Benedict Hayhoe, Amanda Howe
University of East Anglia, Norfolk, UK

Introduction: Advance care planning (ACP) is a process of formal decision making that allows capable patients to make known their preferences about healthcare in advance of a potential state of mental incapacity. Already supported by NHS policy and professional guidance, the focus of the Government's recent White Paper (Equity and Excellence: Liberating the NHS) on patient choice and shared decision making heightens the importance of ACP's role in good quality primary care.
This qualitative study investigates current practice in ACP in UK primary care, establishing existing experience in this setting, and identifying the extent to which relevant professional guidance is already embedded in clinical practice.
Methods: In the first stage of the study, twenty general practitioners each took part in a semi-structured interview, discussing their experiences, ideas and views on ACP. Interviews lasted approximately twenty minutes and were digitally recorded. Thematic content analysis of verbatim transcripts was then carried out using NVivoTM. Following on from this, a number of focus groups

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

will be held with patient advocacy and other lay groups, to maintain a strong patient focus.
Results: Emerging themes from GP interviews include physicians' lack of experience of advance care plans and discomfort with discussion of them with patients, as well as lack of familiarity with their legal status and with professional guidance. Nevertheless, while GPs felt they needed more support and training in ACP, there was general agreement with its importance, and commitment amongst GPs to make more use of ACP with their patients.
Conclusion: Despite evidence of the benefits of ACP and strong support for its use from policy makers and regulatory bodies, many GPs remain unfamiliar with the concept and lack experience of its use. The ability of ACP to enhance patients' autonomy, facilitate decision making and improve end of life care, as well as patient and family satisfaction with that care, makes it crucial to investigate difficulties with this process in practice. Further research is planned, including development of a questionnaire drawing on themes from interviews and focus groups, in order to capture the experiences of a larger cohort of GPs and primary care professionals.

D45

From personal challenge to technical fix: the risks of depersonalised care

Joanne Reeve[1], Tom Lynch[2], Mari Lloyd-Williams[1], Sheila Payne[2]
[1]*Liverpool University, Liverpool, UK,*
[2]*Lancaster University, Lancaster, UK*

Introduction A wealth of literature describes and discusses the personal challenge of terminal illness. Current NICE guidance for supportive/palliative care recognises the resulting diversity of need, emphasising a systems approach to improving care and support for people living with terminal cancer. Over 30 years ago, Illich (1974) warned that such a technical response to health needs may create a 'new kind of un-health'. This study considers the relevance of Illich today in exploring the impact of current health care approaches on the personal work of living with terminal cancer.

Methods Embedded qualitative study within a large longitudinal survey study (n=629) of depression in people with terminal cancer. Purposive sample of 27 adults attending 25 hospice day centres in Northwest England and North Wales were invited to take part in semi-structured interviews exploring illness experience, stories of distress, and contact with health services. Holistic-content narrative analysis (Lieblich 1998) was used to explore stories of illness/everyday work, including impact of health care.

Results Two themes related to a 'new kind of un-health' emerged. 1. Personal versus personalised care: "They do listen but they don't always think it's something they need to take note of" (Ann). People spoke of being caught up in a technical system: of feeling trapped on "a conveyor belt". Despite evidence of good personal care (good interpersonal skills/relationships), some narratives revealed a lack of personalised care and individualised decision making. 2. Expectations of a 'technical fix': we found evidence in some of trust in health professionals being replaced by trust in the information which health professionals may offer. When illness experience flagged up the fallibility of information, fault was ascribed to the technician (professional) rather than the technology. With important implications for the practitioner-patient relationship.

Conclusion Systems improvement has enhanced delivery of technical care, but our study contributes to evidence that we are not meeting individual needs. When technical care fails to meet individual needs and expectations, the personal challenge of illness is exaggerated, contributing to further distress. We need to understand how to translate our understanding of personalised need into care/decision making in managed health care systems.

D46

TIA Delay - A qualitative study of patients' healthcare seeking behaviours after transient ischaemic attack and minor stroke.

Susan Kirkpatrick, Louise Locock, Dan Lasserson, Matthew Giles
University of Oxford, Oxford, UK

Introduction People are at high risk of stroke in the first few days after TIA. Prompt assessment, investigation and initiation of secondary prevention are effective in reducing stroke; however there are often delays in healthcare after TIA. There is evidence around system factors affecting promptness of care[1] but relatively few studies

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

have focused on patient related delays. [2] This qualitative study explores themes around reasons for patient delay in presentation to healthcare services.

Method Narrative, semi-structured interviews with 35 patients with TIA, recruited via GPs, consultants, support organisations and community groups

Results Andersen's model of 'total patient delay' will be used to analyse the data. Early findings indicate reasons for delay in help-seeking include; denial/reluctance to acknowledge symptoms, symptoms not recognised as related to stroke or seeming too trivial to report, waiting for a convenient time to visit GP, and lack of knowledge of TIA/minor stroke.

Conclusions This study contributes new evidence of patients' understanding and response to TIA symptoms,

[1] Lasserson D, Chanbdratheva A, Giles MF, Mant D, Rothwell PM. Influence of general practice opening hours on delay in seeking medical attention after transient ischaemic attack (TIA) and minor stroke: prospective population based study, British Medical Journal, Sept 2008

[2] **Giles M, Flossman E and Rothwell P.** Patient Behavior Immediately After Transient Ischemic Attack According to Clinical Characteristics, Perception of the Event, and Predicted Risk of Stroke. Stroke 2006;37;1254-1260

D51

The Autonomous Patient? Patient experience of shared decision-making in General Practice

Cath Fullwood, David Reeves, Peter Bower, Anne Kennedy, Anne Rogers
University of Manchester, Manchester, UK

Introduction Patient self-care support is a key component of policy and practice for chronic disease management. The WISE study is a large-scale cluster randomised trial rolling out training in self-care support to all practices in Salford PCT. A key outcome of the trial is improved shared decision-making between patients and primary care professionals. We present baseline data for 3,000 patients across 29 GP practices to describe pre-intervention levels of practitioner support for 'patient autonomy' (shared decision-making) and to explore how this varies with patient and practice characteristics.

Method Approximately 40% of all patients with diabetes, COPD and IBS completed a questionnaire on additional chronic conditions, perceived support for autonomy, health status, and demographic characteristics. Autonomy support was measured using the 6 item HCCQ (eg 'My doctor encourages me to ask questions'). Area and practice characteristics included list size, chronic disease caseload and Index of Multiple Deprivation. Relationships between support for autonomy and other factors were investigated using multiple regression analyses.

Results All results are controlled for confounding factors. The mean autonomy support score was 75 (out of 100), with 50% of patients scoring between 61 and 97. IBS patients had the lowest mean score (70), but means for all other disease groups (diabetes, COPD, CHD, depression, etc) did not differ. Younger patients (under 50) and those with poorer health status reported lower support for autonomy. No associations were found with number of chronic conditions, gender, ethnicity or neighbourhood deprivation, nor with any practice-level characteristic. Differences in practice means accounted for only 2% of the total variance in scores.

Conclusion Most patients reported moderate to high levels of support, and no type of practice was better than any other in supporting autonomy. It is unclear whether the lower ratings from patients with poorer health status, IBS, and younger patients, represent a genuine difference in GP behaviour towards such patients, or instead reflect differences in illness experience or expectations of care. The main trial will test whether the intervention impacts on reported support for autonomy, and whether these changes in turn mediate changes in self care, health outcomes and health care utilization.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

D52

Are family and friends acceptable as interpreters in cross-cultural general practice consultations?: An analysis using participatory learning and action research methods

Anne MacFarlane[1], Mary O'Reilly-de Brún[1,2], Tomas de Brún[2]
[1]National University of Ireland, Galway, Galway, Ireland, [2]Centre for Participatory Strategies, Galway, Ireland

Introduction: Despite evidence to support the use of formal trained interpreters to support communication in cross-cultural general practice consultations, the use of informal interpreters (including children) and other 'informal' strategies (eg miming and gesturing) is common in Ireland and the United Kingdom. Some recent research suggests informal interpreters may be preferred by migrant service users and should be included as an option in official health policy. This research is designed to inform intercultural health policy in Ireland and explores, with migrant service users and other stakeholders, the wide range of strategies currently employed to support communication in these consultations.

Methods: This is a participatory learning and action (PLA) research project, using qualitative methods, with a significant peer researcher element. Purposeful sampling was employed to create five 'information rich' stakeholder groups. Recruitment was conducted through existing professional networks. Seven migrant community representatives, trained in PLA methods, generated data in their own languages within their own *migrant communities* (n=51). University researchers generated data with *general practice staff* (n=5), *interpreters* (n=5), *cultural mediators* (n=2) and *service planners* (n=2). A series of inter-related PLA techniques elicited data on 35 strategies currently employed to support communication in cross-cultural consultations exploring their usefulness, problematic elements, overall acceptability and potential as 'ideal supports' for communication in cross-cultural consultations. Content and thematic data analysis was conducted in consultation with stakeholder groups

Results: The 35 strategies identified relate to formal interpreting, formal cultural mediation, bi-lingual practice staff interpreters, family and friends as informal interpreters, technologies and visual aids, body-language and gestures. Eighteen were considered ideal for supporting communication in cross-cultural consultations. The majority of these pertain to the use of professional, trained, accredited interpreters or cultural mediators who would be monitored and evaluated in practice. The use of family members and friends had low acceptability across stakeholder groups and was not considered an ideal support for communication.

Conclusions: Results indicate a clear preference for the use of formal interpreters and cultural mediators over family members and friends. These data will be used to generate guidelines for best practice for communication in cross-cultural general practice consultation.

D53

'A positive thing' or 'largely words written on water'? GPs' views on Fit Notes

Victoria Welsh, Clare Jinks, Christian Mallen, Gwenllian Wynne-Jones
Arthritis Research UK Primary Care Centre, Keele University, Keele, Staffordshire, UK

Introduction The Fit Note is designed to facilitate return to work for people with ill-health. Prior to its introduction the proposed scheme received mixed reviews, raising questions around the GPs' role in assessing fitness to work. Set in this context, the study objective is to explore the views of GPs towards the Fit Note and to identify areas requiring further action in order to meet the central objectives of the Fit Note.

Method 14 GPs were purposively selected from a national sample to undertake semi-structured qualitative telephone interviews using a topic guide developed through Patient and Public Involvement. Verbatim-transcribed interviews were analysed using a constant-comparative approach with adoption of thematic analysis.

Results GPs' views towards the Fit Note are largely congruent, despite the dichotomy of opinion over the GPs' role in assessing fitness for work. The Fit Note as a facilitator for negotiation regarding return to work is viewed as a clear benefit. GPs report finding it 'easier' to encourage return to work and feel that patients are more able to open discussions with employers. The efficiency afforded through acceptance of

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

telephone consultations as adequate assessments and the removal of the necessity for a return to work assessment are welcomed. The loss of the mechanism enabling GPs to request independent medical assessments at an early stage (the RM7), lack of training opportunities and scepticism around employers' interpretation of the Fit Note recommendations are cited as challenges to the fundamental shift in ideals intended through the Fit Note introduction.

Conclusions GPs are generally positive about the Fit Note introduction, acknowledging the importance of getting people back to work in order to improve health and wellbeing. Conflicts of roles and responsibilities, particularly in relation to the loss of the RM7, emerged as a key theme to consider in future research and policy development around sickness certification. GPs feel that it is ultimately the employer 'holding the key' to facilitating return to work for people with ill-health; despite GPs adopting the principles of the Fit Note, change will not be achieved if graduated return to work is not a viable option for employees.

D54

What verbal and non verbal consultation variables are associated with patient satisfaction and patient perception of communication in the consultation?

Paul Little[1], Shkelzen Gashi[1], Peter White[3], Stewart Mercer[2]
[1]University of Southampton, Southampton, UK, [2]University of Glasgow, Glasgow, UK, [3]Nightingale Surgery, Romsey, UK

Introduction. Most studies assessing communication in the consultation are underpowered and rarely rate the range of relevant verbal and non verbal behaviours. Aim: to determine what verbal and non verbal consultation variables predict patient perception of communication and satisfaction with the consultation.

Method. 324 consultations from 24 GPs were videotaped. The association between a wide range of verbal and non-verbal behaviours and patient satisfaction (MISS) and patient perception of different aspects of communication in the consultation were assessed using multiple regression techniques, allowing for clustering by GP.

Results. Patient's rating of satisfaction (mean item score on the MISS questionnaire, scaled from 0 to 7) was associated with lean towards the patient (an 0.02 increase for each degree of lean, 95% CI 0.002 to 0.03), the number of gestures used (0.08, 0.01 to 0.15), backchannel prompts such as mmm, ah ha, nnn etc (0.11,0.02 to 0.2), and social talk (0.29; 0.4 to 0.54); when doctors were rated as 'infantilizing' satisfaction was reduced. There were differences between the beginning and end of the consultation in which consultation variables were important. Rating of the patient centredness of consultations in traditional verbal domains (e.g. exploring disease, finding common ground) were not related to any domain of patients' perception of communication.

Conclusion. A limited range of physicians' non-verbal and verbal behaviours are likely to be important in patients' perception of communication, and there appears to be a changing dynamic in the consultation. Conventional approaches to the rating of verbal aspects of patient centredness may be unhelpful in explaining patients' perception of communication.

D55

Who will be fighting my corner? Patients' views of current NHS reforms

Kerin Hannon, Helen Lester, Stephen Campbell
The University of Manchester, Manchester, UK

Aim To explore patients' views of recent health service reforms in primary care.

Methodology 26 'QOF pilot' practices across England, representative in terms of size and deprivation were asked to contact patients on a single QOF disease register. 15 practices contacted 20 patients each. Patients were mostly interviewed in their own homes from January-March 2011. The topic guide included questions on ideal primary care, current experience, knowledge of and opinions of pay for performance, 'any willing providers' and GP commissioning consortia. A constant comparative methodology was used to analyse transcripts.

Results 44 patients aged 32-88 years have been interviewed so far. All had at least one chronic condition that usually predated QOF. None had

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

heard of QOF and few had noticed changes in their care since 2004, although a minority noted they were now more likely to be called in for a blood test or medication review. Most were surprised to hear their practice was paid money for 'simple things' and wondered why GPs were paid bonuses in view of their high salaries or were not paid 'bonuses' for managing complex issues. Many were aware of the outlines of current health service reforms but almost all felt the status quo was 'good enough' and were worried that GPs would spend less time with patients (a marker of quality for them) and more time on 'paperwork.' Whilst a minority would be prepared to pay a token amount (£10) to see their own GP if necessary, none would change to another surgery if the opportunity was offered by a different provider. Almost all trusted their GP but some were worried that current reforms would limit their GP's ability to 'fight their corner' if they were also the purse-holder.

Conclusions The generalisability of this study is limited by the participants' age and possible respondent bias. Most patients did not appear to behave in a consumerist fashion as far as their health was concerned. They trusted their GP and did not feel whole sale health reform was necessary. Significant concerns were expressed about future doctor patient relationships if reforms are implemented.

D56

How was it for you? Exploring staff views of telephone triage for same-day consultations: a process evaluation.

Sue Rugg[1], Nicky Britten[1], Emily Fletcher[1], Frances Carpenter[2], Chris Salisbury[2], John Campbell[1]
[1]*Peninsula Medical School, Exeter, UK,*
[2]*Bristol University, Bristol, UK*

Introduction: Primary care workloads are high and rising, with around a third of the demand coming from same-day patient consultation requests. Telephone triage and consultation is one response to this situation, but is under-researched. The ESTEEM trial is a major national study comparing the potential of two telephone triage-delivery systems, and usual care, to manage such requests. Telephone triage incorporates numerous components, behaviours, targets and outcomes, providing individualised patient care in diverse environments; a truly complex health intervention. Understanding such interventions requires a firm grasp of their nature and context. Process evaluation is a qualitative research approach to achieving such understanding, exploring the processes by which complex health interventions' outcomes develop; the reasons for patient and staff actions, attitudes and approaches to change. Issues of workability and integration are known to influence such interventions' implementation and incorporation into practice. The ESTEEM trial includes a process evaluation element to explore these issues.

Methods: In the context of the ESTEEM pilot study, six practices in Bristol and Devon were randomly allocated to in-hours nurse- or GP-led telephone triage, or usual care. Post-delivery, 20-30 minute semi-structured interviews were held with 36 purposively-selected clinical and administrative staff in these practices. Ongoing thematic analysis of the resulting data is exploring staff members' diverse expectations, experiences and views of triage and usual care's perceived utility, acceptability and success.

Results: Varied patterns of triage implementation were reported. Preliminary results suggest that most administrative staff and many clinicians saw in-hours telephone triage as acceptable, if different from other forms of consultation. They cited a range of perceived advantages and disadvantages for practices, staff and patients, from both triage systems. Staff members' expectations that triage would cut face-to-face consultation rates, save time, improve practices' appointment systems and better meet patients' needs, appeared met to varying degrees. Influential factors included staff and patient knowledge, skills and attitudes, as well as environmental issues such as practice organisation and management, location, size, ethos and resources.

Conclusions: These findings enhance understanding of in-hours telephone triage's potential to increase patients' access to same-day primary care consultations; to the benefit of the main ESTEEM trial.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

D61

Contributions from General Practice in the basic medical training

Niels Kristian Kjaer[1,2], Troels Kodal[1,2], Dorte Qvesel[2]
[1]University of Southern Denmark, Sonderborg, Denmark, [2]Department of Postgraduate Medical Education, Southern Denmark Denmark, Vejle, Denmark

Introduction General Practice is part of postgraduate basic medical training in Denmark, but the amount of doctors trained in General Practice have been reduced to from 100% to 80%

We wanted to explore young Danish doctors' views on the contributions of General Practice in postgraduate basic medical training.

Method We conducted a national cross-sectional survey of all Danish doctors, who took part in the postgraduate basic training programmes in 2009 and the first half of 2010.

1,256 doctors were identified. The survey consisted of quantitative questions with rating scales, based on the Postgraduate Hospital Educational Environment Measure questionnaire (PHEEM), and of qualitative questions. We used a phenomenological approach.

Results We received responses from 792 of the 1,256 doctors (63%)

94 % of the young Danish doctors responded, that the training in general practice is a necessary part of postgraduate basic training.

The doctors learned to treat common diseases and clinical problems often solved in general practice but relevant for all doctors. They were trained in "horizontal expertise" or "how to get an overview", which they considered important to take back to the hospital sector and integrate in their future higher specialization. They learned important lessons in communication and a patient-centred approach.

Early training in primary care gave the doctors a broad understanding of the health-care system. General Practice was regarded especially beneficial for doctors aimed at a hospital career, and it increased the mutual respect between GPs and future hospital consultants. The training was assumed to strengthen their ability to collaborate with general practitioners upon entering another specialty. It helped in choosing a career not only in primary care, it also provided insight into other specialties, due to the variety of patients seen.

The educational environment in general practice is rated highly. In all the asked questions regarding educational environment, general practice are rated higher than the hospital wards ($p < 0.005$ comparing general practice with medicine and surgery).

Conclusion In young doctors views basic training in general practice is beneficial for all newly educated doctors and it will strengthen not only General Practice, but also the entire Health Care system.

D62

GP registrars as teachers: comparison of GP registrars' and GP trainers' views

Bruno Rushforth, Jane Kirby, Catie Nagel, David Pearson
Academic Unit of Primary Care, University of Leeds, Leeds, UK

Introduction GP registrars are expected to demonstrate a range of teaching skills as specified in the RCGP GP curriculum. Moreover, GP registrars taking on teaching roles has been suggested as one way to enhance teaching capacity in the context of increasing numbers of learners now in primary care. Additional benefits may include: acquiring advanced knowledge through teaching others; enhancing career opportunities; and allowing learners to develop an identity within a 'community of practice'.

Methods

1. Two postal questionnaires, one to final year GP registrars (n=233) and one to GP trainers and GP programme directors (PDs) (n=291) in the Yorkshire and Humber Deanery. 9-point Likert scale (1 = strongly disagree; 9 = strongly agree) for respondents to score the acceptability of GP registrars taking on various teaching and workplace assessment roles. Median and interquartile range (IQR) were calculated and GP registrars' and GP trainers' and PDs' responses were compared.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

2. Pilot one-to-one interviews as part of the qualitative arm to this study, with GP registrars and GP trainers in two practices where GP registrars are teaching.

Results

1. Response rate: for GP trainers and PDs = 74% (216/291); GP registrars = 55% (129/233). Half of GP registrars reported that teaching at their practice had been delivered by GP registrars in the past 12 months, in contrast to 33% as reported by GP trainers and PDs.* GP trainers and PDs were less comfortable than GP registrars, with the latter undertaking clinical supervision of FY2 doctors [GP trainers & PDs: median 4.5 IQR 3-6; GP registrars: median 6 IQR 5-7]. GP trainers and PDs were also less comfortable than GP registrars, with the latter undertaking workplace based assessment of FY2 doctors [GP trainers & PDs: median 5 IQR 3-7; GP registrars: median 7 IQR 6-8]

2. We will present the data from the linked pilot qualitative interviews.

Conclusion Consistent with studies from Australia, this UK study also found that GP trainers appear more reluctant than GP registrars for the latter to take on certain teaching and workplace assessment roles.

*n.b. preliminary data regarding perceived barriers by GP trainers was presented at SAPC Norwich 2010 (round table poster discussion).

D63 also poster P1.35

A formal teaching role for GPs in training - a win, win, win, win situation?

Barbara Laue
University of Bristol, Bristol, UK

Introduction Traditionally we have only invited qualified GPs to teach our medical students. The publication of the RCGP curriculum made it explicit that GPs in training should learn to teach. We noticed that the 12 teaching competencies described in the curriculum matched the Primary Care teaching tasks in years 2 and 3 of the undergraduate Bristol curriculum.

With agreement from the local Deanery and GP trainers we developed a pilot for GPs in training to teach 2nd and 3rd year medical students. This included a half day teaching workshop to prepare them for their teaching task. This abstract describes how we evaluated this pilot.

Method We emailed all GPs in training at the local deanery and invited those who would be working in Primary Care from August 2009 to attend a teaching workshop in June 2009. They were asked to make a definite commitment to teaching in the academic year 2009-10. Each GP in training taught clinical skills relevant to what the students were studying. They each had a group of four 2nd or 3rd year students for four half day sessions.

GPs in training were invited to answer an online questionnaire after all of them had completed their teaching. We also collected student feedback on their teaching sessions and compared this to that of our qualified GP teachers.

Results 26 GPs in training taught a group of either 2nd or 3rd year students. Of these 18 answered the online questionnaire. 12 had previous experience of teaching medical students on the wards. All 18 answered yes to whether they enjoyed the teaching, whether they would recommend the teaching to others and whether they intend to teach in the future.

The student feedback was positive, similar to that of established GPs

Conclusions This pilot indicates that this teaching initiative has translated into a valued and enjoyable teaching experience for GPs in training with positive student feedback. We think that this represents a winning situation for all concerned - GPs in training get teaching experience, the Deanery complies with training, students get their placements and Primary Care gains additional teachers. Everybody wins.

D64

Multi-source feedback for revalidation - do doctors see themselves as others do?

Martin Roberts[1], John Campbell[1], Christine Wright[1], Jacqueline Hill[1], Suzanne Richards[1], Michael Greco[2]
[1]*Peninsula Medical School, Exeter, UK,*
[2]*CFEP-UK, Exeter, UK*

Introduction A process for the revalidation of practising UK doctors is due for implementation from 2012 and will require doctors to gather

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

evidence in support of their 'fitness to practice'. Such evidence is likely to include survey feedback from patients, colleagues and managers on the doctor's professional performance. These groups will have differing perspectives and the extent to which doctors react positively to such multi-source feedback may depend in part on the degree of agreement between those sources and the doctor's own self-view. We have conducted research over the last five years to assess the utility of the GMC's multi-source feedback questionnaires for doctors wishing to revalidate. Here we examine the relationships between self, patient, colleague and medical director assessments of professional performance and the effect on those assessments of demographic and professional characteristics of the doctor.

Method We invited 2,454 index doctors (944 GPs) from 11 trust settings across the UK to participate in a study using the GMC's questionnaires to obtain feedback from patients, colleagues and medical directors. A self-assessment questionnaire, containing core items from both patient and colleague instruments, was also included. 1,065 doctors (382 GPs) returned at least one questionnaire and 538 (216 GPs) returned questionnaires from all four sources. Correlations and differences between the feedback scores were examined and regression analysis was undertaken to identify demographic and professional characteristics of the index doctor that were related to self, patient and colleague scores.

Results Colleague scores were positively correlated with patient scores (Spearman's rho=0.32) and with medical director assessments of both patient-related and colleague-related items (rho=0.28, 0.36 respectively). Patient, colleague and medical director scores were uncorrelated with doctors' self-assessment scores. Both patient and colleague ratings were more favourable than the doctor's own assessment. These differences in perception were influenced by the index doctor's region of primary medical qualification and, in the case of colleague scores, by their age, ethnicity and clinical specialty.

Conclusions Patients, colleagues and medical directors provide related but distinct perspectives on professional performance. The discrepancy between these perspectives and those of the index doctor is greater for some groups of doctors than others.

D65

Managing medically unexplained symptoms: A qualitative study of GP trainees' educational and clinical experience

Mary Howman, Marta Buszewicz, Kate Walters, Joe Rosenthal
UCL, London, UK

Introduction: Much of a GP's workload consists of managing patients with medically unexplained symptoms (MUS). Competent management of such presentations can be complex, requiring clinical acumen and adept consultation skills to avoid unnecessary and potentially damaging investigation or referral.

The focus of teaching at medical school is on medically explainable symptoms. There has been no qualitative work looking at the views of GP trainees on any prior teaching they have received about MUS or exploring their views on managing such presentations. Their experiences are key, as they are often taking responsibility for looking after people with MUS for the first time and so are ideally placed to reflect on this and the preparation they have had for it.

Method: An interactive training session on MUS using video and case discussion was devised and delivered to four London GP vocational training schemes.

The trainees were purposively sampled and invited to take part in in-depth interviews. Topics covered included: discussing the teaching they had previously had in this area, their experiences and attitudes towards managing MUS and their views on how the topic should be taught, including evaluation of the teaching session they received. Interviews were analysed using the framework approach.

Results: Fourteen interviews were carried out with trainees at different stages of their vocational training.

Trainees felt poorly prepared for managing MUS, receiving little teaching on the topic. They saw patients with MUS frequently and often discussed them with their trainers. Most participants described struggling to manage the uncertainty inherent in such consultations, feeling that they over-investigated or referred due to their lack of

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

experience. Managing such presentations often engendered anxiety, frustration or a sense of being over-whelmed. Trainees were keen for more opportunities to discuss MUS and felt that more teaching on the topic was needed, although when this should occur was contentious.

Conclusion: Managing MUS accounts for a large proportion of GP trainees' workload and results in a disproportionate amount of anxiety. Their training needs to better reflect their clinical experience and so more teaching about MUS is needed. We will discuss how this may be achieved.

D66

Patients' experiences of screening for unrecognised valvular heart disease (VHD) in primary care settings

Anne-Marie Boylan[1], Louise Locock[1], Joanna D'Arcy[2], Andrew Farmer[1], Bernard Prendergast[2]
[1]*Department of Public Health and Primary Care, University of Oxford, Oxford, UK,*
[2]*John Radcliffe Hospital, Oxford, UK*

Introduction The aim of this qualitative study is to explore the experiences and perspectives of people attending screening for unrecognised valvular heart disease (VHD) in primary care settings. This study is part of OxVALVE, a wider population cohort study, which is being conducted in Oxfordshire. Members of the population, aged 65 years or older, have been randomly selected to attend screening for VHD using echocardiography. This screening has been taking place in local primary care settings. Early clinical findings suggest the prevalence of VHD in this population is 37 percent with most cases being diagnosed as mild. Questionnaire responses have suggested that screening does not cause significant anxiety in this population. This study explores the experiences of screening of a subset of the patients.

Method Semi-structured interviews were conducted with 15 people, aged between 67 and 86 years, who attended for VHD screening. Interviews occurred after their initial screening appointments in primary care settings. Eight of those given a diagnosis of VHD were also interviewed after they attended a follow-up appointment at a local hospital. Questions included their motivation for taking part, perceptions of the staff, experience of the appointment, including the convenience of location, and their feelings about getting a positive diagnosis of VHD.

Results Patients were pleased to have been able to access screening in their local health centre. Very few were anxious after being told they had mild VHD and follow-up appointments provided further reassurance. Screening was seen as reassuring because it was an opportunity to uncover problems and perhaps undergo treatment for them. However, some patients with a positive diagnosis reported a lack of information about VHD.

Conclusion The findings of this study indicate that location may be an important factor influencing uptake rates in screening studies. Primary care may be an appropriate environment for conducting such studies as it tends to be a familiar setting for patients. After learning of the participants' request for further information, the wider cohort study changed the way in which it meets their informational needs, demonstrating the value of exploring patients' experiences of medical research.

D71

Developing and evaluating behavioural interventions

Charles Abraham
Peninsula College of Medicine & Dentistry, University of Exeter, Exeter, UK

Introduction: Behaviour change is vital to preventing and managing many acute and chronic health problems. Behaviour change interventions (BCIs) can be effective, but there is considerable heterogeneity in effectiveness. Moreover, poor evaluation often makes it difficult to understand why BCIs are or are not effective.

Method: This talk will (1) review key pitfalls in the process of developing and evaluating BCIs and (2) recommend an Intervention Mapping Process which avoids such pitfalls.

Results: In relation to BCI design, the of importance of linking behaviour change techniques included to BCIs to an understanding of underlying process of behavioural initiation and maintenance will be discussed with reference to available taxonomies of behaviour change

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

techniques. In relation to evaluation, the importance of external validity will be emphasised with reference to the RE-AIM model. In addition the role of process evaluation in identifying specific failures of implementation will be illustrated.

Conclusions: It will be concluded that greater investment in BCI design and evaluation expertise and advice could contribute to improved public health.

D72

What works for supporting changes in diet and exercise?

Colin Greaves[1], Charles Abraham[1], Philip Evans[1], Wendy Hardeman[2], Kate Sheppard[1], Michael Roden[3], Peter Schwarz[4], The IMAGE Study Group[4]
[1]*Peninsula College of Medicine and Dentistry, Exeter, UK,* [2]*University of Cambridge, Cambridge, UK,* [3]*Heinrich-Heine University, Dusseldorf, Germany,* [4]*Technical University of Dresden, Dresden, Germany*

Aims: Optimal evidence-based strategies for supporting changes in diet and physical activity for patients at high risk of diabetes or cardiovascular disease are not well established. Furthermore, strategies for supporting lifestyle changes vary widely in general practice. This presentation will provide an overview of what is known from the existing evidence base about promoting change in diet and physical activity. This will include data from a recent systematic "review of reviews" of dietary and physical activity intervention RCTs.

Methods: Electronic bibliographic databases were searched for systematic reviews, published from 1998-2008, of interventions for adults at high risk for type 2 diabetes /cardiovascular disease. Two reviewers undertook selection, data extraction, and methodological quality assessment.

Results: 30 articles met the inclusion criteria. In terms of overall effectiveness, interventions produced a clinically meaningful weight loss (3-5Kg at 12 months; 2-3Kg at 36 months) and increased physical activity (30-60mins/wk of moderate activity at 12-18 months). The articles identified also included 129 analyses relating intervention components to intervention effectiveness. In these analyses, greater effectiveness was causally associated with engaging social support, targeting both diet and physical activity, and using well-defined /established behaviour change techniques. Increased effectiveness was also associated with increased contact frequency and using "self-regulatory" behaviour change techniques (specific goal-setting, self-monitoring, providing feedback, goal review). Intervention effectiveness was not significantly associated with intervention setting, delivery mode or delivery provider. The evidence also suggested a need for greater consideration of strategies to support behaviour maintenance and ideas on how to achieve this will be presented. The tension between intervention cost (and time resources) and effectiveness will also be discussed, along with potential solutions and ideas for applying the evidence base in general practice settings.

Conclusions: Supporting clinically meaningful changes in diet and physical activity is possible with well designed behavioural interventions. However, more evidence is needed about how best to achieve longer-term maintenance of behaviour change. To maximise the efficiency of interventions to support changes in diet and/or physical activity, practitioners and service commissioners should consider including the specific components and strategies we have identified as being associated with increased effectiveness.

D73

What works for supporting smoking cessation: a systematic review and meta-analysis of the efficacy of advice to quit versus support to quit

Paul Aveyard[1], Rachna Begh[1], Amanda Parsons[1], Robert West[1]
[1]*University of Birmingham, Birmingham, UK,* [2]*UCL, London, UK*

Introduction Physicians do not make brief interventions to motivate smoking cessation as often as guidelines suggest they should. They report the reasons for this as lack of time and fear of harming the relationship with the patient. The objective was to review the literature on brief opportunistic interventions given by physicians to examine whether advising patients to quit smoking on medical grounds or offering assistance with cessation is the most effective intervention. Both are short.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Methods Data were included from trials in the Cochrane reviews of physician advice for smoking cessation, nicotine replacement therapy (NRT), varenicline, and bupropion. Trials were eligible if patients consulted a physician for general medical care and received an opportunistic intervention on smoking, lasting less than 10 minutes, and where the effect on attempting abstinence was reported. Study quality was assessed by method of randomisation, allocation concealment, and follow-up blind to allocation. Studies were combined statistically using inverse-variance meta-analysis.

Results Nine studies were included. Randomisation methods were sub-optimal but an unlikely source of bias. Advice to quit on medical grounds increased the frequency of quit attempts, RR 1.24, 95%CI: 1.16 to 1.33, but not as much as much as assistance RR 3.76, 95%CI 2.09 to 6.74 for behavioural support and RR 1.68, 95%CI: 1.48 to 1.89 for offer of medication. In direct comparison of assistance versus advice, the RR was 2.55, 95%CI 1.45 to 4.48 for behavioural support and 1.39, 95%CI 1.25 to 1.54 for offer of medication. The main limitation was that interventions studied were more comprehensive than is often the case in clinical practice. Interventions compared were sometimes not of comparable intensity.

Conclusions Offering support for cessation is the most effective brief intervention. Surveys show this component of brief opportunistic interventions implemented least often. Guidelines and implementation tools need to emphasise offering support as the first and most important component of a brief, unsolicited intervention to motivate smoking cessation.

D74

What works for supporting informed choice for screening?

Theresa Marteau[1], Eleanor Mann[1], Ian Kellar[2], A.T. Provost[2], Simon Griffin[3], A.L. Kinmonth[2]
[1]*Kings College, London, London, UK,*
[2]*University of Cambridge, Cambridge, UK,*
[3]*MRC Epidemiology Unit, Cambridge, UK*

Introduction: The benefits of population screening programmes are realised when the majority of those invited do participate. It is required that invitations include details of the limited individual benefits and possible harms. Such invitations may select attenders who are motivated to engage in preventive action, but deter others, especially those who are socially deprived, and affect motivations to change health behaviour, exacerbating health inequalities.

Methods: We identified people aged 40-69 years, at risk for diabetes, from the registers of four English general practices. Deprivation was defined from postcode. We randomised 1272 individuals to receive an informed choice or a standard invitation. The primary endpoint was attendance. Among attenders we measured motivation to change health behaviours.

Results: We previously analysed the primary endpoint for all 1272 participants. 56% of those receiving informed choice invitations attended for screening, compared with 58% receiving standard invitations (mean difference: -1.8% (95%CI: -7.3% to +3.6%) $p = 0.51$). Attendance was lower amongst the more deprived (64% vs 48%, lowest vs highest tertile, $p < 0.001$). There was no significant interaction between deprivation and the type of invitation received on attendance (Marteau et al 2010). However, Individual-level deprivation demonstrated a significant moderator effect on motivation ($F(4,638) = 4.11$, $p=.003$; partial $\eta 2 = .03$): Individuals who were high in deprivation had lower motivation to change health behaviour following receipt of the informed choice invitation. Future Orientation also interacted with invitation type ($F(14,636) = 2.18$, $p=.006$, partial $\eta 2 = .05$): Individuals low in future orientation had lower motivation to change health behaviours following receipt of an informed choice invitation compared with a standard invitation for screening.

Conclusions: We previously found no evidence of conflict between efforts to achieve informed choice and attendance in this practice-based screening programme. However, attendance was low in deprived groups. Moreover, deprivation, as well as future orientation, interacted with invitation type. These findings suggest a potential source of inequity. Efforts to enhance informed choice, where the implications of diagnosis are a requirement for lifestyle change, may require that the immediate benefits are communicated, as well as efforts to address the apparent barriers to diabetes self-care.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Poster Session 1

P1.01

Acupuncture for Back Pain: A Prospective Cohort Study Evaluating Patient Outcomes and Their Determinants

Felicity Bishop, George Lewith, Lucy Yardley, Cyrus Cooper, Paul Little
University of Southampton, Southampton, Hampshire, UK

Introduction: Psychological factors predict outcomes of conventional back pain treatments. Such factors are often modifiable and can be addressed as part of multidisciplinary treatment, or used to target particular treatments to particular patients, thus improving outcomes for patients. Patients with back pain commonly use complementary treatments, especially acupuncture. Whether and to what extent psychological factors predict outcomes of acupuncture for back pain has not been established. This study tested hypotheses derived from an extended version of Leventhal's self-regulation theory concerning the role of illness perceptions, treatment beliefs, and coping, in acupuncture for back pain.

Method: 530 adults with non-specific low back pain were recruited to a prospective postal questionnaire study. They were recruited opportunistically as they sought acupuncture treatment from 83 acupuncturists practicing across the UK in different settings (private practice, NHS primary care, NHS physiotherapy, NHS pain clinics). Participants completed questionnaire booklets before commencing acupuncture, at 2 weeks, 3 months, and 6 months follow-up. Validated questionnaires measured socio-demographic characteristics, health, illness perceptions, treatment beliefs and appraisals, coping self-efficacy.

Results: Multivariate linear regression analysis of baseline data examined the predictors of two key variables: back-related disability and expectations of acupuncture. A combination of socio-demographic and psychological factors explained 45% of the variance in back-related disability and 29% of the variance in expectations of acupuncture. Illness perceptions (e.g. seeing one's back pain as threatening) were particularly strong independent predictors of disability. Treatment beliefs (e.g. belief in holistic and natural treatments) were particularly strong independent predictors of expectations. Follow-up data collection is due to be completed in June 2011.

Conclusions: In patients with low back pain seeking care from acupuncturists, modifiable psychological factors are associated cross-sectionally with back-related disability and treatment expectations. Forthcoming analysis of follow-up data will establish whether such associations hold prospectively and compare the psychological predictors of outcome in acupuncture to those reported in the literature on conventional treatments.

P1.02

Patients' experiences of health care in the public and private sectors: A qualitative study of acupuncture

Felicity Bishop[1], Fiona Barlow[2], Beverly Coghlan[3], Philippa Lee[1], George Lewith[1]
[1]University of Southampton, Southampton, Hampshire, UK, [2]University of Oxford Department of Primary Health Care, Oxford, UK, [3]University of Surrey, Guildford, Surrey, UK

Introduction. The relationship between public and private healthcare is changing, and it is important to understand how patients experience healthcare in each sector. In the UK, acupuncture is popular with patients, is recommended in official guidelines for low back pain, and is available in both the private sector and the public sector (NHS). This study explores patients' reasons for using and experiences of acupuncture in each sector.

Method. Semi-structured face-to-face interviews were conducted in 2007-8 with a purposive sample of 27 patients who had recently used acupuncture for painful conditions in the private sector and/or in the NHS. Inductive thematic analysis was used to develop themes that summarised the bulk of the data and provided insights into consumerism in NHS- and private practice-based acupuncture.

Results. Five main themes were identified: value for money and willingness to pay; free and fair access; individualised holistic care: feeling cared for; consequences of choice: empowerment and vulnerability; and "just added extras": physical

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

environment. Patients who had received acupuncture in the private sector constructed detailed accounts of the benefits of private care. Patients who had not received acupuncture in the private sector expected minimal differences from NHS care, and those differences were seen as not integral to treatment. The private sector facilitated consumerist behaviour to a greater extent than did the NHS, but private consumers appeared to base their decisions on unreliable and incomplete information.

Conclusions. Providing acupuncture on the NHS goes some way to reducing inequalities in access to complementary therapies. However, inequalities in patients' experiences of complementary therapies may continue because of increasing constraints present in the NHS. Future research should evaluate whether the differences in patients' experiences identified in this study represent consistent differences between public and private provision and whether this translates into meaningful differences in clinical outcomes.

P1.03

An Evaluation of the NHS24 Living Life Telephone Service - Broadening Access to CBT for Depression and Anxiety in Scotland.

Carina Hibberd[1], Rebekah Pratt[2], Margaret Maxwell[1]
[1]*University of Edinburgh, Edinburgh, UK,*
[2]*University of Minnesota, Minneapolis, USA,*
[3]*University of Stirling, Stirling, UK*

Introduction: Depression and anxiety are likely to affect a quarter of the population and can cause considerable burden to the individuals, families and society. Fortunately, evidence-based psychological interventions now form an integral part of recommended stepped-care programmes. However, provision levels, access and stigma are still barriers, particularly in rural areas.

The NHS24 Living Life pilot provides telephone access to either (lower intensity) guided self-help or (higher intensity) CBT therapy for mild to moderately severe depression and anxiety.

Method: We included all GP referred patients, in selected practices from five Health Boards across Scotland, from August 2008 to August 2010. We evaluated patient adherence and changes in depression symptoms (PHQ-9) for the first two years of the service using anonymised patient management data. We also evaluated patient satisfaction using self-completed questionnaires and telephone interviews in a sub-sample of patients.

Results: Of the 1058 patients referred, 53% contacted the service. 91% of those assessed were assigned to a treatment: 55% of those assigned to guided self-help completed treatment compared with 63% of those assigned to therapy. Of patients who engaged in treatment (>1 session), treatment efficacy was estimated using within-patient difference in PHQ-9 score between the initial assessment and the last available session score. For guided self-help there was a mean 55% drop in PHQ-9 score, with an effect size of 1.2 (95% CL 0.3 - 2.1) (n=119) and for therapy there was a mean 53% drop in PHQ-9 score, giving an effect size of 1.3 (95% CL 0.4 - 2.3) (n=153). Several patients reported initial uncertainty about treatment by telephone, but largely their concerns were soon resolved. Self-reported satisfaction was high. Patient reports helped to identify useful elements of the service as well as barriers to adherence and recovery.

Conclusion: This is a service which is still in its initial stages, but shows great potential to provide access to CBT for patients across Scotland, crossing geographic and many social, service level and personal barriers. The service will need to improve engagement with GPs and the public and improve patient treatment fulfilment, issues which are common to mental health remote treatment.

P1.04

An Evaluation of the NHS24 Living Life Telephone CBT Service : GP satisfaction with the service and views about remote treatment.

Carina Hibberd[1], Rebekah Pratt[1,2], Nadine Dougall[3], Margaret Maxwell[3]
[1]*University of Edinburgh, Edinburgh, UK,*
[2]*University of Minnesota, Minneapolis, USA,*
[3]*University of Stirling, Stirling, UK*

Introduction: Depression and anxiety are likely to affect a quarter of the population at some time in their lives. Evidence-based psychological interventions now form an integral part of

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

recommended stepped-care treatment, but the huge numbers involved require significant resources. We recently evaluated a pilot NHS24 service providing telephone access to either (lower intensity) guided self-help, or (higher intensity) CBT therapy for mild to moderately severe depression and anxiety. Our data suggests this service provides effective treatment and has the potential to broaden access for a reasonable cost. However, referrals and uptake of the service was lower than anticipated. GPs are the primary gate-keepers to the service and their understanding and opinions are integral to service development and success.

Method: A survey of GPs from participating practices was conducted using an online questionnaire, using five point Likert scales and free text. GPs were contacted via their practice managers and responded anonymously. The survey covered: awareness and knowledge of the service, reasons for referral/non-referral, suitability of treatment options, satisfaction and perceived problems with the service.

Results: 28% (75) of eligible GPs from participating practices responded. Although overall 81% of eligible GPs had referred to the service only 61% (46) of survey respondents had referred to the service. 88% of responders were aware of the service, but only 63% were clear about what the service delivered. 86% (who had an opinion) were satisfied with the service for their patients. The most frequently identified reasons for referral were: "Alongside antidepressants" (80%); "As an alternative to antidepressants" (78%); and "As an alternative to face-to-face therapy" (68%). When asked if this service had a potential role to play locally 90% responded >5 on a 1-10 scale (not at all - yes definitely).

Conclusions: Despite the relatively low response rate, this survey indicated a need for increased communication with GPs. This can be a significant challenge across such a wide geographical area (from Shetland to the Borders) and requires significant resources. Low referral rates remain problematic for the service and interviewed patients have indicated that GPs are a significant influence upon their engagement with the service.

P1.05

Cancer care reviews: the views of GPs and district nurses

Una Macleod[1], Patrick Quinn[2], Susan Browne[2], David Linden[3], Elizabeth Mitchell[4]
[1]Hull York Medical School, Hull, UK, [2]University of Glasgow, Glasgow, UK, [3]The Scottish Government, Edinburgh, UK, [4]University of Dundee, Dundee, UK

BACKGROUND Cancer care reviews are embedded within general practice in the UK as part of the Quality and Outcomes Framework (QOF) of the General Medical Services (GMS) contract. As part of the development of a template for cancer care reviews, we explored the views and of GPs and DNs with respect to cancer care reviews and their own roles in looking after patients with cancer.

METHODS We conducted 19 in-depth interviews with GPs and DNs in order to obtain their views and insights into cancer care reviews. These interviews were tape-recorded and fully transcribed and analysed using a systematic qualitative methodology.

RESULTS There was consensus that the current cancer care review carried out as part of QOF could be improved on relative to other conditions. Flexibility and discretion in applying a cancer care review was a recurring theme from GP respondents. There was apprehension expressed by the interviewees towards a more structured approach to cancer care reviews especially in relation to the inclusion of more structured assessment tools. It was felt that the assessment should be patient centred with the reviewer adopting a generalist approach. Respondents were quite negative about the possibility of cancer care reviews becoming a 'checklist' of questions that practitioners felt obligated to ask, irrespective of their relevance to a particular patient. DNs saw a clear role for themselves in care and support and emphasised the importance of assessment soon after discharge from secondary care. Their own role in cancer care varied from a designated lead role to more task orientated nursing duties. Four broad areas of assessment of need were identified as important to a review: physical, psychological, social and informational.

CONCLUSION The findings from this study provide us with a structure in which to consider the

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

role of primary care (both GPs and DNs) in the future: generalist, patient centred, assessing patient's individual needs and filling information and support gaps. The extent to which this model fits with the Starfield model of first point of contact, comprehensive, co-ordinating and continuous care will be discussed.

P1.06

Developing and testing a template to structure cancer care reviews in general practice: application of the MRC framework for development of complex interventions

Una Macleod[1], Pat Quinn[2], Susan Browne[2], David Linden[3], Elizabeth Mitcell[4]
[1]Hull York Medical School, Hull, UK, [2]University of Glasgow, Glasgow, UK, [3]The Scottish Government, Edinburgh, UK, [4]University of Dundee, Dundee, UK

INTRODUCTION Cancer care reviews are embedded within general practice in the UK as part of the Quality and Outcomes Framework (QOF) of the General Medical Services (GMS) contract. The guidance given regarding the cancer care review is relatively vague – "to cover the patient's individual health support needs" and "the co-ordination of care between sectors." Little is known about these reviews and if and how they contribute to the overall management of new cancer patients. The purpose of this study was to develop a structured format for these reviews (complex intervention) and test whether it was feasible, useful and desirable to patients and practitioners within a pilot RCT.

METHOD We carried out development work for a feasibility trial, based on the MRC Framework for the development of trials of complex interventions. This included: [1] Identifying existing evidence by undertaking a systematic literature review to ascertain patient needs post cancer diagnosis which could be addressed within primary care; [2] Identifying and developing theory by conducting a survey of existing practice by sending a questionnaire to general practices; obtaining the views and insights of primary health care professionals by conducting interviews with general practitioners and district nurses and investigating the views of people affected by cancer by conducting focus groups with lay representatives of people affected by cancer; [3] Modelling processes and outcomes by testing the feasibility and acceptability of the intervention within the context of an exploratory trial.

RESULT The development work led to a template consisting of four sections: assessment of physical need, medication review, assessment of psychological need, signposting of relevant services. The template was tested within several practices and with several patients. Although the numbers involved were small, the template itself was shown to be useful in covering aspects which may not otherwise have been covered and was acceptable to both patients and GPs.

CONCLUSIONS A template has been produced for use within general practice as the cancer care review. This has been initially tested in practice and appears to be useful and acceptable. Particular challenges regarding testing this within a RCT will be highlighted.

P1.07

Beating Bipolar: an exploratory trial of a novel internet-based psychoeducational treatment for bipolar disorder.

Sharon Simpson, Daniel Smith, Emily Griffiths, Ria Poole, Arianna di Florio, Emma Barnes, Mark Kelly, Nick Craddock, Kerry Hood
South East Wales Trials Unit, Cardiff University, Cardiff, UK

Introduction: Psychoeducational approaches are clinically effective in the long-term management of bipolar disorder. In consultation with professionals, patients and their families we developed a novel web-based psychoeducational intervention for bipolar disorder called "Beating Bipolar". We undertook a phase II exploratory trial to examine efficacy, feasibility and acceptability.

Method: This was a randomised controlled trial. The control arm was treatment-as-usual and the a priori primary outcome measure was quality of life (measured by the brief World Health Organisation Quality of Life scale, WHOQOL-Bref). Secondary outcomes included psychosocial functioning, insight, depressive and manic symptoms and relapse, and use of healthcare resources. The intervention was delivered over a 4 month period and outcomes were assessed 6 months later.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Results: There was no significant difference between the intervention and control groups on the primary outcome measure (total WHOQOL-Bref score) but within the 'psychological' sub-section of the WHOQOL-Bref the intervention group improved significantly relative to the control group, with an increase of 8.1 units in the intervention group compared to a decrease of 5.0 units in the control group (p=0.05; 95% confidence intervals 0.24-22.6). There were no significant differences between the groups on secondary outcome measures.

Conclusions: Although this was a small exploratory trial, the Beating Bipolar intervention had a significant impact on psychological quality of life at 6 months follow-up. A larger randomised controlled trial is feasible and is likely to be of value in terms of establishing the cost-effectiveness of this new treatment approach.

P1.08

Weight loss maintenance in adults (WILMA): Development of a 12 month multi-component weight loss maintenance intervention for adults.

Sharon Simpson[1], Chris Shaw[3], Rachel McNamara[1], Katy Tapper[2]
[1]South East Wales Trials Unit, Cardiff University, Cardiff, UK, [2]Swansea University, Swansea, UK, [3]University of Glamorgan, Pontypridd, UK

Introduction The prevention of weight regain remains a challenge, around a third of the weight lost during an intervention is regained in the following year. There is some evidence which indicates that maintenance interventions are associated with smaller weight gains compared to no contact. Reviews have identified issues important for maintenance including: physical activity; low calorie/low fat diet; self regulation; tailoring; social support; internal motivation and self efficacy.

Behaviour change interventions are often not theory based or the theory is poorly described. The primary objective in this study was to develop a theory-based intervention for evaluation in an individually randomised controlled trial aimed at achieving weight loss maintenance in obese adults who have achieved 5% weight loss (with a starting BMI of 30 or above).

Method The key evidence based elements of our intervention are motivational interviewing, self monitoring and social support. A literature review was conducted and experts in the field consulted. Theories of behaviour change were examined in terms of their relevance to weight maintenance and to the 3 key elements of the intervention. The overarching theme of the intervention is motivation, which is central to many theories seeking to explain behaviour change.

Results Since prolonged intervention contacts have been shown to help sustain weight loss and attrition from longer term programmes is a problem, motivation is likely to be a key factor. Motivational Interviewing (MI) is the key ingredient of the intervention and Self Determination Theory provides a theoretical framework for understanding MI. Social support and self-monitoring also emerge as key factors in successful weight loss maintenance. The intervention expands on concepts from Social Cognitive Theory and incorporates implementation intentions and ideas from Self-Determination Theory and habit formation.

Conclusions We have developed, through a literature review and consensus based methods, a theoretical model of the pathways in which we expect these intervention components to impact on maintenance and we will be measuring key mediators to examine their effect on outcome.

P1.09

Exploring the potential of email as a method of consultation in UK primary care: a qualitative study

Helen Atherton[1], Elizabeth Murray[2], Yannis Pappas[1], Josip Car[1]
[1]Imperial College, London, UK, [2]University College, London, UK

Introduction Despite email being a standard way to communicate in most sectors, its use in healthcare is not yet routine. Current policy in UK healthcare focuses on an 'information revolution', which would offer patients new ways of communicating with their healthcare provider, including email. Presently there is little evidence about how this might work in General Practice. The aim of this study was to explore the experiences and opinions of general practitioners and patients currently using email to communicate; and to explore the potential for this

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

method of communication in general practice.

Methods I carried out semi-structured interviews with general practitioners and patients using email for two-way communication, exploring experiences and opinions of use. I also interviewed a series of relevant experts. I used framework analysis to examine the data.

Results Email use between GPs and patients was episodic and involved specific types of use e.g. contacting the GP whilst abroad or to ask about an ongoing condition. The doctor-patient relationship played a part in determining how email was used; patients described setting boundaries, not wishing to abuse the relationship and 'limiting' the number of emails exchanges. GPs tended to use email with select patients, making a decision based on their relationship with the patient. GPs had concerns about how to store information generated in emails and how to manage workload should email be offered to all patients in future.

Conclusion Despite both GPs and patients expressing concerns about this potential method of communication these fears do not appear to have been realised for the participants in this study. However there are clearly more considerations for professionals than patients in deciding to use email in this way. Concerns raised by GPs on information storage and workload should be addressed if email is to be a successful and integrated method of communication. Finally, the importance of the doctor-patient relationship on the likely performance of email as a consultation method should not be underestimated.

P1.10

Development of prescribing safety indicators for general practitioners using RAND Appropriateness Methods

Anthony J Avery[1], Stephen M Campbell[2], Grant Dex[1], Brian Serumaga[1], Rachel Spencer[1], Caroline Mulvaney[1], Helen Lester[2]
[1]Division of Primary Care, University of Nottingham Medical School, Nottingham, Nottinghamshire, UK, [2]Primary Care Research Group, University of Manchester, Manchester, Manchester, UK

Introduction: General practitioners have a critically important role in patient safety through the judicious prescription, and careful monitoring, of patients' medicines. Nevertheless, many patients are put at risk, and some are harmed, as a result of hazardous prescribing. In the UK, a process of revalidation is being introduced to allow doctors to demonstrate that they meet current professional standards, are up-to-date and fit to practise. Given the serious risks to patients from hazardous use of medicines it will be appropriate, as part of the revalidation process, to assess the safety of prescribing by general practitioners.

We sought to identify potential indicators that describe a pattern of prescribing that is potentially hazardous and may put patients at risk of harm.

Method: A review of the literature identified approximately 400 prescribing indicators and, after removing duplicates, 50 were considered potentially applicable to the objectives of our study. Rapid literature reviews were completed for each of the indicators, and the RAND Appropriateness Method was used to identify, develop and obtain agreement on the indicators. 12 GPs with a wide variety of characteristics, from all the countries of the UK, were purposefully selected to participate in this process. They were provided with the evidence-based summaries for each indicator and were asked to score the appropriateness of each (1-9 scale) for assessing the safety of GP prescribing in a two-round exercise.

Results: Forty-seven prescribing safety indicators were considered appropriate for assessing the safety of prescribing of individual GPs for the purposes of revalidation (overall panel median rating of 7-9, with high levels of agreement). After removing indicators that were variations on the same theme, a final set of 34 indicators was obtained. These indicators cover hazardous prescribing across a range of therapeutic areas, hazardous drug-drug combinations, prescribing with a history of allergy and inadequate laboratory test monitoring.

Conclusions: This study identified a set of 34 indicators that were considered, by a panel of 12 GPs, to be appropriate for use in assessing the safety of GP prescribing for the purposes of revalidation as violation of any of the indicators indicates a potential patient safety problem.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

P1.11

Focussing General Practice Tutor Development.

Margaret Bartlett, Robert McKinley
Keele University School of Medicine, Keele, Staffordshire, UK

Introduction At Keele each student spends 110 days in general practice in years 3 to 5 which constitutes 23% of our core clinical teaching and 50% of core teaching in final year. It is therefore important that all general practices provide good quality teaching. It would be useful to target practice tutor development on practices which need it most but this requires a reliable measure of teaching quality which is independent of student feedback. One possible measure is the quality of the written feedback provided to students after workplace based assessments of consultation skills.

A reliable and feasible means of assessing the quality of the feedback has the potential to focus tutor development both on individual practices and on specific elements of the feedback.

Method A seven point 'feedback quality scale' was developed and piloted on the written summaries of workplace based assessments of the consultation skills of a single cohort of 130 third year students. Additional assessors were trained and calibrated. Pairs of assessors are currently assessing the quality of the year 4 assessments. We plan to estimate agreement between assessors, collate the scores by practice to rank practices by feedback quality, feed the results back to our practices and to use the results to target practices for training.

Results Data from 45 practices were included in the pilot. Agreement between the pilot assessors was estimated using kappa which was 0.54 (moderate agreement). The assessors sores were averaged to produce a single score, its median was 2 (IQR 1 to 4.125) out of 7. The results of the main study which will include practice level data and the strengths and areas for improvement in written feedback and will be available in May 2011.

Conclusion The scale provides a moderately reliable measure of assessment quality and the data suggests that there is room for improvement in the written summaries. In the light of the pilot we have refined the scale's descriptors and have calibrated additional assessors.

We would welcome discussion of the validity of this approach to identifying teaching quality and targeting one aspect of our practice tutor development programme.

P1.12

Primary care analgesic prescribing and the effect of national guidance: an observational database study

John Bedson[1], Mehluli Ndlovu[1], Kate Dunn[1], Kate Walters[2], Kelvin Jordan[1]
[1]Keele University, Staffordshire, UK, [2]UCL, London, UK

Introduction Pain symptoms are common in primary care. Regulatory bodies and national guidelines offer advice to general practitioners (GPs) on the safe and best evidenced prescribing of analgesics. Our objective was to assess the influence such advice has on prescribing behaviour.

Methods Four interventions were considered: (interventions 1 – 3) Medicines Regulatory Health Authority (MHRA) advice on use of non-steroidal anti-inflammatories (NSAIDs) and co-proxamol, and (intervention 4) the National Institute for Health and Clinical Excellence (NICE) guidelines on managing osteoarthritis (OA). Prescriptions were analysed on a quarterly basis between 2002 – 2009 using the Consultations in Primary Care Archive (CiPCA), a database of medical records from 12 practices in North Staffordshire. Analgesics were arranged according to a previously defined model of six equipotent medication groups: i) basic analgesics; ii) mild opioids; iii) moderate opioids; iv) strong opioids; v) very strong opioids, and vi) NSAIDs. The number of patients receiving a prescription for the first time from each group per 10,000 registered adult population was determined for each quarter period. Significant changes in prescribing relating to the interventions were determined using segmented linear regression. Co-proxamol, Cox-2 NSAIDs, and topical NSAIDs were also considered separately since they were directly related to the interventions.

Results Intervention1 (MHRA), advice to stop using co-proxamol and Cox-2 medications, was associated with a significant decrease in

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

prescribing of both drugs. The incident use of co-proxamol per quarter fell from 151/10000 to 18/10000 after this intervention. Cox-2 prescribing fell from 72/10000 to 20/10000. Weak opioid use increased at this point. Basic analgesic prescribing did not alter. Prescribing for topical NSAIDs increased after the 3rd MHRA directive on NSAIDs. Intervention 4 (NICE OA guidelines) had no effect on any prescribing modality.

Conclusion NICE OA guidelines appeared ineffective in changing GPs first time use of analgesics. Possibly GPs have already adopted the best evidence from previous directives such as the MHRA. Alternatively it might be that the more direct communication with GPs that the MHRA uses, mostly carrying a definitive message, is more effective. Further investigation of guideline implementation is required to determine the best method of realising best practice.

P1.13

Pharmacist-Led Management of Chronic Pain in Primary Care: The PIPPC study

Christine Bond[1], Annie Blyth[2], Hanne Bruhn[1], Alison Elliott[1], Philip Hannaford[1], Richard Holland[2], Amanda Lee[1], Paul McNamee[1], Blair Smith[1], Margaret Watson[1], David Wright[2]
[1]University of Aberdeen, Aberdeen, Scotland, UK, [2]University of East Anglia, Norwich, England, UK

Introduction Chronic pain, (lasting >3 months) affects nearly half the adult population. Most people are managed in primary care but prescribing is often sub-optimal. Practice pharmacists are ideally placed to improve prescribing. Following the MRC framework for development and evaluation of complex interventions, we are developing a RCT to compare pharmacist medication-review, with or without prescribing, with standard care. This paper reports the main three month results of the pilot RCT. Ethical approval was obtained.

The main aims were to test the acceptability and feasibility of the intervention(s); obtain estimates of patient recruitment and attrition rates; select outcome measures; estimate effect size and optimise the intervention.

Method Six general practices with prescribing pharmacists in Grampian (3) and East Anglia (3) were recruited and trained. Patients were identified by computerised search of prescribed medication. GPs screened patients and mailed invitations to a random sub-sample. Consenting patients completed a baseline questionnaire (SF-12, Chronic Pain Grade, Health Utility Index, ICECAP-O, HADS, demographic and cost items) then randomised to: (i) pharmacist medication-review with pharmacist prescribing; or (ii) pharmacist medication-review with feedback to GP; or (iii) treatment as usual. Follow-up questionnaires were sent after three months. Audio-taped interviews with GPs and pharmacists were transcribed and content analysed.

Results Of 1397 patients contacted, 356 consented, 289 were sent a baseline questionnaire, 251 returned the questionnaire (87%) and 232 were randomised; 47 had had pain for <3years, 92 for 3-10years, and 93 for >10years. CPG grading (range I-IV, higher grade indicates higher pain intensity and pain-related disability,) could be calculated for 211 (Grade IV:n=79; III: n=48;II:n=60; and I:n=24). There was an 86% (186) response rate to the three month follow-up questionnaire; 19 patients in prescribing arm had improved their CPG, 14 in the review arm and 10 controls (p=0.03). Patients in the prescribing arm reported greater improvement in six of the eight SF-12 subscales. Interviews showed that pharmacists were positive about the intervention. There was some ambivalence amongst GPs.

Conclusions The pilot trial confirmed recruitment, response and outcomes, and supports progression to a definitive trial. Pharmacist prescribing may confer benefit over medication-review alone or usual care.

P1.14

Inequalities in antithrombotic prescribing for atrial fibrillation

Elizabeth Brown, Mark Ashworth, Peter Schofield
King's College London, London, UK

Introduction Atrial fibrillation (AF) is the most common cardiac arrhythmia, and is associated with a fivefold increased risk of stroke (Wolf, Abbott, and Kannel 1991). The burden of cardiovascular disease disproportionately affects

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Black and ethnic minority patients, and independently those from socio-economically deprived areas.

It is widely acknowledged that the risk of stroke can be reduced by the use of oral antithrombotic agents (Mant et al. 2007). Despite this, many patients with AF who might benefit from antithrombotics do not receive them, which represents a missed opportunity in stroke prevention (Murphy et al. 2007). Our objective was to explore the relationship between ethnicity, social deprivation and the prescription of antithrombotics in order to determine potential treatment inequalities.

Methods We conducted a population-based cross-sectional survey, using the Lambeth DataNet, to assess the effect of ethnicity and deprivation on whether patients with AF were being prescribed antithrombotic agents using logistic regression analysis. We controlled for age, gender and significant co-morbidities.

The dataset was comprised of computerised patient records from 29 out of 54 (54%) of practices in the inner London Borough of Lambeth, covering a registered population of 206,097 out of a total registered population of 355,323 (58%). The study sample consisted of all 1147 patients identified as having a diagnosis of AF.

Results There was no significant gradient in prescribing of aspirin or warfarin across ethnic groups. However, we found inequalities in prescribing related to deprivation. Individuals in the most deprived IMD quintile were more likely to be prescribed antithrombotics, Odds Ratio 1.70 (95% CI 1.09 - 2.64) when compared to those in the least deprived IMD quintile (p = 0.018).

Conclusions Our study has shown that the most deprived patients with AF are more likely to be prescribed antithrombotics than the least deprived patients. This finding cannot be fully explained by use of over-the-counter medications as the most deprived patients were also independently more likely to be prescribed warfarin. We are currently conducting further analysis to explore possible confounders. Ethnicity was not a significant determinant of antithrombotic prescribing in AF.

P1.15

The relationship between health needs, access to healthcare and interest in telehealth: A survey of patients with long-term conditions

Louisa Budzinski[1], Clare Emmett[1], Alison Gregory[1], Lucy Yardley[2], Lisa Esmonde[3], Alicia O'Cathain[3], Chris Salisbury[1]
[1]University of Bristol, Bristol, UK, [2]University of Southampton, Southampton, UK, [3]University of Sheffield, Sheffield, UK

Introduction: Telehealth has potential to improve access and quality of care for patients with long-term conditions (LTCs). Evidence about the effectiveness and cost-effectiveness of telehealth initiatives is mixed. This survey forms part of a research programme aiming to develop and evaluate a NHS Direct delivered telehealth intervention for patients with two exemplar LTCs; depression and raised cardiovascular disease (CVD) risk. The survey explored health needs, access difficulties and interest in telehealth in these patient groups.

Method: 34 general practices were recruited surrounding Bristol and Sheffield. Practice records were searched for patients with (a) depression (18+ years) or (b) 10-year risk of CVD ≥20% and at least one modifiable risk factor (40-74 years). 54 patients in each group were randomly selected to receive a questionnaire. Physical and mental health needs were assessed using SF12v2. Respondents rated practical (e.g., getting appointments at suitable times) and support (e.g., making one's needs understood) access difficulties, and interest in using 11 types of telehealth technologies. Relationships between health needs, access difficulties, and telehealth interest were examined using multiple linear and logistic regression.

Results: Preliminary analyses were conducted with 622 Bristol responses to date. Greater mental health and physical needs predicted greater practical (β=0.35, $p \leq 0.001$ & β=0.29, $p \leq 0.001$, respectively) and support (β=0.39, $p \leq 0.001$ & β=0.21, $p \leq 0.001$) access difficulties. Overall, respondents were most interested in telephone and internet interventions, and least interested in interactive internet services like chat rooms. Neither type of access difficulty predicted interest in telehealth technologies (21 out of 22 ORs ≤2.00, p≥0.16). Greater mental health need was

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

associated with interest in telephone interventions and there was a trend towards greater physical needs and interest in internet and e-mail interventions. Younger age and lack of higher education were predictive of interest in internet and e-mail interventions.

Conclusion: Those with greater needs experience greater difficulties accessing healthcare, but access difficulties do not influence interest in telehealth. Telephone-based interventions appeal to those with mental health needs, whereas those with physical needs have greater interest in computer-based interventions. Analyses of the full data set will be available by July 2011.

P1.16

Feasibility trial of a GP with Special Interest Symptoms Clinic for patients with multiple Medically Unexplained Symptoms

Christopher Burton, Allison Worth, David Weller
University of Edinburgh, Edinburgh, UK

Introduction Around 1% of adults repeatedly consult for medically unexplained symptoms (MUS), they have impaired quality of life, high levels of comorbid psychological disorders and incur high healthcare costs through repeated referral. We carried out a phase 2 feasibility trial of a General Practitioner with Special Interest (GPwSI) Symptoms Clinic for such patients.

Methods Seven GP practices identified patients through their practice database by repeated referral and specific syndrome codes, followed by postal screening questionnaire (PHQ-15). 32 patients were randomised equally to care as usual or care as usual + Symptoms Clinic.
The Symptoms Clinic comprised 1x 60 minute and 3x20 minute semi-structured consultations with a GPwSI. Key components of the consultations were empathic listening, explanation of symptoms in terms of biological processes and behavioural activation.
The primary outcome from this feasibility study was the adequacy and acceptability of the trial procedures and intervention.
Secondary outcomes were changes in physical symptoms (PHQ-15); health related quality of life (SF12 summary component scores), depressive symptoms (PHQ-9) and global impression of change (CGI) twelve weeks after randomisation.

Results 486 patients were identified by database searches and 105 returned the PHQ15 symptoms checklist, of whom 72 (69%) had a score ≥ 10 suggesting multiple medically unexplained symptoms. 37 patients attended the baseline assessment. Two patients in the intervention group were included in error. The trial methods and clinical intervention were acceptable to patients and outcome measures were available from (87%). 6/11 patients in the intervention group reported improvement on CGI compared to 2/15 controls. Outcome measures were in keeping with clinically meaningful improvements of 2 points on PHQ15 and 5 points on SF12 physical component summary with no change in mood.

Conclusion Systematic identification of patients with multiple MUS and recruitment into trials is possible without relying on GPs to recall patients. This phase 2 study of a GPwSI symptoms clinic indicated that a phase 3 study is feasible; power calculations suggest the need to randomise 210 patients. The study led to refinement of trial procedures and standardisation of the symptoms clinic intervention.

P1.17

Laboratory test use in NHS General Practice - temporal growth and geographic variation

John Busby, Knut Schroeder, Wolf Woltersdorf, Jonathan Sterne, Yoav Ben-Shlomo, William Hollingworth
Bristol University, Bristol, UK

Introduction Laboratory tests form an important and extensively used tool in UK primary care. Demand from GPs has grown in recent years, but to date no UK based studies have explored these perceived increases in detail. This study aims to identify laboratory tests with the largest temporal growth and geographic variation from 2004-2009.

Methods We calculated test utilisation rates using data from the General Practice Research Database (GPRD) across the UK. Data included demographics, clinical details and laboratory test results. We used diagnoses and symptoms recorded in the 2 weeks pre-test to explore the reasons for test use. We identified the most geographically variable tests by fitting a random effects Poisson model of utilisation rate by region of the UK.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Results In total around 2.7 million test results were recorded in 270,000 person years in 585 'up to research standard' general practices. During the study period, test use increased at an average annual rate of 7.8% from 81,108 to 112,847 test results per 10,000 person years. C Reactive Protein (30.1%) and Folate level (26.26%) were amongst the tests with the largest average annual increases. Significant geographic variation existed between regions.

Conclusions Widespread increases in laboratory test use have large resource implications. Furthermore, the extensive regional variation in some tests demonstrates that uncertainty may exist between GPs about the appropriate rate of test use. Unnecessary test use wastes NHS resources. Furthermore, patients may experience distress and uncertainty whilst waiting for test results and a false positive test result may lead to further more costly and invasive tests. Similarly, under utilisation of necessary tests may lead to a missed diagnosis or sub-optimal disease monitoring and management; causing harm to the patient and resulting in preventable costs later in the treatment pathway. There is a need for further research, including systematic reviews and evidence syntheses, of the most rapidly increasing and geographically variable tests to inform recommendations on appropriate use.

P1.18

Primary care antibiotics and antibiotic resistance

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

Introduction The aim of the study was to investigate the relationship between primary care antibiotics prescribed within 2 and 12 months and the carriage of methicillin resistant *Staphylococcus aureus* (MRSA) in nasal flora from a large, representative sample of community resident adults.

Methods*: Staphylococcus aureus* isolates were obtained from nasal samples submitted by UK resident adults aged >16 years registered with 12 general practices in the former Avon and Gloucestershire health authority areas. Individual level antibiotic exposure during the 12 months prior to providing the samples were collected from the primary care electronic records. MRSA status was determined by measuring resistance to cefoxitin.

Results**:** 11,895 adults were invited to take part and completed a baseline questionnaire of whom 4,521 returned a nasal sample. *Staphylococcus aureus* was identified in 1415 and a total of 947 participants consented to primary care record review and had complete data for the analyses. There was no evidence of an association between any antibiotic in the previous 2 months and MRSA isolation, with an adjusted OR of 1.43 (95% CI 0.14 to 14.5, p=0.6). There was a suggestion of an association between any antibiotic use in the previous 12 months and MRSA with an adjusted OR of 2.38 (95% CI 0.98 to 5.81, p=0.06).

Conclusions**:** There is a suggestion that antibiotics prescribed within 12 months is associated with the carriage of MRSA, but not within 2 months, though the 2 month analysis had fewer data subjects and therefore was underpowered to detect this association.

P1.19

A survey of GP views on the prognosis of osteoarthritis Rebecca Daniel, Annette Bishop, Christian Mallen

Rebecca Daniel, Annette Bishop, Christian Mallen
Keele University, Staffordshire, UK

Introduction: Prognosis has been described as an important but frequently neglected branch of clinical science yet patients value and desire discussion around the likely outcome of their disease. While general practitioners (GPs) views of prognostic discussion during the consultation have been sought in the context of life-threatening illness, similar research is lacking for patients presenting with common, long term, non-life-threatening musculoskeletal complaints.

Aims: The aims of this study were to identify GPs' views on prognostic discussion with patients with OA, make comparisons between the merits of prognostic discussion with other chronic diseases and identify barriers to effective discussion of prognosis with older people with osteoarthritis in the general practice consultation.

Method: A short (8 page) self completion postal questionnaire was mailed to a random sample of

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

2500 practicing GPs in the United Kingdom. Non responders to the initial mailing were sent a reminder postcard after 2 weeks and a further questionnaire at 4 weeks. Data were analysed using SPSS.

Results Completed questionnaires were returned by 764 GPs. Of the responders, 29.2% were women and the mean number of years in practice was 26.7(67.54) (SD). Almost 75% of GPs responding felt that prognostic discussion was 'always' or 'often' necessary for patients with osteoarthritis, compared with 95% for patients with cancer and 92% for patients with chronic obstructive airways disease. Surveyed GPs were asked how frequently they discussed prognosis in OA, only 44.9% described often or always doing so. Just over half of felt that patients wanted to know their prognosis and that time was the major factor limiting discussion**.**

Conclusion: The majority of GPs surveyed thought that discussing prognosis was important for patients with OA although more thought that prognostic discussion was relevant for patients with terminal illness. The minority of GPs reported carrying out prognostic discussion. Our study indicates that though prognosis is seen as important in OA it does not occur as often as it should or as often as other in conditions. Reasons for this discordance should be identified to allow patients need to be fully met during the consultation.

P1.20

Exercise-Based Rehabilitation for Heart Failure with Preserved Ejection Fraction: A Systematic Review of the Literature

Edward Davies[1], Kate Jolly[2], Hayes Dalal[3], Rod Taylor[3]
[1]Royal Devon and Exeter Foundation Trust, Exeter, Devon., UK, [2]Department of Public Health and Epidemiology, University of Birmingham, Birmingham, UK, [3]Peninsula College of Medicine and Dentistry, University of Exeter, Exeter, Devon, UK

Introduction The prevalence of heart failure continues to increase, accounting for some 5% of hospital admissions and 2% of the annual health care costs in UK. Up to half of patients with heart failure have normal systolic function - diastolic heart failure or heart failure preserved ejection fraction (HFpEF).

Whilst there is established randomised controlled trial (RCT) evidence supporting the role of exercise-based rehabilitation in patients with systolic heart failure, the role of rehabilitation in patients with HFpEF remains uncertain.

In order to address this uncertainty we conducted a systematic review of the literature on exercise-based rehabilitation.

Method We searched the Cochrane Controlled Trials Register (CENTRAL), MEDLINE, EMBASE, CINAHL up to November 2010 and hand searched reference lists of included articles. Trials were included if they compared an exercise-based intervention to usual care in patients with heart failure and objective evidence of isolated diastolic dysfunction of the left ventricle. Studies were selected by two independent reviewers and data extraction and quality assessment performed by a single reviewer and checked by a second. We specifically sought information on mortality, heart failure related hospitalisations, health-related quality of life (HRQoL), exercise capacity and diastolic function.

Results Five independent RCT and non-RCTs were included with a total of 246 patients. Four trials were centre-based, one was home-based. All five used aerobic exercise and two included some resistance training. Of the four trials that reported on exercise capacity all showing significant improvements with exercise rehabilitation compared to usual care.

Three trials reported on diastolic function with one trial showing improvement with exercise only on patients with mild disease and one trial showing improvement in all patients. Three trials included HRQoL with two reporting statistically significant improvements with exercise.

None of the trials reported on heart failure related hospitalisations or mortality.

Conclusion There appears to be some evidence to support the use of exercise-based rehabilitation in patients with HFpEF in terms of improvements in diastolic function, HRQoL and exercise capacity. However, long-term adequately powered RCTs are now needed to examine if these improvements with exercise-rehabilitation are maintained and what are the impacts on hospitalisation and mortality.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

P1.21

The challenges of implementing a partner notification trial in primary care

Julie Dodds[1], Stefania Lanza[3], Merle Symonds[6], Greta Rait[1,4], Claudia Estcourt[2], Kate Walters[4], John Richens[5], Jackie Cassell[3]
[1]General Practice Research Framework, Medical Research Council, London, UK, [2]Centre for Immunology and Infectious Disease, Barts and The London School of Medicine, London, UK, [3]Brighton and Sussex Medical School, Brighton, UK, [4]Primary Care & Population Health, Royal Free & University College Medical School, London, UK, [5]Centre for Sexual Health & HIV Research, Research Department of Infection and Population Health, Royal Free & University College London, London, UK, [6]Barts & The London NHS Trust, London, UK

Introduction Although sexually transmitted infections (STIs) are increasingly diagnosed and treated in the primary care setting, partner notification (contact tracing) remains difficult to manage in primary care. Recruitment for sexual health studies is also challenging as STIs present a single episode and are often stigmatised. We explore challenges in setting up an HTA commissioned randomised controlled trial aimed at comparing the effectiveness of three different methods of partner notification for primary care patients diagnosed with Chlamydia: patient, provider (patients offered the option of a specialist health adviser contacting partners at time of diagnosis) and contract referral (patients agree to a health adviser contacting partners after an agreed period if not already done).

Method We piloted two methods of recruitment in 6 practices: consent at time of Chlamydia test *vs* consent at time of Chlamydia diagnosis. Each practice initially wrote to 300 patients aged 16-24 inviting them to attend for Chlamydia screening. Patients over 16 presenting with symptoms of STIs were also invited to take part. We ran a one day workshop with sexual health advisers, including focus groups and role-play, to inform implementation of the three interventions.

Results Recruitment was a major challenge. The initial response rate to postal invitations to attend for Chlamydia screening was less than 2%. We identified issues in each part of the recruitment pathway and developed strategies to respond to these including further involvement of reception staff, development of educational materials for practice staff, regular feedback to practices on testing rates and target recruitment, practice visits and alerts on the practice system.

Focus groups and role play showed that contract referral could not be operationalised as a separate partner notification intervention from provider referral in this context.

Conclusions We have now developed a multifaceted intervention to improve recruitment which will be implemented in the main trial. Since provider and contract referral are not sufficiently distinct to be compared in a trial setting for chlamydia and propose to run a two armed trial.

P1.22

Early Intervention Services for First Episode Psychosis response to transitions with Child and Adolescent Mental Health Services: The Early Intervention Youth Focused Service

Elizabeth England[1], Helen Lester[2]
[1]University of Birmingham, Birmingham, UK, [2]Manchester University, Manchester, UK

Introduction: Transition working, for example, between child and adolescent mental health services and early intervention services is a key area of concern in United Kingdom mental health policy. However there is little guidance for commissioners or clinicians on transition working for young people with mental health problems. This qualitative study aims to explore factors influencing the development of different types of relationship between early intervention services and child and adolescent mental health services.

Methods: A total of 145 semi structured interviews and six focus groups involving 35 participants were held between February 2004 and March 2009. A broad range of individuals were interviewed from different strategic, managerial and operational levels of the health service including those responsible for children's mental health services.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Results: Knowledge and planning around transition working was variable and appeared to be related to local organisational commitment and awareness of national targets, policy and guidelines. EIS and CAMHS team leaders and members showed greater awareness of transitional working than managers. Elements that led to more successful transition working included senior level champions and organisational commitment to the implementation of new ways of working.

Conclusion: This study suggests that there are a number of challenges to transition working at the CAMHS-EIS interface. However, there are a number of potential behaviours and characteristics at different organisational levels which promote more successful transition working.

P1.23

Using marketing theory to inform strategies for recruitment to clinical trials: a recruitment optimisation model

Leandro Galli, Caroline Free
London School of Hygiene and Tropical Medicine - University of London, London, UK

Introduction: despite the growing need for UK research networks to improve study recruitment rates, recruitment still represents a major challenge for most trials; 63% of trials encounter early difficulties, less than a third reach their recruitment targets, and over half have to resort to grant extensions. The economic, scientific and societal implications of these shortcomings are significant. Yet it remains unclear why certain trials succeed in recruiting while others fail, we have hitherto only limited understanding of the underlying processes which ensure successful recruitment. There is therefore urgent need to bring greater analytical rigor and structure to the task of recruitment, to improve recruitment rates and in particular to help steer turnarounds.

Methods: We adopted a marketing perspective to understanding recruitment and a joint inductive and deductive research methodology that drew on existing marketing theory- the Francis et al (2007) 5 stage model of marketing a trial, and on the in depth analysis of the recruitment practices adopted by the txt2stop trial, as a representative case of a successful turnaround . Interviews with key informants were conducted, documents and recruitment process data were reviewed to identify key processes in the recruitment turnaround for txt2stop. The findings were compared to the Francis et al 5 stage model, resulting in the development of the recruitment optimisation model.

Results: A "recruitment optimisation" model is developed that can serve as a diagnostic tool and conceptual framework, which if adopted from onset, could optimise the recruitment performance of clinical studies, or steer a turnaround, when applied to a poorly performing recruitment campaign of an already ongoing trial. The model applies the principle of continuous improvement, and draws attention to the important practices of monitoring, market research, learning, reinforcing and strategic (re)orientation. It is argued that central to optimising recruitment performance is the enactment of three interconnected approaches and "learning" processes: recruitment phase learning, market learning and intervention and strategy learning, which lead to improvements at the level of single interventions (reinforcing) and on a broader strategic level (strategic re-orientation).

Conclusion: Further work should explore the impact of adopting the model when applied to other trials.

P1.25

When Patients See Many Providers: a Generic Measure of Management Continuity of Care .

Jeannie Haggerty[1], George Freeman[2], Danièle Roberge[3], Mylène Bréton[3]
[1]McGill University, Montreal, Quebec, Canada, [2]Imperial College, London, UK, [3]Université de Sherbrooke, Longueuil, Quebec, Canada

Introduction: Management continuity is "the extent to which services delivered by different providers are timely and complementary such that care is experienced as connected and coherent". It is an outcome of good care coordination. No good generic measures exist for the variety of conditions typical of primary care. Our objective was to develop a measure of patients' experience of care coordination between various providers and can be applied to a variety of health conditions.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Method: After identifying themes that emerged from 33 qualitative studies of patient experience with care from various providers, we identified or developed items for major themes. We administered the instrument to 375 adult patients consulting in primary care for a variety of health conditions and who had seen and expected to see various providers. After initial psychometric analysis the instrument was modified slightly and re-administered to the same persons after 6 months. The initial analysis focused on identifying reliable subscales; the second on examining how their association with indicators of continuity of care and functional health outcomes.

Result: The instrument factors correspond to intended constructs, with acceptable reliability. The subscales are: detect the presence of an overall coordinator and the extent of the role (5 items); experience of care as coordinated (4-items); role clarity between providers (3-items); experienced information gaps (5-items), and; information for self management (4 items). Subscales correlated well and in expected directions with indicators of problem continuity (wanting to change providers, suffering, sense of being abandoned) and degree of care organization; somewhat with experience of errors and change in functional health status. Eliciting presence and extent of a care plan was challenging. Relationship with the coordinator was also important and predictive of continuity-related outcomes.

Conclusion: This instrument reliably measures dimensions of patient experience of care connectedness when received from various providers and are sensitive to continuity-related indicators. However, patients do not directly experience all relevant components of care coordination and other methods should complement their assessment of management continuity. The instrument focuses on the system as-a-whole and is pertinent for the multiple health conditions seen in primary care.

P1.26

Developing a community based model for respiratory care services

Emily Jacqueline Henderson, Greg Rubin
Durham University, Stockton-on-Tees, UK

Introduction Respiratory diseases are a major cause of mortality and morbidity, and represent a high chronic disease burden in the North East. We were asked by NHS commissioners to identify the key characteristics of a community-based service for chronic respiratory diseases. We used as a starting point the Wagner's Chronic Care Model (CCM), an evidence-based, multi-dimensional framework for improving chronic illness care.

Methods We used the Delphi method of consensus development, as described in the HTA monograph on such methodologies. We derived components from Wagner's Improving Chronic Illness Care survey, utilising the same rating system.

We established a purposeful panel of experts to form the Delphi group, which was multidisciplinary and included national and international experts in the field, as well as health professionals involved in the local delivery of respiratory services. Consensus was defined in terms of medians and means for the panel. Participants were able to propose new components in round one.

Results Twenty-one experts were invited to participate, and 18 agreed to take part. Sixteen responded to the first round, 14 to the second round and 13 to the third round. The panel rated twelve of the original fifteen components of Wagner's model to be appropriate for community-based respiratory care model, with varying levels of consensus. Where consensus was achieved, there was agreement that the component should be delivered to an advanced standard. Four additional components were identified, all of which would be categorised as part of delivery system design.

Conclusions This consensus development process confirmed the validity of the CCM as a basis for a community based respiratory care service, and has identified a small number of additional components, which may have wider applicability. Our approach has the potential to be applied to service redesign for other chronic conditions.

P1.27

Sound advice? Lay alternatives and challenges to professional health opinion: health advice-giving from friends and relatives

Julia Hiscock
Univeristy of Manchester, Manchester, UK

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Introduction: Throughout primary care, a significant amount of health professional time is devoted to giving health advice to patients. Yet there is another sphere operating totally outside formal health services where informal health advice is exchanged through patients' social networks. This paper presents findings on health advice given by friends and family. It forms part of a study for which the research question was: 'What do informal health and illness related interactions involve in practice?'

Methods: The study used qualitative methods. A purposive sample of 25 people was selected using criteria identified to enable detailed exploration of the research question: gender; age (two age clusters 45-55, 70-80); condition (heart disease, mild to moderate mental health problems); severity of condition; levels of deprivation and urban/rural (an inner city, high deprivation area of North West England and a rural, low deprivation area of North East England). The sample was clustered for more meaningful analysis. The data were gathered through qualitative interviews using a piloted topic guide. After a re-familiarisation with the entire data set, a case study analysis was conducted to inform the development of codes and to identify broad themes which spread across entire transcripts and could not be segmented into codes. Transcripts were then coded, organised using NVivo and interpreted, guided by the research questions and research team discussion.

Results: Types of advice provided included lay diagnosis, lay prescribing, illness management and lifestyle advice. Lay advice was also offered which challenged the opinions given by health professionals. Advice-giving was highly gendered. Close friends and relatives tended to give advice more than distant contacts. Factors which influenced the adoption of advice were relational proximity, age, perception of expertise, trust and homophily. Giving advice was more openly reported than receiving advice. Patients used a range of processes to evaluate the utility of the advice offered.

Conclusions: These findings are important because they shed light on the way patients receive advice from health professionals within a context of informal advice from their social networks. Lay advice can influence patients' decisions to seek and adhere to professional advice and can offer a parallel cadre of 'lay consultants'.

P1.28

Practice nursed-based, individual and video-assisted patient education in oral anticoagulation - a cluster-randomized controlled trial

Thanh Duc Hua[1], Jean-François Chenot[1], Stefan Viktor Vormfelde[2], Manar Abu Abed[2], Petra Sobotta[1], Hannelore Schneider-Rudt[1]
[1]Department of General Practice and Family Medicine, Medical University Goettingen, Goettingen, Germany, [2]Department of Clinical Pharmacology, Medical University Goettingen, Goettingen, Germany

Introduction: Managing oral anticoagulant treatment (OAT) is a challenge for patients and primary care providers. It requires a high level of patient knowledge about the therapy, drug interactions, nutrition and managing critical situations. Studies have shown that insufficient adherence and a low level of patient knowledge about OAT are primary causes for complications. The aim of our trial is to evaluate the subjective feelings of safety and patient knowledge in OAT.

Methods: In the frame of a cluster-randomized controlled trial in 22 general practices (GPs) 194 patients (49% women; average age 72 years SD ± 9) with OAT attended a baseline questionnaire to asses pre-existing knowledge about OAT. This questionnaire evaluates demographic data, subjective feelings of safety and knowledge about risks, drug interactions with oral anticoagulants, nutrition, and critical situations.

Results: The majority (56%) of the patients estimated their knowledge about OAT as well or very well. However, about 50% of the respondents are afraid of complications. 25% didn't know their individual treatment duration or INR level. 45% had no knowledge about nutrition during the OAT. The majority (85%) had knowledge gaps in factors influencing OAT, e.g. over-the-counter drugs or acute diseases. Symptoms for over- and under-dosing which require rapid actions, e.g. paresis for stroke or melaena for intestinal bleeding, could not been classified as an urgent emergency by 40% of the patients with OAT.

Conclusion: Whereas the majority of the patients estimated their knowledge about OAT as well or very well there are many knowledge gaps in relevant topics for drug safety in OAT. Other

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

studies have shown that a low level of patient knowledge about OAT is the primary causes for complications. Therefore, there is a need for an effective and structured education program to increase the safety for patients with OAT. The next step of our trial is to evaluate the effectiveness of a complex practice nursed-based video-assisted education program in comparison to a brochure.

P1.29

The effect of patient characteristics on completion of falls diaries in a primary care exercise trial

Steve Iliffe[1], Denise Kendrick[2], Tahir Masud[2], Dawn Skelton[3], Laura Perry[4], Richard Morris[1], Cate Barlow[1]
[1]University College London, London, UK, [2]University of Nottingham, Nottingham, UK, [3]Glasgow Caledonian University, Glasgow, UK, [4]Emory University, Atlanta, Georgia, USA

Introduction Poor recall of falls is an important issue in falls research. Current recommendations are to use prospective calendaring in studies examining fall rates. However, little attention has been paid to participants' characteristics and how these affect diary completion and falls recording.

The ProAct65+ exercise study is a general practice -based trial of exercise promotion. As part of routine safety monitoring, we utilized falls' diaries and examined falls data after the first cohort of participants had completed the 24-week intervention.

Methods 270 participants aged 65 and older were recruited from nine general practices in London. Participants were interviewed face-to-face at baseline, when data was collected on age, gender, highest level of education completed, self-reported first language, socio-economic circumstances and falls risk. Falls diaries were posted monthly and contained an example with instructions (written at a Gunning fog index of 7.0) on the first page.

Results 178 participants (66%) returned at least one falls' diary and the median number returned was 4 (IQR 0,6). Those not speaking English as their first language (≤ 50% vs. >50%) (OR 2.74, 95% CI 1.25 to 5.99) and women were less likely to complete more than half the diaries correctly (OR 0.52, 955 CI 0.27 to 0.99). Fifty nine falls were recorded by 40 participants. Women (IRR 2.25, 95% CI 1.21 to 4.18), those who completed secondary school education (IRR 2.38, 95% CI 1.06 to 5.33) and those for whom English was their first language (IRR 2.51, 95% CI 0.99 to 6.36) reported a higher rate of falls. Those with a higher FRAT score appeared to report a higher rate of falls, (IRR 4.83, 95% CI 2.15 to 10.85).

Conclusions Falls diaries are often incorrectly completed. In addition, biased returning of diaries may occur related to falls risk and biased reporting of falls may occur related to gender and factors associated with literacy. Further work is required to test the effects of improved diary design, providing support for diary completion and the use of alternative methods of prospective falls monitoring in diverse population groups.

P1.30

Can performance indicators help tackling health inequalities?

Bhautesh Jani[1], Fiona Turner[1], Mhairi Mackenzie[2], Frances Mair[1], Kate O'Donnell[1]
[1]Section of General Practice and Primary Care, University of Glasgow, Glasgow, UK, [2]Department of Urban Studies, University of Glasgow, Glasgow, UK

Introduction Reducing health inequalities requires multiple approaches and settings, including primary care. However, these approaches need to be embedded and maintained in routine practice. Some systems which utilise performance indicators are already in primary care, including QOF and, in Scotland, a programme of anticipatory, preventive care targeting CHD - Keep Well. However, these two systems are normalising into primary care with different degrees of success. Here, we report on a study which is exploring how, and why, some approaches become more "normalised" than others.

Methods Approximately 70 qualitative interviews, conducted with primary care practitioners, regional and national policy makers, and which explored the implementation of QOF and Keep Well, were analysed using Normalisation Process Theory (NPT). NPT covers four areas: coherence or

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

sense-making; participation; action; and monitoring.

Results Interviewees spoke of both sets of performance indicators as part of wider systems. While QOF was firmly embedded in primary care, Keep Well was part of a larger health improvement/public health system. Keep Well explicitly focused on reducing inequalities, addressing both health and social determinants; QOF was not intended to act as a direct driver on inequalities. There was a greater lack of coherence (shared understanding about the aims and approach) in relation to Keep Well compared to QOF. In each system, the skill set required to normalise it in practice relied on practice nurses and, to some extent, health care assistants. This raised tensions, with Keep Well relying on specially arranged, longer consultations, thus its workability in daily practice was poor. For both systems, contextual integration was strong, both in terms of the policy and finance, although Keep Well practices received funding without needing to meet targets. Monitoring, both locally and nationally, was weaker for Keep Well than for QOF.

Conclusions Performance indicators are only one part of a wider system when explicitly targeting inequalities. There was, however, variation in the extent to which these indicators have normalised into practice. NPT highlights those areas which practitioners and policymakers need to focus on when trying to embed indicators into routine practice, including who does the work and the role of financial recompense.

P1.31

Getting back to work: the UK Burden of Injury (UKBOI) multicentre longitudinal study

Denise Kendrick[1], Yana Vinogradova[1], Carol Coupland[1], Ronal Lyons[2], Nicola Christie[3], Elizabeth Tower[4]
[1]*University of Nottingham, Nottingham, UK,* [2]*Swansea University, Swansea, UK,* [3]*University of Surrey, Guildford, Surrey, UK,* [4]*University of the West of England, Bristol, UK*

Introduction: Injuries to working age adults are a common problem accounting for large number of hospital admissions (HA) and Emergency Department attendances (EDA) in the UK. More than 10% of all GP sick certificates are for injuries and, therefore, facilitating return to work (RTW) is central to the Governments strategy for the health and well being of working age adults. The aim of this study was to quantify RTW and factors predicting RTW post injury

Methods : Participants aged 16-65 from four UK Emergency Departments between September 2005 and April 2007 completed questionnaires at recruitment and by post at 1 and 4 months post injury. Data were collected on injury details, socio-demographic variables and employment status (self employed or employed) prior to injury. We defined full return to work (RTW) as reporting zero days off work in the last 28 days. Multivariable logistic regression analyses were run separately for EDA and HA to estimate odds ratios for factors associated with full RTW at 1 and 4 months post injury.

Results: One month after injury 35% of ED attenders had RTW. The self employed were more (OR 2.99, 95% CI 1.19 to 7.53) and the moderate/severely injured less likely to RTW (OR 0.30, 95% CI 0.16 to 0.57). At 4 months, 83% of ED attenders had RTW. The moderate/ severely injured were less likely to RTW (OR 0.25, 95%CI 0.10 to 0.61). At 4 months 57% of hospital admissions had RTW. Men were more (OR 5.59, 95% CI 1.71 to 18.25), whilst those injured at work (OR 0.16, 95% CI 0.04 to 0.70), with lower limb injuries (OR 0.26, 95%CI 0.09 to 0.79) and living in deprived areas (most deprived tertile OR 0.17, 95% CI 0.05 to 0.62 and middle tertile OR 0.22, 95% CI 0.07 to 0.75) were less likely to RTW. Physical and psychological problems were common post injury.

Conclusions: Injuries have a large impact on time off work. The primary health care team should identify those at risk of a slower recovery, address pain control and mobility problems and identify and manage anxiety and depression.

P1.32

The OASIS Program: A Pilot Supportive Aging at Home and Primary Care Health Management Program for Community Dwelling Elderly Living Independently.

Jyoti A Kotecha, PhD (Can), MPA, BSc (Hons), Jane Yealland, BA, Suzanne Biro, BScH, MPH, Richard v Birtwhistle, MD MSc

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

FCFP
Queen's University, Kingston, Ontario, Canada

Introduction OASIS is an innovative community care collaborative that supports aging at home and primary healthcare management. The program was initiated by a local Council on Aging who conducted focus groups with community dwelling high risk elders living independently in Kingston, Ontario Canada. Participants in the program are part of the collaborative and have input into the design of the basket of services provided. OASIS is designed to address the needs of independent elders, who because of poor nutrition, lack of physical activity, and isolation, are at high risk for using Emergency Room(ER) services and premature admission to long term care. This pilot program involves a partnership between The Centre of Studies in Primary Care (CSPC), Queen's University, and Council on Aging (COA), Community Care Access Centre (CCAC), the Victorian Order of Nurses (VON), the local Public Health Unit, St. Lawrence College culinary cooking unit, and the School of Rehabilitation Therapy, Queen's University.

Method This is a mixed method study with participant engagement in the design of an elder homecare program. Data was collected through; semi-structured interview guides used during focus groups, observation notes, collection of participant demographics information, administration of the SF-36 health related quality of life questionnaire at baseline, during and post implementation, and through key informant interviews, to understand the role of the healthcare providers. Descriptive statistics was used to analyze participant demographics and thematic analysis was used to analyze the focus group and key informant transcripts. A logic model was developed through participant engagement to describe the program.

Results The focus groups and the needs assessment surveys identified low cost on-site interventions that could assist; in the prevention of social isolation leading to improvement in mental and physical health; promote physical fitness; facilitate better nutrition and chronic disease management; as well as provide on-site personal support and health system navigation. Through the collaboration of the community healthcare providers that are partners of this program these services are now provided on site at a low cost and early improvement in health and well being of participants has been recorded.

P1.33

Mental health following myocardial infarction: cohort study in general practice

Karen Larsen[1], Mogens Vestergaard[1], Jens Soendergaard[2], Bo Christensen[1]
[1]*Aarhus University, Aarhus, Denmark,*
[2]*University of Southern Denmark, Odense, Denmark*

Introduction Myocardial infarction (MI) is associated with an increased risk of anxiety, depression and suicide. Screening for depression and provision of psychosocial support is recommended as part of the rehabilitation after MI, but insufficiently provided during the hospital based out-patient rehabilitation. On this background, mental health is an important focus area for general practice (GP) in the continuing rehabilitation. The aim of this study is to describe how general practitioners handle post-myocardial depression and analyse factors of importance to improve and maintain mental health after MI.

Method Population-based cohort study of patients with first time MI in 2009 from the Central Denmark Region. Data were obtained from nationwide longitudinal registers, from patient questionnaires 14-16 weeks (baseline) and 12-13 months (follow-up) after MI and from GP questionnaires 12-13 months after MI.

Results At baseline 908 (70%) of the 1,288 eligible patients responded. The mean age was 67.1 (SD: 11.7) years and 282 (31 %) were women. At 14-16 weeks after the MI, 156 (25 %) men and 106 (38 %) women had anxiety or depressive disorder according to the Hospital Anxiety and Depression Scale. At the 40nd Annual Scientific Meeting of the Society for Academic Primary Care, we will present follow-up data and factors that improve and maintain mental health after MI.

P1.34

A systematic review of the risk factors for ambulatory care sensitive hospitalisation in the elderly.

Alice Lau, Sarah Purdy
University of Bristol, School of Social and Community Medicine, Bristol, UK

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Introduction The demographic of developed countries is shifting towards a more elderly population. This has implications for future health care provision. Being able to identify those at greatest risk of admission for unplanned care will enable clinicians to effectively manage these patients care. Ambulatory care sensitive (ACS) conditions are those defined as being those for which timely and effective community care can help to reduce the risks of hospitalization. Previous reviews have included hospitalisations for all causes, which includes admissions for elective care.
The aim of this study is to undertake a comprehensive systematic literature review that will identify the known risk factors for ACS admissions in the elderly, with the objective of determining the individual and area-based risk factors ACS admissions in older adults.

Method A search strategy was developed using keywords relating to unplanned admissions, risk and older adults (≥60 years). Traditional bibliographic databases as well as the internet were searched using the strategy as well as hand-searching of key journals and reference lists of key papers. The papers were assessed for eligibility by two independent researchers. Papers meeting the eligibility criteria of a population based studies clearly or potentially primarily about the epidemiology of ACS admission or the explanatory risk factors for ACS admission in the elderly were included.

Results The search found 5,466 titles which were screened for eligibility. 182 titles were eligible after screening titles and abstracts, of which 9 were selected after screening the full text. The studies have identified 31 conditions as ACS and the primary outcome of these studies is hospitalization for an ACS condition. Multiple risk factors are examined in the studies, and several studies have studied the influence of co-morbidities, and in particular co-morbid conditions, on the risk of admission.
Conclusions
Multiple factors influence the risk of hospitalization for an ACS condition in the elderly. The influence of comorbid conditions has been studied in detail but further work needs to be done on other clinical and health service related factors in order to improve the identification of the patients who are at the greatest risk of admission.

P1.35 also oral D63

A formal teaching role for GPs in training - a win, win, win, win situation?

Barbara Laue
University of Bristol, Bristol, UK

Introduction Traditionally we have only invited qualified GPs to teach our medical students. The publication of the RCGP curriculum made it explicit that GPs in training should learn to teach. We noticed that the 12 teaching competencies described in the curriculum matched the Primary Care teaching tasks in years 2 and 3 of the undergraduate Bristol curriculum.

With agreement from the local Deanery and GP trainers we developed a pilot for GPs in training to teach 2nd and 3rd year medical students. This included a half day teaching workshop to prepare them for their teaching task. This abstract describes how we evaluated this pilot.

Method We emailed all GPs in training at the local deanery and invited those who would be working in Primary Care from August 2009 to attend a teaching workshop in June 2009. They were asked to make a definite commitment to teaching in the academic year 2009-10. Each GP in training taught clinical skills relevant to what the students were studying. They each had a group of four 2nd or 3rd year students for four half day sessions.

GPs in training were invited to answer an online questionnaire after all of them had completed their teaching. We also collected student feedback on their teaching sessions and compared this to that of our qualified GP teachers.

Results 26 GPs in training taught a group of either 2nd or 3rd year students. Of these 18 answered the online questionnaire. 12 had previous experience of teaching medical students on the wards. All 18 answered yes to whether they enjoyed the teaching, whether they would recommend the teaching to others and whether they intend to teach in the future.

The student feedback was positive, similar to that of established GPs

Conclusions This pilot indicates that this teaching initiative has translated into a valued and enjoyable teaching experience for GPs in training with positive student feedback. We think

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

that this represents a winning situation for all concerned - GPs in training get teaching experience, the Deanery complies with training, students get their placements and Primary Care gains additional teachers. Everybody wins.

P1.36

A cross-sectional study of inappropriate prescribing for older people living in UK care homes

Mathumalar Loganathan[1], Bryony Franklin[2,3], Azeem Majeed[1]
[1]*Imperial College London, London, UK,* [2]*School of Pharmacy, University of London, London, UK,* [3]*Centre for Medication Safety and Service Quality, Imperial College Healthcare NHS Trust, London, UK*

Introduction : An ageing population means that IP in older people, particularly of those living in care homes, is becoming an important public health issue. Exclusive IP screening tools for Europe have become available recently following criticisms that use of modified US-based tools is inappropriate for local settings. We aim to determine the prevalence of potentially inappropriate medications (PIMs) and potential prescribing omissions (PPOs) in UK care homes by using the Screening tool of Older Persons' Prescription (STOPP) and Screening Tool to Alert doctors to Right Treatment (START) respectively.

Methods: Data from the electronic medical records of 104 residents of two care homes in Lambeth, London , were extracted. STOPP and START tool were applied to their medications.

Results: Median age of the residents was 79 and 57% of them were women. 1372 medications were prescribed in total; number of medications per resident ranged from 2-27 with median 9. STOPP criteria identified 73 PIMs in 45 residents and START criteria identified 44 PPOs in 30 residents resulting in a prevalence of 43.3% and 28.8 % respectively. Age ≥85 years was negatively associated with PIMs, while regular use of >10 medications was positively associated with the same outcome.

Conclusions: PIMs and PPOs are highly prevalent among residents of care homes in this study. Residents aged 65-69 years and those taking over 10 regular medications are at the greatest risk of inappropriate prescribing. There may be a role for the routine application of STOPP and START tools by primary care physicians in this setting.

P1.37

What was wrong with the sicknote?

Sara Macdonald[1], Margaret Maxwell[3], Philip Wilson[1], Rosalia Munoz-Arroya[4], Matt Sutton[2], Will Whittaker[2], Andrew Power[5], Michael Smith[1], Jillian Morrison[1]
[1]*University of Glasgow, Glasgow, UK,* [2]*University of Manchester, Manchester, UK,* [3]*University of Stirling, Stirling, UK,* [4]*Information Services Division, NHS Scotland, UK,* [5]*Greater Glasgow and Clyde NHS Board, Glasgow, UK*

Introduction General practitioners by providing sickness certificates, are gatekeepers to work-incapacity. In recent years, GPs have been, albeit implicitly, viewed as part of the problem. Dame Carol Black suggested: *the sickness certification process, reflects an assumption that illness is incompatible with being in work."* Yet, despite this suggestion there is little evidence available about what GPs actually think about the provision of sickness certificates. Previous research has shown that this represents an area of tension. The 'Fit note', introduced in April 2010 aimed to address some of the perceived shortcomings of the existing sickness certification system. GPs are now invited to offer judgements about patients' functionality and what measures could best keep them in work.

This paper presents data gathered before the introduction of fit notes. GPs across Scotland were interviewed in a study that focused on depression and long term work incapacity. GPs were asked to reflect on the existing sickness certification system, their role within it and the proposed changes to the system.

Methods A series of semi-structured interviews with 30 GPs across Scotland. GPs were purposively sampled to reflect a range of experience. The framework approach was drawn on for analysis.

Results GPs experienced tension and conflict in the realm of sickness certification. Most felt that their primary role was one of patient advocacy,

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

and this, many candidly acknowledged, was challenged by the system of sickness certification. Advocacy was interpreted in a number of ways and a handful felt that refusing sickness certificates was ultimately in the patient's best interest. Far from being issued unthinkingly, GPs saw sickness certificates as a powerful intervention. The majority of GPs were ambivalent about their continued role in the sickness certification system and most were sceptical about the introduction of fit notes. Few GPs felt able to make judgements about work capability. Ultimately, fit notes were predicted to exacerbate the tensions already felt within the system.

Conclusions The use of fit notes in general practice has not been fully evaluated. The data presented here hints that their introduction may fuel tension already felt by GPs within the system.

P1.38

Reminder packaging for improving adherence to self-administered long-term medications.

Kamal Ram Mahtani[1], Carl Heneghan[1], Paul Glasziou[2], Rafael Perera[1]
[1]Centre for Evidence Based Medicine, University of Oxford, Oxford, UK, [2]Centre for Research in Evidence-Based Practice, Bond University, ROBINA QUEENSLAND, Australia

Introduction Current methods of improving medication adherence for health problems are complex, labour-intensive, and not reliably effective. Medication 'reminder packaging' which incorporates a date or time for a medication to be taken in the packaging, can act as a reminder system to improve adherence. The objective of the study was to update a review determining the effects of reminder packaging to enhance patient adherence with self-administered medications taken for one month or more.

Methods, We have updated searches of the Cochrane Central Register of Controlled Trials (CENTRAL) and the Database of Abstracts of Reviews of Effects (DARE), MEDLINE, EMBASE, CINAHL and PsycINFO from the start of the databases to 1 Nov 2010. We also searched the internet, contacted packaging manufacturers, and checked abstracts from the Pharm-line database and reference lists from relevant articles. We did not apply any language restrictions. Randomised controlled trials with at least 80% follow up, comparing a reminder packaging device with no device in participants taking self-administered medications for a minimum of one month were selected for meta-analysis.

Results, Twelve studies containing data on 2,089 participants were included. Six intervention groups in four trials provided data on the percentage of pills taken. Reminder packaging showed a significant increase in the percentage of pills taken, weighted mean difference 11% (95%confidence interval (CI) 6% to 17%). Notable heterogeneity occurred among these trials I2 = 96.3%. Two trials provided data for the proportion of self-reported adherent patients, reporting a reduction in the intervention group which was not statistically significant odds ratio = 0.89 (95% CI 0.56 to 1.40). Meta-analysis was carried out on data from two trials assessing the effect of reminder packaging on blood pressure measurements. No appropriate data were available for meta-analysis of remaining clinical outcomes, that included glycated haemoglobin, serum Vitamin C and E levels, and self-reported psychological symptoms (one trial each).

Conclusions. Reminder packing may represent a simple method for improving adherence for patients with selected conditions examined to date. Further research is warranted to improve the design and targeting of these devices.

P1.39

Tool for the Risk Assessment of Current IroN Overload (TRAIN): Development of a Tool to Guide Screening in Primary Care

Arch Mainous[1], Vanessa Diaz[1], Charles Everett[1], Michele Knoll[1], Mary Hulihan[2], Althea Grant[2], Christine McLaren[3], Gordon McLaren[3]
[1]Medical University of South Carolina, Charleston, South Carolina, USA, [2]Centers for Disease Control and Prevention, Atlanta, Georgia, USA, [3]University of California, Irvine, Long Beach, California, USA

Introduction: Iron overload is associated with significant morbidity and mortality yet is easily treated. With no universally accepted screening recommendations for hemochromatosis or iron overload, detection in an undifferentiated patient

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

population in primary care is difficult and may lead to detection late in the course of illness. Our goal was to create a tool that could be easily adapted to clinical practice that indicates the likelihood of a patient having undetected iron overload.

Method: We used data from the National Health and Nutrition Examination Survey (NHANES) 1999-2002 for 8,779 US adults aged 20 years and older to build a model. We chose potential variables for inclusion that could be gathered by self-report or measured without laboratory data and were suggested by past literature on hemochromatosis and iron overload. We computed logistic regressions to evaluate the variables' relationship with elevated ferritin and elevated transferrin saturation. The resulting score on the Tool for the Risk Assessment of Current IroN Overload (TRAIN) was then validated with data on 13,844 adults in the NHANES III, 1988-94.

Results: Predictors in the final tool were age, gender, previous diagnoses of liver condition, osteoporosis or thyroid disease. The TRAIN yielded an area under the curve (AUC) in the NHANES 1999-02 of 0.720 and an AUC of 0.685 in the NHANES III validation sample. **Conclusion:** The TRAIN is a tool to assist in identification of patients with iron overload that has several qualities that make it attractive for use in clinical practice with an undifferentiated patient population including brevity, easily collected information and predictive ability comparable to other tools that help in directing screening.

P1.40

Illness perceptions and management in people with multi-morbid diabetes and depression

Jenny Mc Sharry[1], Felicity Bishop[1], Rona Moss-Morris[1], Tony Kendrick[2]
[1]University of Southampton, Southampton, UK, [2]Hull York Medical School, Hull, UK

Introduction Diabetes with depression is common with 20% of people with diabetes also suffering from depression. Despite the prevalence of this multi-morbidity much of the existing literature is concentrated on single conditions in isolation. The aim of this study was to explore people's own understanding of the relationship between diabetes and depression and how they manage both conditions.

Method Face-to-face semi-structured qualitative interviews were carried out with 17 people with diabetes and depression. An interview guide was developed to explore participants' perceptions and management of their multi-morbidity. Data were audio-taped, transcribed, and analysed using an inductive thematic analysis and elements of grounded theory.

Results Participants' perceptions of the relationship between diabetes and depression were identified as the core category in the data. Not all participants saw their diabetes and depression as related and, when they did, different types of relationships and interactions were described. Participants also differed in their preferred management styles with some managing diabetes and depression separately and others describing integrated management of both conditions. The role of perceptions in patient self-management will be discussed. A preliminary model of illness perception and management in people with diabetes and depression has been developed based on this analysis and will also be presented.

Conclusions People with diabetes and depression differ in their perceptions of diabetes and depression. A person's understanding of their multi-morbidity may also influence self-management. The data from this study is now being used to develop a questionnaire to explore the role of perceptions in patient self-management. An awareness of patients' beliefs about their multi-morbidity may facilitate the development of successful self-management plans for people with multiple conditions.

P1.41

Perceived knowledge of VTE prevention: A qualitative study

Lorraine McFarland, Sheila Greenfield, Ellen Murray, David Fitzmaurice
University of Birmingham, Birmingham, UK

Introduction: There is little awareness of venous thromboembolism (VTE) in the public arena other than traveller's thrombosis and its association with oral contraception. However, there is a risk of VTE associated with hospital admissions for medical and surgical conditions. This risk can be reduced by up to 70% with appropriate thromboprophylaxis. Little is known about the role of primary care in thromboprophylaxis or of the

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

information high risk patients receive prior to hospital admission or after discharge. The aims of this study are to explore the perceived and actual clinical barriers to implementation of thromboprophylaxis for high risk patients and the perceived role of primary care and to examine existing knowledge of thromboprophylaxis amongst primary health care professionals (HCPs), patients, acute trusts and other relevant organisations. This includes the identification of barriers to providing thromboprophylaxis in primary care and the development of educational initiatives to help the adoption of safe practice outside the hospital setting.

Method: Qualitative methods are being used to assess patients' awareness of VTE risk and their attitudes to receiving thromboprophylaxis. In Oxfordshire and South Birmingham, PCTs face-to-face semi-structured interviews are being undertaken with a purposive sample of 60 high risk patients recruited from medical, surgical and orthopaedic wards. 50% of these patients have required extended thromboprophylaxis. In addition, face to face interviews with primary HCPs are being conducted. Healthcare professionals, acute trusts, pharmacy leads and representatives from other relevant organisations are recruited for interview using snowball sampling. Semi-structured interview data will be analysed using qualitative thematic methods.

Results: Results will be presented under the following headings: Patients: Attitudes to receiving thromboprophylaxis, knowledge of VTE risk; awareness of thromboprophylaxis prior to hospital admission; experiences of risk assessment for VTE and of thromboprophylaxis on hospital admission; experiences of risk assessment for VTE and of thromboprophylaxis on hospital discharge; HCPs: Risk awareness; perceived barriers to implementation of thromboprophylaxis.

Conclusion: Effective education initiatives are needed to ensure public and primary care engagement in VTE preventative measures outside the hospital setting. The results will be utilised to design appropriate educational interventions for both patients and professionals.

P1.42

What can we learn from primary care multimorbidity cohorts? Findings From A Systematic Review

Emma F. France[1], Sally Wyke[1], Jane M. Gunn[3], Frances Mair[2], Gary McLean[2], Stewart W. Mercer[2]

[1]Alliance for Self Care Research, School of Nursing, Midwifery and Health, University of Stirling, Stirling, Stirlingshire, UK, [2]General Practice and Primary Care, Division of Community-Based SciencesCentre for Population and Health Sciences, University of Glasgow, Glasgow, Lanarkshire, UK, [3]Primary Care Research Unit, Department of General Practice, University of Melbourne, Melbourne, Victoria, Australia

Introduction: Multimorbidity is a rapidly growing, global challenge to healthcare systems, practitioners and patients. Its prevalence is increasing but we know little about its causal pathways, risk factors, natural history, or what influences prognosis, safety of treatments, or how patients manage their multiple problems and medications. Patients and primary care have the major responsibility for managing multimorbidity but we lack evidence to inform self-management, treatment decisions and health service planning. High quality longitudinal studies are required to explore these issues. We undertook a systematic review of prospective cohort studies of multimorbidity in primary care to determine the: 1) nature, scope and key findings of published studies; 2) methodological quality of the studies; and 3) major gaps in knowledge.

Method: Searches were conducted in MEDLINE, PubMed, CINAHL, PsycINFO, ISI Web of Science, BMC journals, and Conference Papers Index (23rd March 2010) using topics, keywords, Medical Subject Headings (MEDLINE), Headings (CINAHL) and Descriptors (PsycINFO). We hand searched key journals and approached multimorbidity experts for additional references. Searches were limited to adult populations with no restrictions on publication date or language. 996 articles were identified and screened.

Results: Six articles from five completed prospective cohort studies were identified. Their scope and nature were limited. Three were

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

undertaken in the USA and two in the Netherlands; none was nationally representative. The main focus of studies was: healthcare utilisation and/or costs (n=3 studies); patients' physical functioning (n=1); risk factors for developing multimorbidity (n=1). Studies found multimorbidity increased health care costs (n=2), inpatient admission, death rates (n=1), and service use (n= 3); and reduced physical functioning (n=1). Psychosocial risk factors for multimorbidity were identified (n=1). Methodological quality was poor: no study used random sampling; sample sizes were relatively small (414-3745 patients at baseline); and duration was relatively short (1 to 4 years). There were several gaps: no study focused on prevalence, causal pathways, treatment use, patient safety, service models, cultural or socioeconomic factors or patient experience, or collected qualitative data.

Conclusions: Few longitudinal studies investigate multimorbidity. Those identified do not address issues crucial for healthcare planning. Further large-scale, long-term prospective studies are required.

P1.43

Monitoring of depression treatment in primary care: Evaluation of follow-up questionnaires incentivised in the Quality and Outcomes Framework

Michael Moore[1], Saima Ali[1], Beth Stuart[1], Jessica Ovens[1], Chris Goodall[1], Gerry Leydon[1], Tony Kendrick[2]
[1]Southampton University, Hampshire, UK, [2]Hull and York Medical School, Yorkshire, UK

Background - Depression is a chronic or relapsing condition for a significant proportion of sufferers. Current NICE guidelines advocate a stepped care approach depending on treatment response. It has been suggested that illness severity and treatment response could be monitored using depression questionnaires. In the UK initial and follow-up depression symptom questionnaires are incentivised through the general practice quality and outcomes framework (QOF). However, the validity and utility of this approach has not been established empirically. Symptom counts alone may be inadequate measures on which to base judgements about treatment continuation or changes and may need to be augmented by measures of daily functioning and quality of life

Method - Quantitative analysis of anonymised computer records of patients assessed with PHQ-9 questionnaire. Data will be extracted from the computerised medical records of patients for whom a PHQ-9 score is recorded between April 2009 and July 2010. Data extracted will include the scores recorded on the initial and follow-up questionnaires; patient age, gender, concurrent physical illness, and previous history of depression. Data regarding change in antidepressant medication or dose and referral relative to depression severity scores will also be extracted.

Results - Data has currently been collected from 4 sites and a further 7 sites have been identified. Preliminary analysis of the first 150 cases reveals that 89% of those with a first score had treatment with antidepressant medication and 89% had paired PHQ9 scores. Of those with paired data 56% had and adequate treatment response (5 or more point drop) and 25% had a definite inadequate response (1 point drop no change or increase in score). . Analysis of the full data set and a model testing the relationship between response or non response and treatment decisions will be presented.

Conclusions - We will discuss the evidence regarding the relationship between monitoring scores and treatment decisions for depression management in primary care.

P1.44

Scottish GPs' use of sick notes for people with depression

Jill Morrison[1], Sara MacDonald[1], Margaret Maxwell[2], Andrew Power[3], William Whittaker[4], Matt Sutton[4], Phil Wilson[1]
[1]University of Glasgow, Glasgow, UK, [2]University of Stirling, Stirling, UK, [3]Greater Glasgow and Clyde Health Board, Glasgow, UK, [4]University of Manchester, Manchester, UK

Introduction About 40% of UK sickness absence is caused by anxiety and depression. GPs have previously been criticsed for their sickness certification behaviour although there is little previous research. As part of a larger study

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

investigating GPs' management of depression and long term incapacity, we conducted a survey to investigate Scottish GPs' current practice and views about sickness certification in depression.

Method The survey followed analysis of 30 interviews with GPs about their management of people with depression and long term incapacity for work. It was delivered using SurveyMonkey, and piloted twice. E-mail nhs.net addresses for GPs in Scotland were identified by Health Board but ascertainment of GPs was variable. The survey was sent by e-mail with two reminders in 2009.

Results 932 GPs responded and were representative of Scottish GPs for age, gender, place of birth and practice size, geographical and socioeconomic characteristics.

36.5% of GPs issued 1-5 and 10.1% issued 20 or more certificates for depression per month. GPs who were male, UK trained, working in larger practices and in deprived areas issued significantly more.

68.7% had written a vague diagnosis such as "stress" or "nervous debility", to avoid stigma and preservice patient confidentiality. Older GPs anhd GPs working in larger practices were more likely to have done this.

25.8% had written "depression" on a certificate when the real problem was something else such as alcohol or drug dependency.

84.4% had actively encouraged depressed patients to take time off work. 33.4% said work is often the cause of depression and 56.2% thought particular jobs led to more time off for depression.

Most agreed that time off work can be an effective tool to manage depression and that their primary role in the benefit system was patient advocacy.

Only 11.3% indicated they knew what Employment Support Allowance would mean for their patients.

Discussion

The tension in the GP role between patient advocate and gatekeeper to the benefit system was confirmed. This research provides a baseline for GP knowledge, attitudes and reported practice in the context of recent changes to the benefit system.

P1.45

Comparing diagnostic delay in cancer: a feasibility study in three European Countries with primary care-led healthcare systems

Peter Murchie[1], Neil Campbell[1], Elizabeth Delaney[1], Philip Hannaford[1], Geert-Jan Dinant[2], Mark Spigt[2], Lennart Johansson[3], Piotr Rollano[4], Amanda Lee[1]
[1]University of Aberdeen, Aberdeen, UK, [2]University of Maastricht, Maastricht, The Netherlands, [3]Nasets Lakargrupp, Hollviken, Sweden, [4]Vardcentralen, Malmo, Sweden

Background The principal aim of this study was to determine the feasibility of a large-scale comparative study, between the UK, the Netherlands and Sweden, to investigate whether delays in the diagnostic pathway of cancer might explain differences in cancer survival between countries.

Methods:Following a planning meeting to agree the format of a data collection instrument, data on key delays in the cancer diagnostic pathway were abstracted from primary care-held medical records. Data were collected on fifty cases each (total of 150) from practices in each of Grampian, Northeast Scotland; Maastricht, the Netherlands, and Skane, Sweden. Data were entered into SPSS 18.0 for analysis.

Results:Data on key delays in the cancer diagnostic pathway were readily available from primary care-held case records. However, data on key demographic variables, cancer stage at diagnosis and treatment were less well recorded. There was no significant difference between countries in the way in which cases were referred from primary to secondary care. There was no significant difference between countries in the time delay between a patient presenting in primary care and being referred to secondary care. Median delay between referral and first appointment in secondary care (19 (8.0-47.5) was significantly longer in Scotland that in Sweden (1.0 (0-31.5) and the Netherlands (5.5 (0-31.5)) ($p<0.001$). Secondary care delay (between first appointment in secondary care and diagnosis) in Scotland (22.5 (0-39.5) was also significantly longer than in

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Sweden (14.0 (4.5-31.5) and the Netherlands (3.5 (0-16.5)) (p=0.003). Finally, overall delay in Scotland (53.5 (30.3-96.3)) was also significantly longer than in Sweden (32.0 (14.0-71.0)) and the Netherlands (22.0 (7.0-60.3)) (p=0.003).

Conclusions:A large-scale study comparing cancer delays in European countries and based on primary care-held records is feasible but would require supplementary sources of data in order to maximise information on key demographic variables, the cancer stage at diagnosis and treatment details. Such a large-scale study is timely and desirable since our findings suggest systematic differences in the way cancer is managed in the three countries.

P1.46

Can voluntary disenrollment from General Practices be used as a quality indicator?

SHOBHANA NAGRAJ[1], GARY ABEL[1], CHARLOTTE PADDISON[1], MARC ELLIOTT[2], MARTIN ROLAND[1]
[1]UNIVERSITY OF CAMBRIDGE, CAMBRIDGE, UK, [2]RAND USA, CALIFORNIA, USA

Introduction Changing GP Practice without changing address may reflect patient dissatisfaction, but has not previously been used as a quality indicator. We performed a study to ascertain the rates of disenrollment without change of address from GP practices between March 2009 to February 2010 and to relate this to practice performance on the GP Patient Survey.

Methods Data regarding patients who moved practices without change of address were provided by the NHS Information Centre. We used Poisson regression analysis to relate disenrollment rates to scores on access, communication and continuity of care in the GP Patient Survey. Multivariable analysis controlling for practice variables including size, GP characteristics and the age, gender and ethnicity characteristics of the population, was also performed.

Results Data regarding disenrollment were available for 8,341 practices in England. The mean and median rates of disenrollment were 11.1, and 7.2 per 1000 patient years, respectively (range 0 -236). The univariate analysis provided strong evidence of an association between most GP Patient Survey items and disenrollment. The strongest associations with disenrollment related to doctor communication, trust and confidence in the doctor and overall satisfaction. The results of the multivariable analysis will be presented at the meeting.

Conclusion In the USA, disenrollment rates from Health Maintenance Organisations are reported to the public as an indicator of health plan quality. The results of this study will provide information on whether disenrollment could be used as a quality indicator in the UK.

P1.47

The early presentation and management of rheumatoid arthritis cases in primary care

Amanda Nicholson[1], KA Davies[1], Helen Smith[1], Greta Rait[2], Rosemary Tate[1], Jackie Cassell[1]
[1]Brighton & Sussex Medical School, Brighton, UK, [2]University College London, London, UK

Introduction Recent NICE guidance has emphasised the importance of early recognition and referral of patients with inflammatory arthritis so that disease modifying treatment can be promptly initiated. The timely identification of such patients, given the large numbers consulting with musculoskeletal complaints, is a considerable challenge and descriptive data from primary care are sparse. Our objective was to examine GP records from three years before to two weeks after the first coded diagnosis of rheumatoid arthritis in order to describe the early course and management of the disease.

Methods

Design : a retrospective cohort study

Setting : 460 GP practices in the UK contributing to the General Practice Research Database

Population: 1836 men and 4017 women aged 30 years and over with first coded diagnosis of rheumatoid arthritis (RA) between 1/1/2005 and 31/12/2008

Outcome measures: Using coded data we developed indicator markers for provisional diagnosis, suggestive symptoms or signs, referral, investigation and treatment.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Results 3,823 (65%) RA patients had at least one non -specific joint symptom or sign recorded within the study period and in 2,604 (44%) this was at least 6 months before diagnosis. More specific symptoms or diagnosis indicating inflammatory arthritis were present in 867 (15%) but synovitis was recorded in only 4% of cases. 63% had evidence of a rheumatoid factor test with 20% of these at least 6 months prior to diagnosis. There was evidence of referral to rheumatology services in 42% of cases. 1,969 (34%) received a prescription for disease modifying anti-rheumatic drug, 846 (14%) at least 6 months before diagnosis. No gender differences in management were found.

Conclusions Our results indicate that the diagnosis of RA may have been made some months before it was coded. Coded data do not give detailed information on clinical presentation making it difficult to differentiate delay in diagnosis from delay in recording. Textual data in addition to coded information may be required for the accurate assessment of quality of care in general practice.

P1.48

Optimal detection and monitoring of Hypertension using home blood pressure monitoring and Bluetooth Technology in primary care - HYBET Primary Care: Update

David Nunan, Carl Heneghan, Alison Ward
University of Oxford, Oxford, UK

Introduction: The aim of this study is to test the accuracy, reliability and acceptability of an electronic Bluetooth® method for self-monitored blood pressure (SMBP) in patients with suspected hypertension (high blood pressure)

Method: Twenty-eight day SMBP with follow-up 24 h ambulatory BP monitoring (ABPM) was performed in patients presenting with systolic blood pressure (SBP) >130 and <180 mmHg at one of three Oxfordshire primary care health centres. Data for SMBP were transmitted twice daily to a secure web based repository via wireless Bluetooth® from a mobile phone. Information on patient attitudes toward and experience of SMBP and ABPM were collected pre- and post-study

Results: To date 62 patients have been enrolled onto the study and 41 of these have completed the full protocol. Adherence to SMBP has been good, with 33 of the 41 patients performing 100% of the expected number of readings and the remainder performing 80% - 99%. Baseline SBP demonstrates a moderately but significantly higher value than SBP determined using guideline protocol for home BP (6 mm Hg, P = 0.045) and SBP over the 28 day period (6 mm Hg, P = 0.045). A trend for raised baseline BP readings accompanied by a sustained lower SMBP within 7 days post-clinic readings has been observed. Attitudes towards SMBP have been positive for the majority of patients.

Conclusions: Patients are demonstrating a positive attitude towards SMBP with the Bluetooth® model and this may be contributing to a high adherence rate. Noticeable trends for white-coat hypertension and/or clinic raised BP followed by a sustained lower SMBP have been observed. Data from this study may influence current diagnosis strategies for hypertension

P1.49

The association between bullying and health care utilisation in children

Tom O'Dowd, Udo Reulbach
Trinity College Dublin, Dublin, Ireland

@font-face { font-family: "Calibri"; }p.MsoNormal, li.MsoNormal, div.MsoNormal { margin: 0cm 0cm 10pt; line-height: 115%; font-size: 11pt; font-family: "Times New Roman"; }em { font-weight: bold; font-style: normal; }div.Section1 { page: Section1; }

Introduction: Understanding and preventing bullying at an early stage may reduce problems later in life such as abuse and aggression. As General Practitioners (*GPs) are the first point of contact in healthcare for children* this study explores the association between health utilisation and bullying in children.

Method: The study population of Growing Up in Ireland - the National Longitudinal Study of Children was randomly selected from a representative sample of 910 Primary Schools in the Republic of Ireland. It consists of a sample of 8,568 nine-years-olds from the first wave of data collection. Data collection consisted of self-completion surveys with children in school and at home and interviewer administered questionnaires

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

with parents and children in their home. Analysis is based on statistically reweighted data to ensure that it is representative of all nine-year-olds in Ireland.

Results: Children who reported being victimised by bullying in the past year, had significantly more contacts with GPs (Z=-3.2; p=0.001) or with other health professionals such as clinical psychologists (Z=-4.8; p<0.001), but not with other medical doctors such as paediatricians. As expected chronic illness on its own contributed to a higher consultations with the GP (p<0.001). Children with an ongoing chronic illness and who were bullied had higher consultation rates than those chronically ill children who were not bullied (p =0.041). From a gender point of view, multivariate analyses provide some evidence that girls who were victimised by being bullied were more likely to engage with GPs than boys who were victimised (but who have significantly more contacts with other non medical health professionals)

Conclusions: Being victimised by bullying as a child is associated with higher health care utilisation. This effect is significant in children with or without chronic health conditions. The higher health service uptake is evident for GPs but not for other medical doctors. This underlies the need to raise GP awareness in their role as first point of contact with children.

P1.50

Should measures of patient experience in primary care be adjusted for case mix? Evidence from the UK General Practice Patient Survey

Charlotte Paddison[1], Marc Elliott[2], Richard Parker[1], Laura Staetsky[3], Yoryos Lyratzopoulos[1], John Campbell[4], Martin Roland[1]
[1]Centre for Health Services Research, University of Cambridge, Cambridge, UK, [2]RAND Corporation, Santa Monica, CA, USA, [3]RAND Europe, Cambridge, UK, [4]Peninsula Medical School, Exeter, UK

INTRODUCTION Uncertainties exist about when and how to adjust performance measures for case mix. Practice varies both within the UK and internationally. The objective of this research was to quantify the impact of case-mix adjustment on practice-level scores in a national survey of patient experience. To identify why and when it may be useful to adjust for case mix, and discuss unresolved case-mix issues in policy applications.

METHOD Secondary analysis of the 2009 English General Practice Patient Survey with data from 2,163,456 patients registered with 8,267 primary care practices. Results of case-mix adjustment for age, gender, race/ethnicity, small area socio-economic status, and self-reported health. Regression models with case-mix variables as fixed effects and random effects for practice.

RESULTS Applying case-mix adjustment resulted in a few large adjustments (which mainly increased practice scores), and many small adjustments (which mainly reduced practice scores). Case-mix adjustment changed the ranking of between 2% and15% of practices by more than10 percentile points, depending on the survey measure selected. Age and race/ethnicity were the most influential adjustors. Practices with younger, more socio-economically deprived, and more non-white patients were more likely to gain from case-mix adjustment.

CONCLUSIONS While its effect on the average practice is modest, case-mix adjustment corrects significant underestimation of scores for a small proportion of practices serving vulnerable patients. Case-mix adjustment may also reduce the risk that providers would 'cream-skim' by not enrolling patients from vulnerable socio-demographic groups.

P1.51

To thrombolyse, or not to thrombolyse: that is the question

Maria Cristina Penaloza, James Sheppard, Sue Jowett, Dawn Swancutt, Pelham Barton, Richard McManus
University of Birmingham, Birmingham, UK

Introduction: It is well recognised that people who suffer from stroke benefit from early intensive treatment. In acute ischaemic stroke, thrombolysis within four and a half hours of symptom onset can significantly improve functional outcomes. Much emphasis has been placed on designing health services which ensure that patients presenting with stroke receive prompt diagnosis and treatment. The aim of this study was to identify

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

remaining barriers to timely, effective and cost-effective management of acute stroke.

Methods: Patients presenting with symptoms of acute stroke were recruited to this study from two hospitals in Birmingham. Data relating to their management from presentation to outcome were collected from patient records and a decision tree constructed to model their care. This took into account time from symptom onset to arrival at hospital, timing and availability of scanning and eligibility for and availability of thrombolysis. Usual care pathways were compared with best practice to assess the potential impact of changes to services on effectiveness and cost-effectiveness.

Results: To date, complete data have been collected in a total of 75 patients (42 male) aged 72 ± 15 years old. Five patients (7%) were classed as having a stroke mimic and four (5%) had had a haemorrhagic stroke. Of the remaining 66 patients (88%) potentially eligible for thrombolysis, only 6 (9%) were thrombolysed. Of those not thrombolysed, 34 arrived at hospital too late to be considered and 10 were not scanned in time. The main route of admission was by ambulance in 48 (73%) of the cases, followed by walk into A&E (7 patients, 11%). None of the patients admitted to hospital by their GP (6 patients, 9%) were thrombolysed. Data will be presented regarding the effects of changes in management on costs and QALYs.

Conclusion: Early results confirm national data showing only a small minority of patients receive thrombolysis. Timeliness of admission to hospital, scan availability and lack of knowledge about the exact time of symptom onset appear to be critical factors affecting the probability of thrombolysis. Further modelling will allow estimation of the potential benefits of optimisation of the stroke care pathway.

P1.52

Pregnancy and prescribed psychotropic medicine

Irene Petersen[1], Ruth Gilbert[1], Stephen Evans[2], Irwin Nazareth[1,3]
[1]UCL, London, UK, [2]LSHTM, London, UK, [3]GPRF-MRC, London, UK

Introduction: Since the thalidomide scandal in the 1960's both women and health care professionals have been cautious about using medicines in pregnancy. However, women with chronic conditions face a dilemma during pregnancy about whether the advantages of continued treatment outweigh the risks to the fetus. Evidence to inform these decisions is limited. A first step to examining the extent of this dilemma is to determine the frequency of stopping treatment in women with a chronic condition. In this study we determined the decline in prescribing of antidepressants, antipsychotics, anxiolytics and hypnotics before and after onset of pregnancy using data from the Health Improvement Network (THIN) UK primary care database.

Methods: From a cohort of 140,413 pregnant women with a live birth between 1994 and 2009 we identified women who were prescribed one or more psychotropic medication before they became pregnant. We examined the time to last prescription during pregnancy using Kaplan-Meier analysis.

Results: In total 9,703/140,413 (7%) women were prescribed one or more psychotropic medication within three months before pregnancy. Most women received antidepressants (8,353 (6%)) followed by anxiolytics (1,145 (0.8%)), hypnotics (1,104 (0.4%)) and antipsychotics (268 (0.2%)). More than half of the women had their last prescription in the three months before pregnancy and less than 12% of the women on hypnotics and anxiolytics continued receiving further prescriptions once the pregnancy was known (approximately six weeks after last menstrual period). Around 25% of the women on antipsychotics and antidepressants received further prescriptions after this point. By the start of third trimester only 6% were further prescribed anxiolytics and hypnotics while 11% received further antidepressants and 15% antipsychotics. Women on antidepressants who received additional two psychotropic medications before pregnancy were twice as likely to continue antidepressant treatment after the pregnancy was known.

Conclusions: More than three-quarters of women on psychotropic medication do not receive further prescriptions once the pregnancy is likely to be known. However, women on several psychotropic medications are much more likely to continue treatment with antidepressants during pregnancy.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

P1.53

A review of people's views knowledge and perception of Human Papillomavirus (HPV) and HPV vaccination to explore if views vary between different countries and cultural beliefs and healthcare systems.

Mark Pickett, Maggie Hendry, Diana Pasterfield, R Adke, Clare Wilkinson, Richard D Neal
Cardiff University, Wrexham, UK

Background Cervical cancer is estimated to affect approximately 500,000 women each year, of whom 80% live in developing countries. Genital infection with HPV is responsible for virtually all cervical cancer cases. There is no effective treatment for HPV infection but cervical cancer prevention has evolved since the introduction of a quadrivalent HPV vaccine types 6, 11, 16 and 18) in 2006 and later a bivalent vaccine (types 16 and 18) which have been licensed in many countries. In order to be successful, a vaccination programme requires a high uptake. The effect of geographical and cultural factors on people's views, perceptions, and understanding of HPV infection, which may in turn influence uptake, is unknown. This review seeks to explore these issues.

Methods A comprehensive search of 12 databases with additional hand searching for relevant survey studies was undertaken. Searches were limited to 1980 onwards as HPV vaccination is a recent technology. We included surveys of any study population in any language that sought views or attitudes relating to HPV vaccination. Two reviewers independently screened titles and abstracts, considered papers for inclusion and assessed study quality. Findings will be aggregated into a narrative synthesis.

Results We identified 120 survey studies that met our inclusion criteria. Preliminary results indicate that awareness, knowledge, acceptance and understanding of HPV vaccination have improved since introduction of the HPV vaccine. There are differing barriers to HPV vaccination including cost of the vaccine and the vaccine being considered too new with the possibility of side effects. The barriers to vaccination varied between different healthcare systems. Results will be presented in full at the conference.

Conclusion This review identifies some of the differences in acceptance of the HPV vaccine in different countries and barriers to vaccination including cost, religious belief and ethnic background. These issues will need to be addressed in order to achieve a successful worldwide vaccination programme.

P1.54

Young Asian Sexual Health (YASH): What can South Asian Young People tell us about their beliefs, attitudes and behaviours regarding their Sexual Health – A systematic review of the Literature

John Reynolds-Wright, Alice Nunn, Michelle Marshall, Hina Kanabar
University of Sheffield, Sheffield, South Yorkshire, UK

Introduction Young people's sexual health in the UK has been a concern for public health policy[1] and, despite falling teenage pregnancy rates, sexually transmitted disease among young people has shown an increase[2]. Although the numbers of Asian teenagers engaging in sexual intercourse is reportedly lower than their Black counterparts, there is some evidence that Asian young people report 'regretful intercourse', 'unequal willingness' and higher rates of anal intercourse[3], and are still at high risk of sexually transmitted infection (STI) through their behaviour. This project will inform the development of culturally competent relationship and sexual health education.

Methods JRW and AN performed separate literature searches using the Ovid MEDLINE database, using terms generated in discussion with the YASH Project's Advisory Panel (including professional and lay members).

Relevant papers were collected in their primary format and reviewed independently by JRW and AN. The papers were critically appraised and individually summarised in terms of topic, participants, setting, methodology and quality. Emergent themes were identified and discussed for development of the focus group discussion method.

Results There has been a lack of research into the sexual health needs of South Asian Young People living in the UK.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

The concepts that emerged from appraisal of the limited published literature included, among others, the fear of young people's actions being reported to their parents, women's health and status issues, and masculinity and its effect upon male sexual behaviour.

Conclusion Having identified gaps in our current knowledge of sexual health needs of South Asian Young People in the UK, we have developed a topic guide in order to conduct focus group interviews with young South Asian people in Sheffield and Rotherham. The findings will inform relationship and sexual health education.

1. Tripp, J. and R. Viner (2005). "Sexual health, contraception, and teenage pregnancy." BMJ **330**(7491): 590-3.

2. HPA (2005). Diagnosis of selected STIs by region, age and sex seen at GUM clinics. HPA. London, HPA.

3. Coleman, L. and A. Testa (2007). "Sexual health knowledge, attitudes and behaviours among an ethnically diverse sample of young people in the UK." Health Education Journal **66**(1): 68-81.

P1.55

Multiple drug therapy in patients with chronic diseases comorbidities - A Systematic Review

Eyitope Roberts, Kadam Umesh, Nadia Corp
Arthritis Research Campaign National Primary Care Centre Primary Care Sciences Keele University Keele, Staffordshire, ST5 5BG, Staffordshire, UK

Introduction There are clinical guidelines on optimal drug treatment for many individual chronic diseases but not when people experience multiple diseases at the same time ('comorbidity'). The prevalence of chronic disease comorbidity is on the rise in general practice, moreso with an ageing UK population. The appropriate management of comorbid conditions is a major challenge for practitioners because of the associated side effects of polypharmacy (multiple drug therapy) and multiple drug interactions. The aim of the review was to identify previous evidence on chronic disease comorbidity and associated drug treatments in health care settings.

Methods Six chronic diseases were selected for the review: diabetes mellitus, cardiovascular disease, cerebrovascular disease, chronic obstructive pulmonary disease, osteoarthritis and depression. Studies that examined or reported on medication therapy in adults aged 18 years and over with varying combinations of the chronic diseases were included. The systematic review process involved: (i) a systematic search of online healthcare databases, (ii) screening of paper titles, (iii) assessment of abstracts, and (iv) critical appraisal and quality assessment of the selected articles. Additional articles were included from reference citing and internet search. The quality of the selected articles was assessed by 3 independent reviewers using a modified quality appraisal tool.

Results Overall, 1017 relevant articles were identified and through the selection process this was reduced to 59 relevant articles. After critical appraisal and quality assessment a total of 11 articles were eventually included. The majority (8 articles) focused on drug management of depression in different chronic diseases. Only one study examined the management of cardiovascular morbidity in patients with treatment for other medical conditions.

Conclusions The systematic review showed that there are very few studies on comorbidity of the selected chronic conditions and associated multiple drug treatments. Majority of studies focused on chronic disease and comorbid depression, and associated sub-optimal drug treatment. General Practitioners and their teams will need to identify and develop ways to best manage patients with chronic diseases comorbidity, especially in relation to multiple drug treatments in order to provide optimal care.

P1.56

Managing common infections in children's day care settings: The beliefs around, and consequences of sickness exclusion policies for children, parents and staff.

Leila Rooshenas
Cardiff University, Cardiff, UK

Introduction The global threat of antibiotic resistance calls for prudent use of antibiotics. Preschool-aged children who attend day care are particularly high consumers of antibiotics, despite

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

experiencing mainly viral and/or self-limiting infections.

North-American surveys suggest that day care providers (DCPs) encourage parents to seek antibiotics by needlessly excluding children with minor infections, and making exceptions for exclusion based on antibiotic treatment. No study has explored this in depth, and there has been no UK-based research into this area. DCPs in the UK are required to have self-compiled exclusion policies in place. The content and details of these policies remain unknown. This study aims to:

1. Describe typical day care sickness exclusion policies.

2. Explore the possibility that DCPs encourage parents to consult general practitioners (GPs) and/or seek antibiotics.

Methods To get an overview of DCPs' sickness exclusion policies, postal questionnaires were administered to 300 DCPs in South Wales, and analysed using descriptive statistics.

The main component of the study involved semi-structured interviews with 25 purposefully chosen questionnaire respondents (DCPs), and 25 parents using their services. All interviews underwent thematic analysis.

Results

Questionnaire: Most sickness exclusion policies were self-written. Consequently, there was great variability in the content and details of policies.

Interviews: DCPs regularly advised parents to consult GPs for mild infections. This was often a pre-requisite for return to day care. Some discussed antibiotic treatment with parents. Most DCPs believed that respiratory tract, eye and ear infections indicated antibiotic treatment. However, only a few claimed they would ask parents to seek antibiotics.

Parents often visited GPs to satisfy DCP requirements. Some sough antibiotic treatment to expedite return to day care. Some parents claimed that DCP policies constrained the way they managed their child's health. DCP policies often influenced compliance with taking antibiotics (in children).

Conclusions This study revealed that DCPs' knowledge of antibiotic indications and management of infections is often poor. DCPs' actions and advice strongly encourage parents to consult GPs, and can indirectly, (and sometimes directly), encourage antibiotic seeking behaviour. This highlights a need for more DCP guidance with regards to managing day care infections, and understanding antibiotic indications.

P1.57

Physical exercise in diabetic patients in primary care

Inês Rosendo[1], Conceição Castro[2], Margarida Rodrigues[2], Paula Miranda[2], Liliana Constantino[2], Catarina Matias[2], Ana Rita Simões[2], Maria Glória Neto[2], Luiz Miguel Santiago[2], Manuel Teixeira Veríssimo[3]
[1]UCSP Santa Comba Dão, Santa Comba Dão, Portugal, [2]UCSP Eiras-Coimbra, Coimbra, Portugal, [3]Serviço de Medicina-Hospitais da Universidade de Coimbra, Coimbra, Portugal

Introduction: Diabetes is a Public Health issue and physical exercise is part of its non-pharmacological intervention. The Family doctor/General Practitioner has a leading role in exercise motivation in diabetic patients. A study was made to verify the metabolic and anthropometric impact in diabetic patients after 6 month exercise counselling based in their motivation stage in the Health Centre consultation.

Material and methods: Longitudinal intervention study. Population: diabetic patients in follow up in the Health Centre that came to consultation between 10th September 2009 and 15th November 2010, randomized as case or control. Variables studied: gender, age, Body Mass Index (BMI), Abdominal Perimeter (AP), Fasting Glucose (FG), A1c Glycosylated Haemoglobin (HbA1c), Physical Exercise Level (validated questionnaire). Consultations 3/3 months. Intervention: PACE instrument used (Provider Assessment and Counselling for Exercise) based in motivation level stratification to exercise and a protocol was applied. Control group: usual counselling in consultation. Approved by ethics committee. Descriptive and inferential statistics with t student and Wilcoxon tests.

Results: 88 diabetic patients with mean age 64,06 +/- 11,10 years old (between 36 and 88), 50%

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

female, after 12 drop-outs. After 6 months of intervention, the physical activity increased in the intervention group (ns) and decreased in the control group (ns). The weight decreased in both groups (intervention ns and control p=0,005) and the AP decreased in the intervention group and had no change in the control group (ns). The FG decreased in both groups (ns) and HbA1c increased in both groups (intervention p<0,001 and control ns).

Conclusions: Although there was no statistical significance, there was a positive evolution in the physical activity level practised by diabetic patients after intervention vs control group. The intervention group also had a weight and AP reduction. Perhaps the statistical significance was not reached because of the small sample size.

P1.58

Meta-review of telehealth interventions for managing long term conditions says we need to stop reviewing and do better primary research.

Ali Rowsell[1], Catherine Pope[1], Alicia O'Cathain[2], Simon Brownsell[2]
[1]University of Southampton, Southampton, UK, [2]University of Sheffield, Sheffield, UK

Introduction: The increasing prevalence of long term conditions (LTCs) is perhaps the most pressing global healthcare challenge we face. Telehealth appears to offer solutions to the problem of managing large numbers of people with LTCs and a wide range of interventions have been trialed. Yet despite several systematic reviews we are no closer to saying what kinds of teleheath work in this context.

Method: We conducted a meta-review of home-based telehealth for the management of LTCs published between 2005-2010.

Results: We identified 16 high quality systematic reviews which covered 662 primary studies. There is more evidence for some conditions - notably heart failure, diabetes, hypertension and mental health - than for others. Reviews reported successful outcomes for telephone-based interventions but more mixed results for telemonitoring and web-based interventions. Teleheath can improve clinical, health and behavioural outcomes but this is not consistent across reviews and the evidence for resource utilisation, quality of life and knowledge outcomes was less convincing. Whilst for some conditions the effects of telehealth interventions appear positive this finding is frequently compromised by the poor quality of primary studies. There are few high quality cost-effectiveness studies in this area.

Conclusions: Despite a wealth of evidence reviews provide inconclusive answers about the effectiveness of telehealth for managing LTCs, largely because of poor quality primary studies. Perhaps researchers should stop undertaking systematic reviews and re-focus their energies on undertaking high quality primary research to test the effectiveness and costs of telehealth interventions for the time being.

P1.59

Access to anonymised data for research purposes – what are the patient's views? A focus group study on the views of patient representatives

shiva sathanandam[1], gill haddow[2], ann bruce[2], jeremy wyatt[3]
[1]University of Dundee, tayside, UK, [2]University of Edinburgh, lothian, UK, [3]university of warwick, coventry, UK

Introduction In the United Kingdom, General Practitioners act as controllers of primary care data and debates about who gets access to the data occur when a researcher or other third party wants to use information held in confidential patient records. There is uncertainty or disagreement about what category of information should be provided, whether the enquirer has any right of access, whether patient safety and/or privacy is at risk, or whether patient consent is required. Data protection legislation restricts the sharing of information between legal entities without the consent of the data subjects, i.e. the patients themselves. Our study was aimed at exploring patient views on use of medical data, the methods of use and privacy concerns.

Methods Three focus groups were conducted to explore lay attitudes towards different possible models of delivering NHS data to medical researchers. Focus groups participants (n = 19) were recruited from volunteers from the NHS Tayside Public Partnership Groups. Focus groups were conducted for 60-90 minutes; discussion was

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

structured around a script and with the use of stimulus material.

Results Although generally in favour of medical research, views of patient groups differed from researchers with regards to governance. Governance should be treated carefully as the model in the minds of the patients was often that of research with the consent of the participants. The following groups were thought to be important in deciding if data should be provided for research a) Ethics committees, including Caldicott guardians b) Consultants (but not individual researchers) in a relevant field c) General Practitioners d) Patients. Concerns were expressed about the potential for 'informal' linking of anonymised data either by storing these in the same place or within the context of lab/research workers/clinicians sharing information.

Conclusion Most people were content with the use of anonymised data for research without consent although the minority that were opposed were strongly against it. It was recognised that obtaining consent each time would be logistically difficult. However, patient representative groups suggested that a one-off informed consent to the use of anonymised data for research should be sought, perhaps at the time GP registration.

P1.60

"Do it again doctor!" - The effect of repeated measurement on level of blood pressure

James Sheppard, Emma Bray, Roger Holder, Richard McManus
University of Birmingham, Birmingham, UK

Introduction: Blood pressure (BP) measurements made in clinical situations are often affected by an alert reaction resulting in higher readings than achieved by home or ambulatory monitoring. Repeated BP measurement appears to reduce this so call "white coat effect" but little evidence has been published to date regarding this phenomenon. This study aimed to investigate the effect of repeated measurement in comparison to routine measurement on level of BP and achievement of QOF targets.

Methods: As part of the recruitment phase of a randomised controlled trial, last practice BP was extracted from the medical records of treated uncontrolled hypertensive patients (BP>140/90mmHg). Responding individuals had their BP measured in the presence of a trained research nurse using a BpTRU BPM-100 monitor. This monitor automatically records six BP measurements at one minute intervals. The change in BP over time was investigated using multiple regression analysis and the influence of repeated measurement on achievement of QOF targets was evaluated.

Results: 1,339 patients (656 male) aged 67±9 years old were included. Mean practice BP was 146.3/82.3mmHg (95%CI, 145.7, 146.9 systolic, 81.8, 82.8 diastolic). Mean research BP (mean of 2nd-6th measurements) was 10.4mmHg (-11.4, -9.5) systolic and 3.1mmHg (-3.6, -2.5) diastolic lower than practice BP. Examination of the distribution of the slope produced by repeated measurement showed that 1107 patients (83%) had lower blood pressure following multiple readings (range of BP drop 0 to -39.8mmHg) but blood pressure increased in 232 (17%) (range of BP increase 0 to 50.7mmHg). Some people with very high initial blood pressure had very large subsequent drops and vice versa. Using the research BP measurements, the proportion of individuals satisfying QOF treatment targets for blood pressure ranged from 884 (57%) after one reading to 1268 (82%) after six readings.

Conclusions: Repeated BP measurement results in much lower blood pressure than routine measurement. The white coat effect is reduced in many but not all individuals and allows delineation of those whose BP varies substantially who may be at increased risk. Further research is needed to ascertain how repeated measurement correlates with out of office measurement and outcome.

P1.61

Does the use of a referral management 'gateway' in primary care improve the quality of referrals over time?

Helen Smith, Matthew Hankins, Stefania Lanza, Paul Hine, Katie Mason, Anna Cave
Brighton & Sussex Medical School, Falmer, UK

Introduction An integrated care approach providing peer-to-peer triage by local GPs was introduced for all elective referrals in 47 local practices. All referrals were processed centrally and directed to a service or specialist based on

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

individual patient needs. All necessary checks and tests were undertaken and any changes made to the referral pathway were fed back to the referring GP. The expectation was that an improvement in the quality of referrals would be found after the system had 'bedded in'.

Method A random sample of referral letters was obtained from a two-month period one month after the referral management system became fully operational (time 1:n=224) and for a one-month period 10 months after the introduction of the referral management system (time 2:n=260). Referrals were assessed using two quality indicators (Grol et al. 2003) comprising (1) four or more of the following: patient symptoms, findings of examinations, investigations performed, treatment given, current medication and (2) request for one or more of the following: diagnosis, treatment, management plan. In addition letters were assessed for the presence of the following information: blood pressure, BMI, medical history and medication history (if applicable).

Results 56.3% of time 1 referrals met criteria for quality indicator 1 compared to 54.0% of time 2 referrals (non-significant, p>0.05). 98.7% of time 1 referrals met criteria for quality indicator 2 compared to 96.5% of time 2 referrals (non-significant, p>0.05). No significant differences were found for applicable additional criteria between time 1 and time 2 for blood pressure (49.5% vs. 57.0%; p>0.05) and BMI (46.3% vs. 47.1%; p>0.05) but significant improvements were found for medical history (80.8% vs. 88.8%;p<0.05) and medication history (82.1% vs. 89.2%; p<0.05).

Conclusions There was considerable variation in the degree to which different quality indicators were achieved. The introduction of a referral management system did not significantly improve the quality of referrals over time for most indicators, although patient history was significantly better documented.

P1.62

Identifying risk factors predictive of unplanned hospital admission due to heart failure: a case-control study.

Melissa Spears, Tom Griffin, Alan Montgomery, Chris Salisbury, Debbie Sharp, Sarah Purdy
University of Bristol, Bristol, UK

Introduction Heart failure (HF) is one of the most common causes of unplanned hospital admission, with 53,413 admissions in England in 2009/10. Total NHS annual cost of HF is estimated at around 2% of the total NHS budget: with approximately 70% of this due to hospitalisation costs. These admissions are projected to rise by 50% over the next 25 years - largely as a result of the ageing population. HF admissions are considered to be ambulatory care sensitive or preventable by interventions in primary care. Previous cross-sectional studies have shown that socio-demographic factors are important in prediction of HF admission, but that routinely available clinical data such as QOF scores are not. The aim of this study is to identify those factors which are predictive of unplanned hospital admission due to HF.

Method Case-control study over 2007-8 period of HF patients 60 years or older, from a stratified random sample of PCRN South West research practices. Cases had an unplanned admission for HF in the preceding year. 1:1 matched controls on HF, age and gender. Data were abstracted from GP medical records and routine information on hospital admission.
Following initial exploratory analysis, graphical models were constructed to investigate causal relationships between routinely measured medical variables and HF admission. Conditional logistic regression models including predictive variables were used to estimate adjusted odds ratios from the data, indicating a patient's admission probability.

Results 258 cases and controls (total 516 patients) were recruited from 27 practices across 5 PCTs. Mean age was 78 (S.D 9.1) years. Our findings indicate that clinical, physiological, socio-demographic and pharmacological factors are independent predictors of risk of admission for HF. The contribution of these factors, and interactions between them, is demonstrated using DAGs and odds ratios. We will present findings in terms of implication for clinical practice.

Conclusions This case-control study of risk factors for HF admission is the first such study to be conducted in the UK. We have used innovative statistical techniques to inform the data analysis. The findings suggest that although many risk factors cannot be reduced, they can be ameliorated by changes in practice.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

P1.63

Genetic effects on response to treatment for smoking cessation: systematic review and meta analysis

Andrea Takeda[1], Cathy Barton-Sweeney[1], Alistair Brock[2,1], Richard Hooper[1], Robert Walton[1]
[1]Centre for Health Sciences, Barts and The London School of Medicine and Dentistry, London, UK, [2]School of Biological Sciences, Queen mary University of London, London, UK

Introduction Genetics may predispose to nicotine addiction and hence influence response to treatment for tobacco dependence. Genes affecting dopamine function in the brain have been most studied, however genetic analyses of smoking cessation trials show conflicting results. Our aim was to identify genetic markers associated with successful response to smoking cessation treatment.

Method Methodology followed HUGEnet guidance, and involved searches of electronic databases, screening, data extraction and quality assessment by two reviewers. Inclusion criteria specified papers reporting abstinence rates for people with different genetic markers, using data from RCTs of smoking cessation interventions vs. placebo or a different treatment. Meta-analysis was carried out where data were reported in a usable format.

Results The searches identified 594 citations, of which 30 met inclusion criteria. These were analyses of DNA collected retrospectively from participants in trials of bupropion, nicotine replacement therapy, venlafaxine, and other interventions, presenting results for 20 different genes overall. Data covered 20 different genes. The most frequent was the gene for the dopamine D2 receptor. Of 12 DRD2 studies only four reported sufficient data for meta analysis. Participants with the common version of the gene at the TAq1 A1 site were more likely to quit with bupropion treatment (OR 0.62 [0.46,0.83]). Those with the less common polymorphism at the -131 site were more likely to quit (OR 1.91 [1.11, 3.30]).

Conclusion The results of the meta-analysis raise the possibility that specific treatments for smoking cessation might be more effective in specific sub groups of smokers. However, the small number of suitable studies and their heterogeneity reduce the validity of the meta-analysis. may predispose to nicotine addiction and hence influence

P1.64

The Development and Application of a Data Quality Measure in a Canadian Electronic Medical Record-Derived Primary Health Care Database

Amanda Terry[1], Moira Stewart[1], Amardeep Thind[1], Fred Burge[2], Sonny Cejic[2], Bert Chesworth[2], Simon de Lusignan[3], J. Neil Marshall[1]
[1]The University of Western Ontario, Ontario, Canada, [2]Dalhousie University, Nova Scotia, Canada, [3]University of Surrey, Surrey, UK

Introduction: As part of an international panel on the foundations of primary health care (PHC) electronic medical record (EMR) research, which include: data sharing; data quality; data comparison; and privacy practices, this presentation will focus on data quality. The objective will be to share the results of the development and application of a data quality measure in a Canadian EMR-derived database.

Method: The 3C Data Quality Measure includes indicators of comparability (concordance among populations), completeness (sensitivity values, assessment of recording), and correctness (positive predictive values, unlikely combinations of age and sex-specific conditions). This measure was used in the DELPHI database, which contains the de-identified records of over 30,000 patients, extracted from 10 group primary health care practices in Ontario, Canada. Primary health care providers enter data into the EMR and code a random sub-set of patient encounters using the International Classification of Primary Care (ICPC-2-R). Data collected from March 2006 to September 2009 were used.

Results: The DELPHI database population and that of the 2006 Canadian census were comparable; however, there was less concordance among ICPC and non-ICPC populations. Within the completeness indicator, sensitivity for the test condition of hypothyroidism was 23% and for hypertension was 54%; blood pressure was recorded in 74% of those aged 25 to 70 years. For the correctness indicator, few errors

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

in recording of age and sex-specific conditions or procedures were observed; positive predictive values were 88% for hypothyroidism , and 84% for hypertension. Challenges in developing the measure included: 1) identifying a gold standard definition for data validation; 2) conducting analyses without using the narrative portion of the record; 3) ascertaining test conditions where data were certain to be recorded; 4) refining validation definitions to capture variation in ICPC-2-R coding. These results will also be compared with PHC EMR data quality levels in the U.K..

Conclusion: In spite of the limitations of using PHC EMRs for research, it is likely that secondary uses of EMR data will continue to grow. In the future, it will become increasingly important to assess the quality of these data, and to have well developed data quality measures.

P1.65

Effect of a quality improvement programme on leadership, innovation and use of quality improvement methods in general practice

Fiona Togher[1], A Niroshan Siriwardena[1], John Flynn[1], Michael Dewey[2]
[1]*University of Lincoln, Lincoln, Linconshire, UK,* [2]*Institute of Psychiatry, London, UK*

Introduction Market mechanisms and pay-for-performance have failed to deliver continuing improvements in UK clinical care. Leadership and innovation are currently seen as essential to maintain and improve clinical quality but little is known about the relationship between these and the extent to which quality improvement (QI) methods are used in general practice. This study aimed to investigate the effect of quality improvement training on leadership behaviour, culture of innovation and adoption of QI methods in general practice.

Method Self-administered postal questionnaires were sent to general practitioner quality leads in one UK county at the beginning (2007) and the end (2010) of a QI programme. The questionnaire consisted of background demographic information, a 12-item scale to assess leadership behaviour, a seven-dimension self-rating scale for innovation culture and questions on current use of quality improvement techniques and the effect of this on practice. We analysed change between the two surveys and the effect of participation in QI training.

Results Sixty-three completed questionnaires (62%) were returned in 2007 and 47 (46%) in 2010; 32 practices completed both surveys. Although leadership behaviours were not commonly expressed, many practices reported a positive culture of innovation with significant positive correlation between leadership and innovation ($r = 0.57$; $P < 0.001$); apart from clinical audit and significant event analysis, QI methods were not reported as having been adopted by most participating practices. Percentage leadership score changed little over three years (increase 4.0 points, 95%CI -8.9 to 16.9) with little difference between participating and non-participating practices (7.6, -6.4 to 21.6) and no evidence of differential change (-1.5, -17.0 to 14.0). Percentage innovation culture scores showed a similar pattern (time -4.1 points, -15.1 to 6.9, group -1.6, -12.7 to 9.4, differential change 5.3, -7.8 to 18.5).

Conclusions Leadership behaviours were infrequently reported, and despite describing a culture of innovation there was low uptake of QI methods beyond clinical and significant event audit even after practices participated in a QI programme. There is evidence that practices may need greater support to enhance leadership competences and develop quality improvement skills to stimulate innovation, if improvements in health care are to accelerate.

P1.66

Feasibility of offering extended courses of nicotine replacement therapy to prevent relapse by smokers who have recently stopped.

Jessica Turner, Tim Coleman, Ann McNeill, Jo Leonardi-Bee, Shade Agboola
University of Nottingham, Nottingham, UK

Introduction NHS Stop Smoking Services (NHS SSS) are cost effective; however, although 15% of smokers quitting with services' help are still smoke-free at 1 year, most relapse back to smoking. 'Relapse prevention' interventions, principally extended courses of cessation drugs, have recently been shown to be extremely cost-effective. These are not routinely used in the NHS but could substantially reduce SSS relapse rates. We assessed the feasibility, acceptability and

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

uptake of offering extended courses of nicotine replacement therapy (NRT) to smokers who were already abstinent after using NRT for 8 weeks.

Method Between April 2010 and January 2011, Nottingham SSS cessation advisors offered smokers, who had achieved at least 8 weeks' abstinence, an additional 12 weeks NRT. Individuals aged <18yrs and >65yrs old, pregnant women and those with contraindications to using nicotine were excluded from this offer. Consenting individuals filled in a baseline questionnaire, providing demographic and smoking behaviour data. Four week batches of NRT were issued as patches, gum, tablets, lozenges, microtabs or inhaler according to participant preference. Participants completed monthly follow-up questionnaires enquiring about smoking status and had this validated with expired air carbon monoxide readings in the first 3 months. At 6 months review, smoking status was collected via telephone. Participants who successfully stopped and those who relapsed gave their views in semi-structured telephone interviews.

Results 42% of 'abstinent quitters' accepted relapse prevention treatment. Reasons for declining included; concern about long term side effects, satisfaction with 8-12 weeks already supplied and inability to attend for review.

Data collection is ongoing; follow-up and interview data will be available for presentation, providing insight into participants' levels of compliance with and their views on extended treatment.

Conclusion For the first time, the acceptability of relapse prevention treatment amongst abstinent smokers has been assessed. The high acceptance rate of extended NRT treatment amongst Nottingham quitters who have achieved abstinence using NHS SSS support, suggests that, if introduced across the NHS, relapse prevention interventions would be widely used.

P1.67

Does the site of musculoskeletal pain influence consultation behaviours?

Kathleen M. Watts, Jane C. Richardson, Bie Nio Ong
Keele University, Keele, UK

Introduction It has been identified that approximately half the population of musculoskeletal pain sufferers consult a health care professional with the rest appearing to manage the pain themselves. Pain intensity, psychosocial reasons and biographical expectations are considered to play a role in whether individuals consult. This study examines whether the site of musculoskeletal pain has a bearing upon consultation behaviours.

Methods *Design*: A secondary analysis of qualitative datasets that had explored people's experiences of chronic musculoskeletal pain. Five discrete data sets were reanalysed, respectively covering back pain, hand and knee pain, and chronic widespread pain. Some of the original interviews explored consultation views while others focused on how individuals managed and lived with their pain condition.

Analysis: Thematic analysis was used and comparisons across the different conditions were then conducted.

Results Participants with back pain consulted more health care practitioners and were the only individuals in this sample to pay privately in order to lessen waiting times. Where back pain was intermittent and aggravated by particular activities participants were more likely to utilise the GP primarily as a source of pain medication.

For individuals with chronic widespread pain consultation was based around medicine and symptom management and therefore longer lasting relationships with their GPs were developed.

Knee pain sufferers discussed consultation in the context of other chronic conditions or as related to a specific accident.

Participants with hand pain were the least likely to consult unless they had other health problems. While the impact of hand pain was visible in daily life it was often perceived as a natural part of aging.

Conclusions: The site of the pain did influence individuals' consultation behaviours. Biographical anticipation was important in decisions around consulting and was a factor in what individuals expected from the consultation itself. Perceiving pain as expected with ageing helps individuals to adapt to it, yet may also act as a barrier to gaining appropriate treatment and healthcare advice.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

P1.68

Trends in the incidence of childhood depression in the United Kingdom, a study in The Health Improvement Network (THIN)

Linda Wijlaars, Irwin Nazareth, Irene Petersen
University College London, London, UK

Introduction: Currently, there are no antidepressants that have a UK Marketing Authorisation for childhood depression. In December 2003, the Committee on Safety of Medicines (CSM) advised against initiation of treatment with selective serotonin reuptake inhibitors (SSRIs) in children other than fluoxetine. Yet, there is no data on the effect of this guidance on antidepressant prescribing for children in primary care.

Methods: We identified 1,511,432 children under the age of 18 who were registered with their GP for at least one year in the Health Improvement Network (THIN) UK primary care database. Trends in incidence of depression diagnoses, symptoms and SSRI prescribing were examined between 1995 and 2010, taking deprivation, age and gender into account.

Results: Overall, 35,635 (2.4%) children had at least one depression-related record. SSRIs were prescribed to 11,541 (32%) of these children. Fluoxetine was the most frequently prescribed drug representing 5,809 (50%) of prescriptions, followed by citalopram and paroxetine with 2,962 (26%) and 1,190 (10%) prescriptions, respectively. Rates for depression diagnoses increased from 1.8 to 2.6 per 1,000 person-years between 1995 and 2002, then dropped and have since been relatively constant at around 2.0 per 1,000 person-years. The initial increase is mirrored by rates of SSRI prescriptions which rose from 0.7 to 2.8 per 1,000 person-years from 1995 to 2003, but halved between 2003 and 2005. Since then prescribing has slowly increased to 2.3 per 1,000 person-years in 2009. Recording of symptoms has seen a dramatic rise from 0.9 in 1995 to 4.5 per 1,000 person-years in 2009.
Incidence rates of depression are similar at 0.1 per 1,000 person-years between boys and girls up to the age of 12, after which girls have higher rates. Strikingly, SSRI prescriptions for boys between ages 5 and 11 are double that of girls. Prescription rates for CSM-contraindicated SSRIs dropped dramatically after 2003.

Conclusions: The rates of depression diagnoses and SSRI prescriptions showed a significant drop around the time of the CSM advice, which was not present in the recording of symptoms. This could indicate caution on the part of GPs in making depression diagnoses and prescribing antidepressants following the CSM advice.

P1.69

Child maltreatment recording in primary care

Jenny Woodman[1,2], Ruth Gilbert[2], Janice Allister[3], Simon De Lusignan[4], Imran Rafi[5], Irene Petersen[1]
[1]UCL-Department of Primary Care and Population Health, London, UK, [2]UCL-MRC Centre of Epidemiology for Child Health, London, UK, [3]Royal College of General Practitioners, London, UK, [4]University of Surrey, Surrey, UK, [5]Royal College of General Practitioners- Clinical Innovation and Research Centre, London, UK

Introduction: Child maltreatment (abuse and neglect) affects 10% of children annually. We know that it is under-recognised and under-recorded by professionals. Primary care can play an important role in detecting and responding to maltreatment but information is lacking about how often this is recorded in primary care.

Methods: We identified children <16 years from the Health Improvement Network (THIN) UK primary care database (7.1 million child years). We identified 'maltreatment' records using Read codes describing child protection procedures or directly referring to child maltreatment. In addition, we used a measure of 'possible maltreatment' containing potentially euphemistic codes and parental risk factors. Rates of children with a first record of maltreatment or possible maltreatment were examined from 1995 to 2009, by age and deprivation (Townsend score).

Results: In 2009 the crude rate was 3.7 / 1000 child years (cy) for recorded maltreatment and 4.0/1000 cy for possible maltreatment. The rate was 7.7/1000cy for maltreatment and possible maltreatment combined. Rates of maltreatment declined with age: 11.9/1000 cy for infants, 5.3 for

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

children aged 1 to 5 years, and 2.5 for children aged 5 and over. Among infants, recorded maltreatment increased steeply with deprivation score from 4.5 for the least deprived quintile to 21.8/1000 cy for the most deprived. Rates of possible maltreatment similarly declined with age and increased with deprivation score.

Between 1999 and 2008 the rate of recorded maltreatment tripled for infants and doubled for children aged 1 to 5 years, but there was no appreciable change for older children. Rates of possible maltreatment showed a step increase in 2001, particularly among infants.

Conclusions: Rates of recorded maltreatment in THIN are much lower than estimated annual incidence of maltreatment in the community (10%). Increasing use of maltreatment codes may reflect increased awareness and RCGP guidance in 2007. Rates of 'possible maltreatment' suggest that GPs have serious social welfare concerns about many children who may not (yet) be labelled as 'maltreated'. Our results provide a minimum estimate. If GP Commissioners plan to use this data to assess health needs for maltreated children then data quality needs to be improved in this area

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Poster Session 2

P2.01

User views of single number access to urgent care

Sally Brown, Emily Henderson
Durham University, Durham, UK

Introduction In October 2009 NHS County Durham and Darlington introduced a service for people requiring out-of-hours health care, which involved ringing a local number, being taken through a series of questions by call handlers, then being passed to the service needed. County Durham was identified by the Department of Health as an early pilot site for a Single Point of Access service which eventually became 111. We evaluated users' views and experiences of the service.

Methods The study focused on users' experiences of the call service, in particular appropriateness, co-ordination (or fragmentation), and efficiency of care. The study used a validated questionnaire which was adapted for use in telephone interviews. Telephone interviews were chosen in order to allow people to express their views through the addition of open-ended questions. Interviews were carried out with 493 people who had recently called the urgent care line, between April and July 2010. SPSS was used to analyse the quantitative data, and Framework Analysis for the qualitative data.

Results We found that:

- regardless of age, sex, or socio-economic status, people who used the call line were satisfied with the service they received;

- the call line advised most cases to go to an Urgent Care Centre (UCC);

- callers who received advice other than expected were still satisfied with the service.

The main criticisms of the service related to confusion about accessing the service and about which number to ring out of hours. This has been resolved now that the 111 service has begun.

Conclusions The study found very high levels of satisfaction across all groups; it is an acceptable method of accessing urgent care. Clear information about the service, in particular that it will involve telephone triage, and that access to a doctor or nurse is not immediate, may also resolve some instances of dissatisfaction. Our findings have allowed refinement of the service regarding questions being asked, and use of a simpler number. It appears that the service is effective in directing people to places where they can be dealt with appropriately.

P2.02 also B65

"They think it's all up to the girls": gender, risk and responsibility for contraception

Sally Brown
Durham University, Durham, UK

Introduction Despite a reduction in the numbers of teenage pregnancies during the ten years since the implementation of the Teenage Pregnancy Strategy, the UK continues to have the highest teenage pregnancy rates in Western Europe, and reducing them remains a priority for the UK Government. There remains a need to understand why so many unintended conceptions still occur, despite widespread availability of contraception.

Methods We re-analysed the data from our two earlier qualitative studies, with an emphasis on findings related to responsibility. The first study investigated unintended conceptions and in particular, reasons for non-use of contraception amongst 16-20 year old women soon after or prior to termination of pregnancy. Interviews focussed on knowledge of and views on contraception, sex education, and sexual health services. The second study involved focus groups with two groups of 14-18 year old men to explore their views on sex education, sexual health, and knowledge of and responsibility for contraception. The interview and focus group transcripts were analysed using a grounded theory approach.

Results The issue of gendered responsibility for contraception emerged during the interviews with young women, with interviewees reporting assumptions by young men that women should take responsibility for contraception. Almost all the young women interviewed reported some form of pressure from young men not to use condoms, and that young men viewed contraception as "not their job". However, in the young men's focus groups, they expressed the view that responsibility for contraception should be shared.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Conclusions There are clear gender differences in assumptions about responsibility for contraception, and in accounting for decisions about use of contraception.

Despite free condoms being relatively easily available, health professionals' emphasis on hormonal methods of contraception reinforces the gendered assumptions of responsibility; although it may result in fewer unintended teen conceptions, there are implications for rates of sexually transmitted infections.

P2.03

External validation of a diagnostic decision rule for transient ischaemic attack (TIA) in primary care: Are high risk cases missed?

Daniel Lasserson[1], Arvind Chandratheva[2], Nikki Paul[2], Peter Rothwell[2]
[1]Department of Primary Health Care, University of Oxford, Oxford, UK, [2]Stroke Prevention Unit, Department of Clinical Neurology, University of Oxford, Oxford, UK

INTRODUCTION Accurate identification of patients with TIA in primary care and prompt referral to specialist clinics is essential for reducing recurrent stroke. However, only 50% of patients referred with suspected TIA are diagnosed with TIA. Reducing unnecessary referrals not only reduces the cost of providing TIA services but reduces the harm of unnecessary investigations. Can validated decision rules reduce referrals without missing high risk cases of TIA?

METHOD A literature search identified only one validated tool for TIA diagnosis which was used to score patients with suspected TIA who were referred from 2002 to 2006 to The Oxford Vascular Study (OXVASC), a prospective population based study of 91,000 patients registered at 9 General Practices. Diagnosis of TIA was confirmed by a senior neurologist and patients followed up for recurrent stroke at7, 30 and 90 days post TIA. Discriminating performance of the diagnostic tool was measured with area under the Receiver Operator Characteristic curve (AUROC). Impact of using the tool for referral management was assessed with the proportion of TIA patients who had a recurrent stroke but had scores below the optimal cut point on the diagnostic tool.

RESULTS A 9 variable rule was used to score 759 referred patients of whom 387 (51%) were diagnosed with TIA. Discrimination for TIA versus non-TIA overall was high with an AUROC of 0.82 (S.E. 0.02) for all TIAs, but there was a strong effect of arterial territory with AUROCs of 0.85 (0.02) for anterior circulation TIA and 0.7 (0.03) for posterior circulation TIA. There were 41 recurrent strokes at 7 days, 50 at 30 days and 62 at 90 days. Decision to refer using optimal diagnostic rule cut points would have missed 15% of patients with recurrent stroke at 7 days, 14% with recurrent stroke at 30 days and 12% with recurrent stroke at 90 days.

CONCLUSIONS Patients with early recurrent stroke after TIA are missed if referral decisions are based on existing diagnostic decision rules, with diagnostic performance varying with arterial territory. Studies with observational follow up are required to assess the impact of using decision rules to deliver more cost-effective care.

P2.04

Transient Ischaemic Attack (TIA) referrals from primary care: Identifying opportunities for stroke prevention using an international healthcare systems comparison

Daniel Lasserson[1], Parker Magin[2], Christopher Levi[3], Jose-Maria Valderas[1], Michelle Russell[3], Malcolm Evans[3], Mark Parsons[3], Neil Spratt[3], Peter Rothwell[4]
[1]Department of Primary Health Care, University of Oxford, Oxford, UK, [2]Discipline of General Practice, University of Newcastle, Newcastle, Australia, [3]Hunter Stroke Service, John Hunter Hospital, University of Newcastle, Newcastle, Australia, [4]Stroke Prevention Unit, Department of Clinical Neurology, University of Oxford, Oxford, UK

INTRODUCTION The UK and Australia share evidence based guidelines for managing TIA, recommending specialist assessment with urgency determined by predicted risk (ABCD2 scores ≥4 indicating high risk). Comparing pathways of care for patients with TIA, particularly those with ABCD2>4, in these two healthcare systems could identify an optimal stroke prevention strategy.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

METHODS All TIA/minor stroke cases and clinic referrals within a prospective study of vascular events in a population of 91,000 primary care registered patients in Oxfordshire (OXVASC, 2002 - ongoing recruitment) were compared with TIA/minor stroke clinic referrals to the Hunter Neurovascular clinic in Newcastle, Australia (2008 data, population 578,486). Distributions of ABCD2 scores for GP and emergency department (ED) referrals were compared with z tests. Completeness of TIA/minor stroke assessment in the Hunter region was compared with OXVASC data, with ratios of numbers of clinic diagnosed TIA/minor stroke to patients hospitalised with major stroke from the population served by the clinic.

RESULTS In OXVASC, 73% of patients with TIA or minor stroke were initially seen in primary care, compared with 35% of Hunter clinic referrals. A greater proportion of TIA/minor stroke patients referred from ED to the Hunter clinic had an ABCD2 score ≥4 compared with GP referrals (59% vs 39% z=2.1 p=0.02). A similar pattern was seen in OXVASC but with higher proportions with an ABCD2 score ≥4 (86% ED attenders vs 77% GP attenders, z=2.3, p=0.01). 76% of TIA patients in the Hunter clinic had a CT brain requested by their GP. The ratio of numbers of clinic diagnosed TIA/minor stroke to major stroke in the Hunter region was 1:7 compared with the OXVASC ratio of 3: 1.

CONCLUSION The lower ratio of clinic diagnosed patients to major stroke patients, together with the lower risk distribution of clinic patients, suggests opportunities for guideline-based stroke prevention are missed in the Hunter Valley. Primary care based studies are required to map processes of care and identify where high risk patients seek medical attention. However, primary care access to CT scans in Australia allows the use of more accurate risk prediction tools to triage urgency of specialist assessment

P2.05

Developing a Conceptual Model of Illness Burden

Deborah Morrison[1], Katie Gallacher[1], Sara Macdonald[1], Carl May[2], Victor Montori[3], Frances Mair[1]

[1]Academic Centre of General Practice & Primary Care, University of Glasgow, Glasgow, UK, [2]School of Health Sciences, University of Southampton, Southampton, UK, [3]Knowledge & Encounter Research Unit, Mayo Clinic, Rochester, USA

Introduction: Illness burden is a well recognised phenomenon (Corbin & Stauss 1985; Bury 1991). Recently there has been interest in dividing the work of managing chronic illness into illness burden (the work of managing the illness) and treatment burden (the work of managing treatments) while recognising that there is a degree of overlap. While undertaking a study to describe the components of treatment burden many features of illness burden were uncovered that have not been previously described.

Methods: Qualitative analysis of archived semi-structured interviews with heart failure (CHF) patients (n=47) undertaken to explore knowledge and understanding and experience of living with CHF and new patient interviews focusing on treatment burden with stable and end stage CHF patients (n=16) undertaken to develop a taxonomy of illness and treatment burden. Data were analysed using framework methods, informed by Normalisation Process Theory (NPT).

Results: Interviewed patients were typical of those seen in primary care. Baseline characteristics of archived interview patients: 18 female and 29 male; mean age 73 years (range 45 - 88); mean number of comorbidities 3 (range 1 - 7), and mean number of daily described medicines used 7 (range 4 - 13). While baseline characteristics of ongoing interview patients: 7 female; 9 male; mean age 69 years (range 39 - 87). The most obvious aspect of illness burden is enduring symptoms. However our data show that this provides only a partial picture of "illness burden", and that these CHF patients also expended much effort on other aspects: learning about their diagnosis and differentiating it from other illness; engaging with others (both health professional, and social contacts) to provide support and practical help; altering social circumstances in response to their illness and appraising their illness.

Conclusions: The idea that patients work to make coherent disparate understandings of their illness experience and "facts" about their illness is a critical and largely unarticulated idea. Developing a clear typology of the different

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

components of illness burden is important in order to help us more clearly understand the phenomenon and to inform the development of future interventions aimed at reducing illness burden.

P2.06

Understanding recruitment challenges in Randomised Controlled Trials (RCTs) in primary care: findings from two asthma trials.

Deborah Morrison[1], Euan Cameron[2], Georgina Braganza[2], Neil Thomson[2], Rekha Chaudhuri[2], Janice Reid[3], Frances Mair[1]
[1]Academic Centre of General Practice & Primary Care, University of Glasgow, Glasgow, UK, [2]Institute of Infection, Immunity & Inflammation, University of Glasgow, Glasgow, UK, [3]Scottish Primary Care Research Network, University of Glasgow, Glasgow, UK

Introduction Many trials do not recruit sufficient participants, particularly from primary care settings, making it difficult to get meaningful results. A recent Cochrane review studying recruitment strategies concluded that there is still much to learn, and suggested that more researchers included an evaluation of recruitment strategies in real trials. Here we describe basic details of two MRC funded, primary care based, asthma RCTs, and their recruitment strategies and challenges.

Methods Trial 1: Examined whether short-term treatment with atorvastatin improves lung function, asthma control and quality of life in smokers with asthma (completed 2009). Trial 2: Examined the same question but used azithromycin (expected to complete July 2011). The participant flow charts and trial documents of both trials were examined to establish recruitment details.

Results Trial 1: Target to randomise =80, target to complete =68 patients, study extended by 3 months due to slow recruitment. Actual randomised =71, actual completed =60. 54/438 GP practices approached, participated. 2483 patients from practices and 356 from a database of previous trial participants were approached initially by 2 mailings via GP surgeries, and then following an ethics amendment via telephone for a small number of surgeries. 331/2483 (11.7%) patients responded positively, and of these 286 were able to be contacted and telephone screened for eligibility, leaving 131 deemed eligible. 129/131 attended a screening visit; 58/129 screen failed (e.g. due to deterioration in peak flow, unable to wean off regular asthma medications) leaving 71 randomised (2.5%) of total patients invited. Trial 2: ongoing, extended by 3 months so far due to even poorer recruitment rates. Target to randomise =80, target to complete =68. Actual randomised: 60/7939 invited.

Conclusion Making recruitment challenges transparent will help funders and researchers appreciate the true level of administrative support and time needed to recruit for RCTs. Furthermore, by acknowledging challenges openly, this should provide evidence to ethics committees to justify the approval of more creative recruitment strategies, such as telephoning patients, which although recommended as an effective strategy, is often frowned upon. Additionally, understanding key stages where patients are being excluded, here at pre-trial screening, may inform future study design.

P2.07

Stigmatisating attitudes in the waiting room? Discomfort with mental illness among GP patients and its potential implications. A cross-sectional study.

Parker Magin[1], Simon Holliday[2], Susan Goode[1], Janet Dunbabin[1], Julie Henry[2]
[1]University of Newcastle, NSW, Australia, [2]Albert St Practice, Taree, NSW, Australia

Introduction Stigmatisation of people with mental illness is common and its social consequences well-characterised. No research, however, has considered the dynamics of discomfort with, or stigmatising attitudes towards, people with mental illness in doctor's waiting rooms. The aims of this study were to establish prevalence of discomfort with sharing GP waiting rooms with people with mental illness including schizophrenia, associations of these attitudes, and effects of the attitudes on patients' willingness to attend practices with higher proportions of patients with mental illness.

Method A cross-sectional waiting room study. Consecutive patients attending three randomly-

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

selected sessions within a 2 week time interval at constituent practices of an Australian Network of Research General Practices completed questionnaires. Outcome measures were prevalence of discomfort about sharing the waiting room with mental health patients, and the expressed likelihood of changing GP surgeries if the practice provided specialised care for patients with mental illness.

Results 1138 patients (response rate 78.5%) from 15 practices (of 16 practices in the Network) completed questionnaires. 18% of respondents reported ever having had a disturbing or unsettling waiting room experience. In only 3.5% of respondents was an experience contributed to by the mental illness of another patient, but 27.8% of respondents would be uncomfortable about sharing the waiting room with someone with schizophrenia and 11.6% with someone with severe depression or anxiety. Discomfort with schizophrenia, but not with depression/anxiety, was significantly associated in logistic regression models with a personal experience of an unsettling waiting room incident contributed to by mental illness. 11.5% and 10.2% of respondents reported being prepared to change practices if the practice provided specialised care for patients with mental disorders and schizophrenia, respectively.

Conclusion An appreciable minority of patients in GPs' waiting rooms feel uncomfortable sharing the waiting room with patients with mental illness, despite personal experience of disturbing or discomforting experiences with these patients in a waiting room being relatively rare. This may represent stigmatising attitudes towards mental illness and, together with the prevalence of willingness to change practice, may be a disincentive for GPs to develop a special interest in mental health

P2.08

Strategies to overcome challenges associated with recruitment to Primary Care Studies

Andrea Morcom, Helen Stokes-Lampard, Sarah Bathers, Richard Hobbs
University of Birmingham, Birmingham, UK

Introduction: Recruitment to Primary Care Studies faces many challenges. In addition to conducting safe, high quality studies a key priority for National Institute for Health Research accredited trial units is that recruitment is completed to deadline and target. Several strategies to help overcome these challenges have been identified, including collaborative working with primary care networks. Primary Care Clinical Research and Trials Unit (PCCRTU) has a longstanding partnership with Midlands Research Practices Consortium (MidReC), a large network of GP practices, which has facilitated successful recruitment to studies. Alongside MidReC, the PCCRTU collaborates closely with Primary Care Research Network (PCRN), introduced and funded by the NIHR via the UK Clinical Research Network. The impact of expansion, innovation and continued collaboration has been reviewed.

Methods: MidReC/PCRN aims to provide an infrastructure to support primary care research. Various initiatives have recently been established, including appointment of GP research Champions and Nurse/Research Facilitators. Patient recruitment and study uptake was compared before and after introduction of these innovative posts, to establish what impact these may have had.

Results: Two GP Champions were appointed (January 2009) to promote research in Dudley Primary Care Trust, since historically recruitment has been low. Annual recruitment pre and post GP Champions were compared and a 43% increase was identified. Month-by-month comparisons were also made and 9 out of the 12 months showed higher recruitment rates than the preceding year. Seven GP sites have an embedded Nurse/Research Facilitator and in the last 9 month time period study uptake by these practices has increased from 10 to 28 between them. More data will be available to present by July 2011.

Conclusions: Through close collaboration between PCCRTU and MidReC/PCRN, there is an increased pool of potential patients available to primary care researchers. A single strategy alone can not overcome the challenges associated with recruitment to Primary Care Studies. However, a creative approach to tackling the problem has led to a portfolio of solutions which we envisage will promote patient recruitment on time and to target.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

P2.09 also oral B14

Developing a complex intervention for people with colorectal cancer: modelling and piloting.

Nicola M Gray[1], Susan J Hall[1], Susan Browne[2], Una Macleod[3], Marie Johnston[1], Sally Wyke[4], Leslie Samuel[5], Peter Murchie[1], Amanda J Lee[1], David Weller[6], Neil C Campbell[1]
[1]University of Aberdeen, Aberdeen, UK, [2]University of Glasgow, Glasgow, UK, [3]Hull York Medical School, Hull, UK, [4]University of Stirling, Stirling, UK, [5]Aberdeen Royal Infirmary, Aberdeen, UK, [6]University of Edinburgh, Edinburgh, UK

Introduction Increasing numbers of people with colorectal cancer are being cured and surviving longer. However many report long lasting physical and emotional difficulties. We aimed to develop a primary care based intervention to improve the quality of life of people with colorectal cancer by tackling some of these difficulties.

Method: The intervention development process comprised convening expert groups (health and research professionals and patient and carers); conducting a literature review; conducting qualitative interviews with healthcare professionals and patients; developing patient factsheets, prompt cards, and self-monitoring sheets; devising and delivering a nurses' training programme; and conducting a small pilot.

The pilot involved two research nurses, in two centres, each visiting six newly diagnosed patients at home, 6 to12 weeks post diagnosis, with one follow-up telephone call one week later. Home visits were digitally recorded. Around 4-8 weeks after the home visit, two researchers, one in each centre, interviewed the patients and the research nurses to identify how the intervention could be improved.

Results:

- The literature review identified multiple symptoms experienced by people with colorectal cancer and a number of interventions which had had mixed success at addressing these issues.
- Early interviews with colorectal cancer patients suggested that the intervention should be targeted at those who had recently been diagnosed, deal with symptom management, and be nurse led.
- Early interviews with health professionals suggested that the intervention should be individually tailored and inclusive. Close liaison with secondary care was emphasised.
- Participants in the pilot appreciated the home visit, and prompt cards facilitated identification and discussion, of potentially difficult subjects such as sex and money.
- A key element of the intervention was the goal setting. While patients who set goals generally met them not all patients set goals.
- Patients would have preferred more visits from the nurse.

Conclusions: Patients appreciate and value nurse led home visits after diagnosis and initial treatment. Goal setting and self-monitoring may be helpful tools aiding patient's recovery. This intervention has the potential to improve quality of life but now requires evaluation in a trial.

P2.10

Oral health care preferences of people with type 2 diabetes: a qualitative study

Antje Lindenmeyer, Vicky Bowyer, Julia Roscoe, Paul Sutcliffe, Jeremy Dale, Jackie Sturt, Robert Ireland
University of Warwick, Coventry, UK

Introduction: People with diabetes are at higher risk of developing oral health problems, such as periodontitis. Therefore, they should be encouraged to look after their oral health by the health professionals who care for them. However, little is known about patients' understandings and care preferences related to oral health and diabetes.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Method: Nested qualitative study as part of a questionnaire study of oral health awareness in people with type 2 diabetes. A purposive sample of 20 participants who had completed the survey and consented to being approached for interview were selected. Telephone interviews focused on 1) oral health awareness; 2) communication with dental professionals about diabetes; and 3) preferences for oral health and diabetes care. Responses were thematically analysed using the Framework method.

Results:

• Participants were generally unaware of the link between oral health and diabetes. Those who had some awareness had deduced this from general knowledge about diabetes.
• They were keen be told about oral health risks early in their diagnosis by their GP or nurse, alongside other risk information.
• Communication with dentists about diabetes was focused on information (confirming they had diabetes), with very little scope for discussion and advice.
• Participants were generally supportive of dentists being involved in diabetes screening but saw their GP surgery as the focal point of their diabetes care.

Conclusion: People with type 2 diabetes have an unmet need for information and advice around oral health. Participants in our study preferred this to be delivered by their primary care team in conjunction with dental professionals.

P2.11

Systematic review of mobile technologies for improving health services and clinical management

Gemma Phillips[1,2], Caroline Free[2], Leandro Galli[2], Louise Watson[2], Lambert Felix[2], Vikram Patel[2], Philip Edwards[2]
[1]Institute for Health and Human Development, University of East London, London, UK, [2]Deparment of Nutrition and Public Health Intervention Research, London School of Hygiene and Tropical Medicine, London, UK

Introduction: Mobile technologies offer a new media to promote health. We conducted a systematic review of controlled trials of mobile technology interventions to improve health or health services.

Methods: We searched for controlled trials of interventions to improve health or health services using MEDLINE, EMBASE, PsycINFO, Global Health, The Cochrane Library, CENTRAL, NHS HTAD and Web of Science (Jan 1990 to Sept 2010). We extracted data on allocation sequence, allocation concealment, blinding, loss to follow-up and measures of effect. Effect estimates were calculated.

Results: We identified 131 trials. We report results for clinical and health service support.

Of the seven trials of PDA-based clinical support (protocols, guidelines), one was high quality. Twenty-eight outcomes were reported covering appropriate management, testing, referrals, screening, diagnosis, treatment and triage; 25 showed benefits, and 11 were statistically significant.

Mobile telephone interventions to support health services included appointment reminders and test result notification. One trial was high quality. The pooled effect on appointment attendance using text message (SMS) reminders vs. no reminder was RR 1.06 (95% C.I. 1.05 to 1.07), I squared 86%. The pooled effects on the number of cancelled appointments and on attendance using SMS reminders vs. other reminders were RR 1.08 (95% CI 0.89 to 1.30) and RR 0.98 (95% CI 0.94 to 1.02). One trial reported the effect of SMS for notifying patients of Chlamydia test results on mean time to communication of diagnosis and mean time to treatment (MD -5.00 days (95% C.I. -6.94 to -2.26); MD -6.00 days(95% C.I. -7.15 to -4.85).

Conclusion: Clinical support interventions show promising results, but high quality trials of mobile phone based interventions measuring clinical outcomes are needed. Such interventions may be particularly relevant to developing countries where there is greater access to low-cost mobile technologies than the internet. SMS reminders have modest impacts on attendance, but are not more effective than other forms of reminder. Cost-effectiveness studies are needed to decide whether SMS is better than other communication channels (email, letter, telephone call) in terms of both direct and staff costs. Further trials should evaluate the impact of mobile technologies in communicating test results.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

P2.12

Interventions to Reduce Primary Care Delay in Cancer Referral: A Systematic Review

Gemma Mansell, Mark Shapley, Joanne Jordan, Kelvin Jordan
Keele University, Staffordshire, UK

Introduction Reducing delay in the cancer care pathway in primary care may help to improve cancer survival rates. There is evidence to suggest that Government-initiated guidance in the form of the 2-week-wait for cancer referral is not always complied with in primary care. Identifying effective interventions that reduce delay in referral of patients for further investigation could be commissioned locally by primary healthcare professionals, and may lead to earlier detection of cancer and improved survival rates.

Methods A systematic review to identify primary care interventions that aimed to reduce delay in referral either directly or by proxy (e.g. by increasing awareness) was conducted. The search strategy included terms for cancer, primary care and early diagnosis. Eight electronic databases were searched, and citation and reference checks were performed. All included articles were quality assessed.

Results After searching the literature, 22 papers were found to meet our inclusion criteria. Most of these studies focused on skin cancer and were conducted in Europe. A number of different types of intervention were found, but no study directly measured a reduction in delay. Instead, the interventions utilised education, skills training, audit and feedback, diagnostic and assessment tools and improvement of guideline use. The majority of studies (17 out of 22) reported positive outcomes but the quality of the included studies was low, with only six scoring above our thresholds for good quality. Complex interventions appeared to be most effective.

Conclusion and Implications Our review did not identify any intervention that directly reduced primary care delay in cancer diagnosis and many of the studies were low quality, with little or no follow-up, selection bias and generally inadequate reporting of results. However, there is some evidence that complex interventions that include audit and feedback could be effective. Tailoring interventions to the participants involved and making the information specific to them may be more useful than giving generic information. Future research should attempt to directly measure delay as an outcome and improve the reporting of the intervention to ensure confidence in the findings.

P2.13

Triggers for Cardiology Referrals – Are they different for General Practitioners working in deprived compared with affluent areas of Sheffield?

Liz Walton, Nigel Mathers
University of Sheffield, AUPMC, UK

Introduction Inequality and variance in referral rates are topical both in the medical press and for GP commissioning groups. This has become even more so since publication of the new White Paper in July 2010.

However, the original incentive for me wanting to undertake this research strongly remains that I am keen to discover if deprived patients are at a disadvantage when they seek help at with their family doctor compared to their affluent neighbours, and why any differences may be occurring.

Methods Mixed method project.

Quantitative analysis using logistic regression to see how socioeconomic status is related to a patients' chance of being referred to cardiology clinics in Sheffield.

Qualitative analysis of 12 in depth interviews with Sheffield GPs who work in socioeconomically varied areas of the city using thematic analysis.

Preliminary Results

Quantitative Preliminary Results Patients >70years from deprived areas are less likely to be referred to cardiology clinics in Sheffield than affluent patients. This is not in keeping with higher levels of heart disease in more deprived patients. However, patients <70years from deprived areas are more likely to be referred than affluent patients to cardiology clinics in Sheffield in keeping with higher levels of heart disease in these patients.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Qualitative Preliminary Results Themes are currently being refined iteratively using thematic analysis including: Referral triggers, triggers for non-referral, decision making in the consultation, referral outcomes, referral process, impact of health care systems and referrals monitoring, nature of typical patients at the practice, strategies to avoid/reduce referrals, reasons for variations in referrals.

Conclusion GP referrals are a complex and topical subject. This project will hopefully start to unravel some of the causes for variation in referral rates. Preliminary analysis is showing that elderly deprived patients are less likely than affluent patients to be referred to cardiology clinics in Sheffield, despite the higher burden of heart disease within this group.

P2.14

GP attitudes to work and health in Great Britain: postal survey

Mark Hann, Bonnie Sibbald
University of Manchester, Manchester, UK

Introduction Evidence shows that being in work is generally good for health, and worklessness often leads to poorer health. The government has therefore embarked on initiatives to promote the health benefits of work that include roll-out of: the 'fit note'; education to improve GPs' knowledge, skills and confidence in dealing with health and work issues; and services to which patients can be referred for help to remain in or return to work. Our aim was to establish baseline measures of GPs' attitudes to these initiatives.

Methods Questions relating to GP attitudes towards health and work were included in the 6th national General Practitioner Worklife Survey conducted by the National Primary Care Research and Development Centre. The survey was administered by post to a randomly selected sample of 4,185 GPs from England, Wales and Scotland between September 2010 and November 2010. The questionnaire contained 19 items relating to GPs' views on: work and health; their role, training and confidence in promoting the health benefits of work; early experience of 'fit notes'; and the nature of services to support patients to return to work.

Results 1,405 (34%) GPs completed the survey. There was near universal agreement that work was generally beneficial for health, and that helping patients to stay in or return to work was an important part of a GP's role. While a majority reported positive impacts of the 'fit note' on the quality of consultations and outcomes for patients, nearly half reported fit notes had lengthened consultation time and over a third agreed it had not changed their practice. Fewer than 20% reported good services locally to which they could refer patients for support or advice about return to work. Self-reported knowledge of sickness certification was good but knowledge of benefit systems was poor.

Conclusions GPs see themselves as playing an important role in promoting the health benefits of work, and 'fit notes' have helped them do so. There is however scope to improve use of the 'fit note' as an aide to patient recovery as well as to improve the availability of services that support patients into work.

P2.15

Mobile technologies to improve health: a systematic review

Caroline Free, Gemma Phillips, Louise Watson, Leo Galli, Lambert Felix, Vikram Patel, Phil Edwards
LSHTM, London, UK

Background: Mobile technologies provide a new media to promote health. We conducted a systematic review of randomised controlled trials of mobile technology interventions to improve health or health services.

Methods: We searched for randomised controlled trials of interventions to improve or health services using MEDLINE, EMBASE, PsycINFO, Global Health, The Cochrane Library, CENTRAL, NHS HTAD and Web of Science (Jan 1990 to Sept 2010). We extracted data on allocation sequence, allocation concealment, blinding, loss to follow up and measures of effect. Effect estimates were calculated.

Results: We identified 131 trials. We report results for interventions for self-management of disease and health promotion delivered to lay people.

High quality trials: One multi-component intervention for anti-retroviral(ART) adherence reported effects on HIV viral load RR 0.85 (95% CI

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

0.72 to 0.10), mortality RR 1.27 (95% CI 0.72 to 2.22) and self-reported non-adherence to ART RR 0.81 (95% CI 0.69 to 0.94). Multi-component smoking cessation interventions increased biochemically verified continuous abstinence at six months RR 2.15 (95% CI 1.74 to 2.66).

Other trials, pooled effects: Effects of diabetes interventions on HBA1C were WMD -0.27 % (95% CI -0.48 to -0.06) and BMI were 0.06 kg/m^2 (95% CI -0.35 to 0.46). Effects of SMS reminders on adherence to vaccinations was RR 1.19 (95%CI 1.15 to 1.23) and to medication was RR 1.00 (95% CI 0.77 to 1.30). Effects of diet and physical activity interventions on waist circumference was WMD -1.61 (95% CI -2.92 to -0.30) and on weight was WMD -0.41 (95% CI -3.52 to 2.70)kg. The effect of dietary interventions on weight was WMD 0.10 (95% CI -0.49 to 0.69)kg. Individual trials reported promising results for cardio-pulmonary resuscitation, hypertension, asthma, heart failure and physical activity.

Conclusions: Multi-component interventions increase adherence to ART and smoking cessation and should be considered for inclusion in services. Effects on adherence to vaccinations are modest. Effects on diabetes control and waist circumference are of borderline clinical importance. There is no evidence of effects on weight. High quality adequately powered trials are required to evaluate effects on objective outcomes in other areas of self-management of chronic diseases and health promotion.

P2.16

Young people's gendered experiences of accessing sexual health services

Mandy Cheetham
Evaluation, Research and Development Unit, Wolfson Research Institute, Durham University, Queen's Campus, University Boulevard,, Thornaby on Tees, TS17 6BH, UK

Introduction Young people report a range of difficulties accessing health services, and key public health indicators for young people show adverse trends or no change, contributing to increasing health and social inequalities.

Methods We explored young people's experiences of accessing sexual health services, using thirty four one-to-one semi-structured, in-depth interviews with young women and young men aged 14 -18 in the North East of England. The data was coded, organised and analysed according to key themes, concepts and emergent categories, using a framework approach (Ritchie and Spencer 1994)

Results The reported difficulties included concerns about confidentiality and perceived attitudes of staff, which centre on fear of embarrassment, shame and stigma even if young people were not having sex;

People sometimes do look down on you if they think you're having sex and you're too young

Young woman aged 15

We found that young people's reports of embarrassment were influenced by a range of factors including their age, gender, the presence of friends, their familiarity with services and perceptions of professionals' comfort levels, experience and skills.

Conclusion The study offers insights into the key role played by supportive friends, whom young people identified as significant in encouraging early access to health services and the characteristics and approach of healthcare professionals who can help to minimise the effects of embarrassment on young peoples' consultations.

Young people's experiences of primary care are informed by the ways in which they, their friends and health care professionals negotiate contradictory discourses about age, gender and sexuality. The paper considers some implications for practice, including the need to accommodate requests about choice of gender of staff, offer reassurances about confidentiality, welcome friends and acknowledge the gendered costs and benefits associated with seeking health advice. It suggests potential ways forward to improve services for young people using the You're Welcome quality criteria (Department of Health 2007) to encourage young people's participation in health and address practical concerns about access.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

P2.17

Using a simulated patient approach to establish the external validity of the General Practice Patient Survey (GPPS) on the availability of GP appointments

Mary Carter[1], Antoinette Buisman[1], John Campbell[1], Martin Roland[2], Emily Fletcher[1], Anthea Asprey[1]
[1]Peninsula Medical School, Department of Primary Care, Exeter, UK, [2]University of Cambridge, Department of Public Health & Primary Care, Cambridge, UK

INTRODUCTION The GP Patient Survey (GPPS) is run by Ipsos MORI on behalf of the Department of Health. It is sent to approximately 1.4 million patients each quarter, and assesses patients' experiences of local NHS services. It contains items that measure patients' reports of access to care and the ability to book an appointment with a GP. These items require external validation to ensure that they measure what they purport to measure. This study uses a simulated patient approach to assess the availability of GP appointments in a sample of practices.

METHOD Practices from a range of settings, list sizes and scores on GPPS access questions have been recruited. Using a 'mystery shopper' approach, the researcher makes a "scheduled call" to each practice once a month during randomly selected days and one of four randomly selected timeslots. Up to six phone calls are made to request a routine appointment with either ANY or a SPECIFIC doctor. The date and time of the first and third appointment available are noted.

RESULTS Forty-one South West practices have been recruited. To date 377 "scheduled calls" have been made.

Waiting times for first and third appointments vary according to whether ANY or a SPECIFIC doctor is specified, with longer mean times recorded for the latter. The day and timeslot also impact on the mean waiting time.

On approximately 76% of occasions the "scheduled call" entails one telephone call.

Appointments with an alternative doctor have been offered on approximately 17%, and with the Nurse Practitioner on approximately 6% of occasions.

The researcher's identity has been disclosed on approximately 4% of occasions.

CONCLUSIONS This is a current study. Data collection and analysis are ongoing, and final results will be available for the conference.

P2.18

Which women undergo a hysterectomy and why? A national cohort study

Helen Stokes-Lampard, Zara Llewellyn, Sue Wilson
University of Birmingham, Edgbaston, Birmingham, UK

Introduction: Hysterectomy is the most commonly performed major operation on women with a UK lifetime incidence of 20%. Recent research suggests that mortality from hysterectomy may be higher than is widely quoted.

Methods: This observational epidemiological study used Hospital Episode Statistics data (HES) to establish comprehensive details about all women who underwent a hysterectomy in England, over a five year period (2004-2009).

Data was requested thus: all women, admissions 2004-2010, all hysterectomy operation codes, fully anonymised. The data was received in June 2010 as an ASCII file, pipe-delimited, encrypted and password protected. The data was translated into Excel and analysed in SPSSv15.

The study aimed to describe which women are currently having a hysterectomy, for what indications and to establish crude mortality rates.

Results: N=241,792 episodes of hysterectomy during the 5-year period: The number of operations performed increased from 46,546 to 48,986 per annum. Age range = 1-108yrs, (median=49, median=52.5, IQR=19). Recording of ethnicity improved over time from 76.4% to 88.0%.

The total proportion of women undergoing a sub-total hysterectomy increased over time from 6.0% to 7.2% (X^2 = 97.945, df4, p=<0.0001). Cancer cases were less likely to have a sub-total

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

procedure (3.0%) than those having a hysterectomy for benign indications (8.0%).

400 women died during their admission, 0.17% or 17 in 10,000 admissions. This figure only includes deaths within hospital at the time of admission for hysterectomy and not those who may have developed late surgical complications and died during a re-admission. 278 deaths were in the 36,769 women who had a cancer diagnosis (0.76%), 122 were in the group of 195,327 (0.06%) who had a hysterectomy for a benign indication.

Conclusions: Use of sub-total hysterectomy is increasing despite an absence of evidence of benefit. RCOG Guidelines on consent for hysterectomy for benign indications quote a mortality of 1-in-4,000, this study suggests that the true incidence is worse than 1-in-2,000. For cancer cases the mortality appears to be worse than 1-in-150.

It is recommended a large scale audit of mortality at time of hospital admission for hysterectomy be carried out so that women may be appropriately counselled

P2.19

Measurement invariance of the HADS and PHQ-9: an investigation of age, gender and educational background in a clinical UK primary care sample

Isobel Cameron, John Crawford, Kenneth Lawton, Ian Reid
University of Aberdeen, Aberdeen, UK

Introduction: Measurement invariance is a requirement of rating scales to ensure against item bias. Where differences in prevalence of symptoms between different demographic groups are observed, it is important to be sure that such differences reflect differences in the trait being measured rather than any other unintended aspects. The Patient Health Questionnaire (PHQ-9) and Hospital Anxiety and Depression Scale (HADS) are commonly used measures of depression severity in clinical practice and research. Measurement invariance of these scales by gender, educational background and age, using Item Response Theory analysis is presently assessed.

Methods: Severity of depression and anxiety symptoms were measured in primary care patients referred to mental health workers using the PHQ-9 and HADS. Each scale was assessed for Differential Item Functioning (DIF) and Differential Test Function (DTF) by gender, educational background (educated to minimum school leaving age versus beyond) and age (<55 years versus ≥55 years). Minimum n per analysis = 895. DIF was assessed with Mantel's χ^2, Liu-Agresti cumulative common odds ratio (LA LOR) and the standardised LA LOR (LA LOR-Z). DTF was assessed in relation to v^2.

Results: PHQ-9, HADS Depression Sub-scale (HADS-D) and HADS Anxiety Subscale (HADS-A) exhibited measurement invariance in terms of gender and educational background (v^2<0.07). However, both PHQ-9 and HADS-D did not show measurement invariance with regard to age: PHQ-9 v^2=0.103 (medium effect); HADS-D v^2=0.214 (large effect). PHQ-9 items exhibiting DIF by age covered: anhedonia, energy and low mood. HADS-D items exhibiting DIF by age covered psychomotor retardation and interest in appearance.

Conclusions: PHQ-9, HADS-D and HADS-A are generally measurement invariant for gender and educational background. Measurement invariance was not observed in PHQ-9 and HADS-D for age. The implications of this with regard to clinical practice and research will be discussed.

P2.20

Ethnic differences in the progression of chronic kidney disease in a population with diabetes mellitus

Rohini Mathur[1], Sally Hull[1], Gavin Dreyer[2]
[1]Queen Mary, University of London, London, UK, [2]Barts & The London NHS Trust, London, UK

Introduction Among diabetics in east London the prevalence of chronic kidney disease (CKD) is 18%. Previous studies show higher rates of severe (stages 4/5) CKD among Black and South Asian compared to White groups.

Aim To examine whether the progression of chronic kidney disease among diabetic patients differs by ethnic group in east London.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Methods Using EMIS web all creatinine values between 2006-2010 were extracted for diabetic patients. Estimated Glomerular Filtration Rate was calculated and collapsed into an annual average for each patient. Patients were included in the cohort study if their eGFR fell below 60 (CKD stage 3) after the index diagnosis of diabetes, and were followed for between three and five years.

Logistic regression was used to calculate the average change in eGFR per year for each ethnic group.

Results 5091 diabetic patients aged 30-75 were identified with CKD stage 3. The average follow up was 4.3 years. 59% of patients were South Asian or Black.

Within the entire cohort there was a significant overall decline in eGFR of 0.42ml/min/1.73m^2 per year after controlling for demographic and clinical factors. We find a significantly steeper decline in eGFR for South Asian patients compared to White with no difference in rate of decline between Black and White patients.

Conclusions The 'healthy cohort effect' may underestimate the true rate of eGFR decline. Progression to end stage renal failure may be a rapid event independent of the background rate of eGFR decline. Further studies investigating patterns of eGFR decline are indicated.

P2.21

Screening and alcohol brief interventions (ABIs) in community pharmacy: a pilot study

M C Watson[1], J Inch[1], E Duncan[1], M Jaffray[1], E Afolabi[1], D Stewart[2]
[1]*University of Aberdeen, Aberdeen, UK,*
[2]*Robert Godon University, Aberdeen, UK*

Introduction Alcohol misuse is a global health concern[1]. Screening and ABIs are effective in reducing alcohol consumption in some primary care settings but no evidence exists from randomised controlled trials (RCTs) of effectiveness in community pharmacies. This pilot study, using an RCT design, examined the delivery and uptake of screening and ABIs in community pharmacies, the results of which will be used to inform a full scale RCT.

Method The study was conducted in North East Scotland using an RCT design. Pharmacy clients completed the Fast Alcohol Screening Test (FAST). Clients who scored >2, were eligible to participate. Clients who consented to participate were then asked to complete a baseline questionnaire about their alcohol knowledge and consumption. A similar questionnaire was posted to participants at 3- and 6-months. Clients in intervention pharmacies received an ABI from the pharmacist during their baseline visit. Clients in control pharmacies were given a generic health information leaflet. Client experience of the screening and ABI service was explored using telephone interviews. Focus groups were conducted with members of the public and participating pharmacists pre- and post-intervention. This study was approved by the North of Scotland Research Ethics Committee.

Results Twenty pharmacies participated. A total of 844 clients completed the FAST survey, of whom 229 (27.1%) scored >2. Of these, 69 (30.1%) clients participated in the study (intervention n=42 (60.9%), control n=27 (39.1%)). Of the total clients recruited, 33 (47.8%) and 20 (29.0%) were followed up at 3- and 6-months, respectively. A non-significant reduction in FAST score of -0.93 (-2.84, 0.97) was shown for intervention clients compared with control clients at three months compared with baseline. Thirteen clients were interviewed and most pharmacies were represented at least one of the focus groups. Full study results will be available from February 2011 including an economic analysis of this service.

Conclusions This is the first controlled study of screening and ABIs in the community pharmacy setting. These activities were favourably received by pharmacy clients. A full scale RCT of this service will be developed using these results. The RCT will be used to inform future policy and practice in terms of community pharmacists' contribution to tackling excessive alcohol consumption.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

P2.22

Title: Electronic feedback of the outcomes of serial workplace based assessment of consultation skills: development, application and future

Robert Jones, Adrian Molyneux
Keele School of Medicine, Newcastle-u-Lyme, UK

***Introduction/method**:* To outline our development and first year of experience of:

1) Using a commercially available survey tool to record the outcome of and to provide electronic feedback on serial workplace based assessments of students' consultation skills.

2) The development of an additional piece of software to enable:

a) Emailing of summaries of these assessments to the student, GP tutor and lead lecturer and

b) Rapid identification of students whose performance may give cause for concern.

Setting: Keele School of Medicine teaching general practices.

Main Outcome Measures: Successful central collation of workplace based assessment results, identification of students whose performance may give cause for concern and estimated time cost of development.

Results: 368 assessments (of 393 which were expected) from 36 of 37 placement practices have been received on a total of 131 students in the year 3 general practice (Consolidation of Clinical Skills) placement.

We received all three expected assessments on 109 (83%) students. Seven students were identified as possibly causing concern because of two "must improve" assessments in the core domains to be assessed in year 3 and were interviewed by the lead lecturer.

Feedback has been received from tutors in wash up sessions on the process, which was positive although the online questionnaire was perceived as 'cumbersome' and 'clunky'.

The interface took 20 hours technical and 15 hours academic time to develop and test. The commercial survey software costs £200 for an annual licence.

Maintenance has been negligible and the process takes between 5 and 10 minutes to run each day.

***Conclusions**:* The feedback process has proved reliable, functional and inexpensive.

Feedback to students has been contemporaneous and relevant. Students with poor feedback have received one to one interviews with the lead lecturer and given advice on strategies for improvement.

The system is being developed to forward feed each student's feedback to his/her next tutor in general practice. We plan to extend the system to secondary care placements.

P2.23

The views of GP trainees in Ireland about minor surgical procedures in general practice

Shastri Persad
Western Training Scheme in General Practice, Galway City, Ireland

Introduction Minor surgical procedures are more commonly being performed in primary care not only because of increased GP ability but also the demands of patients, and increasing waiting lists in hospitals. With the current economic crisis in Ireland, it seems that the pressure on GPs to perform minor procedures will increase as the funding to hospitals is reduced and with the closure of smaller/rural hospitals.

Method Over a 6 week period, GP Trainees of all years in 13 training schemes in Ireland were contacted and asked to complete an online self devised 12 question questionnaire. Responses were collected using an online collection and analysis tool (Survey Monkey) and were then quantitatively analysed. .

Results 190 of 482 trainees responded. 55.9% of respondents had performed a minor procedure at some time with 69.1% of them being comfortable in doing so. Of the 44.1% who had never performed a minor procedure, 74.5% felt

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

uncomfortable if they were now required to perform one. 94.1% of trainees felt that minor procedures would be important for their practice in the future. 97.3% of trainees felt that formal surgical training would be beneficial with 67.8% wanting a GP led surgical skills course, 24% a Consultant led surgical skills course, and 8.2% a surgical rotation in hospital. Factors which trainees felt were important in deterring them from performing minor procedures in GP were risk of complications (97.3%), lack of ability (96.8%), medico-legal ramifications (92.6%), cost/time issues (74.7%). 25.4% of all trainees surveyed felt that minor surgical procedures in hospital are associated with a better outcome.

Conclusions Though just over half of trainees have performed minor procedures so far in their training, nearly all trainees want to perform them as part of their future practice. Most trainees prefer to complete some form of formal surgical training, with a GP led surgical skills course being the preferred method. Risk of complications, lack of ability, medico-legal risk and cost/time constraints were influential deterrents to performing minor procedures in general practice. Just over a quarter of trainees felt that minor procedures performed in hospital were associated with a better outcome.

P2.24

The CHARMS Study: General practitioner and cardiac rehabilitation staff views about discussing sexual issues with coronary heart disease patients - a national survey in Ireland

Molly Byrne[1], Sally Doherty[1], Hannah McGee[2], Andrew W Murphy[1]
[1]*National University of Ireland Galway, Galway, Ireland,* [2]*Royal College of Surgeons Ireland, Dublin, Ireland*

Introduction Sexual problems are common among those with coronary heart disease. While a healthy sexual life is often regarded as an important aspect of quality of life, sexual counselling from healthcare providers for cardiac patients has received little attention in the literature. The overall aim of this research was to document current practice and assess the needs of GPs and cardiac rehabilitation service providers in Ireland with regard to sexual assessment and management for patients.

Methods A random national sample of GPs, and cardiac rehabilitation staff in all hospital centres, in Ireland responded to a postal questionnaire. Sexual health management was assessed by a series of questions on current practice, and attitudes, beliefs and perceived barriers to discussing sexual problems.

Results Response rate for GPs was 27% (N=61). Seventy percent of GPs reported that they rarely or never discussed sexual problems with coronary patients. Cardiac rehabilitation Staff (N = 60; 61% response rate) reported a lack of assessment and counselling protocols for addressing sexual health problems, with little or no onward referral system available. While all cardiac rehabilitation staff and GPs believed addressing sexual problems was important, many reported lacking awareness, knowledge and confidence in addressing sexual problems.

Conclusions There is currently no standardised protocol for GPs or cardiac rehabilitation staff for dealing with sexual problems among coronary patients. Awareness of these issues appears to be low among GPs and cardiac rehabilitation staff. Services could be improved by developing practice guidelines for brief, effective actions or assessments, providing training in the area and improving information resources and support services for referral.

P2.25

Understanding the relationship between multimorbidity and socioeconomic deprivation in the epidemiology workstream of the Living Well with Multimorbidity programme.

Karen Barnett[1], Bruce Guthrie[1], Graham Watt[2], Michael Norbury[1], Sally Wyke[3], Stewart Mercer[2]
[1]*University of Dundee, Dundee, UK,*
[2]*University of Glasgow, Glasgow, UK,*
[3]*University of Stirling, Stirling, UK*

Introduction: As populations age and survival with chronic disease improves, developed world health systems are increasingly challenged by rapid rises in numbers of patients with long-term conditions and multimorbidity. Work in progress showing the patterning effect of multimorbidity by age and social economic status will be presented for discussion.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Aims: To determine the prevalence of multimorbidity in Scottish general practice, how it varies by social deprivation, and the implications for practice workload. A secondary aim is to explore the association between multimorbidity, consultation rates and quality of care.

Methods: Cross sectional analysis of University of Aberdeen Primary Care Clinical Informatics Unit held dataset for 1.8 million patients, registered with 310 (30%) Scottish practices. A total of 47 conditions considered by the expert steering group to be chronic and with significant impact on quality of life were defined and included in our count of multimorbidity. Statistical analyses will include cross tabulation and logistic regression as appropriate. Data presented here is from exploratory work based on a 10,000 patient sample, and defines multimorbidity as the presence of two or more conditions.

Preliminary Results Exemplar: Based on the 10,000 patient random sample, mulitmorbidity rates rose rapidly with age, from 2.4% (95% CI 0.7% to 4.7%) among 10-19 year olds to 83% (95% CI 77% to 90%) among patients aged 80 years and older. There were also large socio-economic inequalities in rates of multimorbidity in the middle-aged with 30% (95% CI 24% to 35%) of patients aged 40-49 years in the most deprived quintile shown to have multimorbidity compared to 16% (95% CI 12% to 20%) of patients aged 40-49 years in the most affluent quintile. An alternative interpretation of the data showed that patients aged 30-39 years in the most deprived quintile had similar rates of multiple morbidity to that of patients aged 50-59 years old in the most affluent quintile [23% (95% CI 18% to 28%) and 25% (95% CI 20% to 30%) respectively].

Findings from the entire dataset will be presented for a range of definitions of multimorbidity, and including data on quality of care if available.

P2.26

Jaundice in adults presenting to Primary Care

Anna Taylor[1], Willie Hamilton[2]
[1]University of Bristol, Bristol, UK, [2]Peninsula College of Medicine & Dentistry, Exeter, UK

Objective: To identify the diagnoses associated with jaundice in adults in primary care.

Method: Using the GPRD database, a cohort of 186,814 patients in the UK has been assembled using data supplied as part of an NIHR programme grant, DISCOVERY, which aims to elucidate the presenting symptoms of 13 common cancers. The dataset used in this study relates to adults over 45 years old who presented to their GP between 1 Jan 2005 and 31 Dec 2007, and contains details of every clinical event recorded in primary care between these dates.

The dataset was searched (using Read codes) to identify patients who presented with jaundice within this time period. The data for these patients were then analysed to identify recorded diagnoses (using Read codes) relating to jaundice.

Results:

277 patients were identified who presented with jaundice between 01 Jan 2005 and 31 Dec 2006.

Diagnosis relating to jaundice:

Gallstone disease 92 (33%)

Pancreatic cancer 34 (12%)

Metastatic cancer 27 (10%)

Alcohol-related 26 (9%)

Cholangiocarcinoma 13 (5%)

Other 24 (9%)

Undiagnosed 61 (22%)

Conclusions: Although the commonest cause is non-malignant gallstone disease, cancers are present in over a quarter of patients with jaundice in this study. This warrants investigation through urgent imaging (such as abdominal ultrasound scan) of patients presenting with jaundice, as this will not only identify malignancy but also many other causes of jaundice.

Out results support the NICE recommendations for urgent referral for patients with obstructive jaundice, although it could be argued that any primary care jaundice in adults requires urgent investigation.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

P2.27

Evaluation of Aseptic Non Touch Technique Training in an Undergraduate Population

Dawn Jackson[1], David Wall[1,2], Julie Bedward[1]
[1]University of Birmingham, West Midlands, UK, [2]West Midlands Deanery, West Midlands, UK

Introduction Aseptic Non Touch Technique (ANTT) training with hospital staff provides standards for aseptic care and has reduced rates of MRSA infection. The same training has been delivered to medical students. However, it is unclear whether the current training format is ideal for an undergraduate population. This study aims to determine whether students use ANTT in their practice, and if atrophy of ANTT skill occurs. It also aims to evaluate the effects of the "hidden" curriculum; in particular, the effect of role-modelling from hospital staff.

Method Two batches of Year 3 medical students were identified. The first underwent ANTT training and assessment during their first month of exposure to hospital medicine. The second received training 4 months later. Students were then re-assessed 7-10 weeks after initial training.

In semi-structured interviews, re-tested students were asked to comment on their practice of ANTT, and on their observations of ANTT in staff.

Student opinion was further evaluated by anonymous questionnaire and focus groups. Staff opinion was evaluated using diary entries and semi-structured interview.

Results On re-test of Batch One, almost all failed, indicating significant deterioration in skills ($p<0.001$ using related samples Wilcoxon signed ranks test). For Batch Two, 16 out of 24 fails occurred on re-test. 46% of students feel they do not implement ANTT in clinical practice. The commonest reason for this was cited as feeling pressure from supervising staff.

FY1 doctors were observed by 100% of undergraduates. Phlebotomists were ranked most competent at ANTT, with doctors scoring less well. Key themes identified as reasons for poor clinical practice by undergraduates include poor role modelling from staff, a lack of belief in ANTT and the perception of the doctor's professional role as being "too busy". Hierarchy in medicine was an additional observation.

Conclusions There is evidence of skills atrophy of ANTT soon after initial training. Scores may be related to unfamiliarity of clinical environment in undergraduates (suggested by higher fail rates Batch One), infrequent use of the skill or teaching methods. However, there may be en effect from the "hidden" curriculum, with staff responsible for the role-modelling of poor practice.

P2.28

An Ideal Test? A European qualitative study of clinicians' and patients' views of point of care tests for Lower Respiratory Tract Infections in primary care.

Fiona Wood[1], Lucy Brookes-Howells[1], Kerenza Hood[1], Lucy Cooper[2], Theo Verheij[3], Herman Goossens[4], Paul Little[5], Maciek Godycki-Cwirko[6], Niels Adrianenssens[4], Kristin Jacobsen[7], Christopher Butler[1]
[1]Cardiff University, Cardiff, Wales, UK, [2]Liverpool University, Liverpool, UK, [3]UMC Utrecht, Utrecht, The Netherlands, [4]University of Antwerp, Antwerp, Belgium, [5]Southampton University, Southampton, UK, [6]Medical University of Lodz, Lodz, Poland, [7]University of Tromso, Tromso, Norway

Introduction: Point of Care Tests (POCTs) are being prmooted to better target antibiotic prescribing with the aim of improving outcomes and containing antibiotic resistance. We aimed to explore clinician and patient views about POCTs to assist with the diagnosis and management of lower respiratory tract infection (LRTI) in primary care.

Method: Multi-centre European qualitative interview study with 78 primary care clincians and 121 adult patients who had recently consulted with symptoms of acute cough/LRTI. Data were analysed using a framework approach.

Results: Clinicians who did not routinely use POCTs for acute cough / LRTI felt that the tests' advantages included managing patient expectations for antibiotics. Perceived disadvantages included questionable test

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

performance, problems interpreting results, a detraction from clincian reasoning, costs, time, and patients not wanting, or demanding, the tests. Clinicians who routinely used POCTs echoed these disadvantages. Almost all patients would be happy to be managed with the addition of a POCT. Patients with experience of POCTs accepted it as part of routine care.

Conclusions: Acceptability of POCTs to clincians is likely to be improved if tests perform well on accuracy, time to result, simplicity, and cost. Including POCTs in the routine mangement of acute cough/ LRTI is likely to be acceptable to most patients.

P2.29

"I think this is maybe where our Achilles heel is..." : A qualitative study exploring GPs' perspectives of consulting with young people experiencing emotional distress associated with mental health problems.

Jane Roberts, Ann Crosland
University of Sunderland, Sunderland, UK

Introduction Mental health problems amongst young people, aged between 12-19 years, are common [1] and frequently endure into adult life [2] resulting in impaired life chances [3] . Teenagers presenting in general practice have a prevalence of mental health problems as high as 25% [4]yet their mental health difficulties are frequently not identified [4, 5]. A number of studies have investigated the factors implicated in facilitating discussions which concern psychological difficulties between GPs and young people [6-8]and there is growing awareness of the barriers to disclosure[9]; many of which are universal [10]. However, the GP perspective has been under-explored. This qualitative study aims to address that gap and examine GPs' views on responding to emotional distress associated with mental health problems in young people.

Methods Situational analysis (a form of grounded theory) [11]was used to gather data from a theoretical sample of 19 individually interviews GPs; 10 female; aged between 29 and 59 years ; practising in the North East of England across the socio-economic spectrum . The interviews were audio-recorded, transcribed verbatim and analyzed iteratively using a constant comparison method supported by the contextual mapping tools of situational analysis.

Results Four themes emerge , individually distinct but inter-dependent.

1) a GP's style of practice, including their emotional literacy and flexibility with regard to power sharing ; 2) GPs' views of the role of a contemporary GP ; 3) GPs' views of young people and their health needs and 4) frameworks for understanding the causes of emotional distress.

The inter-relationships between these four themes are being explored and developed into an explanatory model that will be presented here.

Conclusion Understanding the difficulties around doctor-patient consultations concerning adolescent mental health problems is under researched and yet of great clinical significance. Based on what GPs discuss in the interviews, this study- in- progress finds a number of interacting variables to explain GPs' variability in engaging with psychologically troubled young people. These can be grouped as individual factors; interpersonal relationships (with patients, their families and colleagues in secondary care) and structural factors including medical education and service provision.

P2.30

Identifying and understanding the costs associated with Electronic Health Record implementation

Sarah Crowe, Casey Quinn, Anthony Avery
The University of Nottingham, Nottingham, UK

Introduction Improving the quality and safety of patient care through advances in Information Technology (IT) is a priority area for governments and policy makers worldwide. The U.K. Government decided to reform the way the NHS in England uses information by implementing the National Programme for IT (NPfIT), the largest civilian IT project in the world. This NPfIT was expected to support key policies outlined in *The NHS Plan* and *Shifting the Balance of Power,* endorsing the Government's desire to refocus the NHS around the patient. We conducted an evaluation of the adoption and use of NHS Care Record Service (CRS), the core component of the NPfIT, and report here the costs associated with implementation.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Method We conducted semi-structured interviews (n=34) with a wide range of hospital staff in varying roles and responsibilities. Documentary evidence was also gathered from the hospital sites (n=5) and assessed to ensure that all costs were included appropriately. In order to obtain further clarification on, and increased understanding of, a number of cost issues, further interviews (n=8) were conducted with the Directors of IT and Finance. Data collection continued till thematic saturation had been successfully achieved, and data analysis involved compiling a thematic framework and utilising the constant comparison method aided by QSR N-Vivo 8.0.

Results A range of costs (e.g. infrastructure, personnel) were involved in implementing CRS into hospitals. Many factors were found to influence these costs and impact on the process of implementation, including the degree of IT maturity within the trusts, hardware products already on the market, and the requirements of the IT application. Personnel costs centred on data migration, network, testing, training and support, and were the most significant sources of expenditure. Two factors in particular impacted on training costs: the approach taken by hospitals and the decisions made around whether or not to back-fill staff.

Conclusion This study identifies the numerous costs associated with implementing a comprehensive IT system and the contextual factors that impact on these costs. These findings have important implications for hospitals intending to implement these systems in the future.

P2.31

Unrecognised bipolar disorder in primary care patients with depression.

Daniel Smith, Emily Griffiths, Mark Kelly, Kerenza Hood, Nick Craddock, Sharon Simpson
Cardiff University, Cardiff, UK

Introduction: Bipolar disorder is complex and can be difficult to diagnose. It is often misdiagnosed as recurrent major depressive disorder (MDD). Aims of this study: 1) To estimate the proportion of primary care patients with a working diagnosis of unipolar depression who satisfy DSM-IV criteria for bipolar disorder. 2) To test two screening instruments for bipolar disorder (the HCL-32 and BSDS) within a primary care sample. 3) To assess whether MDD patients with subthreshold manic symptoms differ from MDD patients with no or little history of manic symptoms in terms of clinical course, psychosocial functioning and quality of life.

Method: Two phase screening study in primary care.

Results: Three estimates of the prevalence of undiagnosed bipolar disorder were obtained: 21.6%, 9.6%, and 3.3%. The HCL-32 and BSDS questionnaires had quite low positive predictive values (50.0% and 30.1% respectively). MDD patients with a history of subthreshold manic symptoms differed from MDD patients with no or little history of manic symptoms on several clinical features and on measures of both psychosocial functioning and quality of life.

Conclusions: Between 3.3%-21.6% of primary care patients with unipolar depression may have an undiagnosed bipolar disorder. The HCL-32 and BSDS screening questionnaires may be more useful for detecting broader definitions of bipolar disorder than DSM-IV-defined bipolar disorder. Subdiagnostic features of bipolar disorder are relatively common in primary care patients with unipolar depression and are associated with a more morbid course of illness. Future classifications of recurrent depression should include dimensional measures of bipolar symptoms.

P2.32

Coping with childhood eczema: qualitative interview study with parents and carers to explore understandings of eczema and barriers to management

Miriam Santer[1], Lucy Yardley[1], Steve Ersser[2], Hana Burgess[1], Catherine Hugh[1], Paul Little[1]
[1]University of Southampton, Southampton, UK, [2]Bournemouth University, Bournemouth, UK

Introduction Childhood eczema is very common, affecting over 20% of children aged 5 or under at some point. It can cause significant distress to the child and family due to sleep disturbance and itch. The main cause of treatment failure is carers not using treatments correctly. This is thought to be due to poor understanding of treatments, child refusal or therapy being too time-consuming. This

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

study explores carers' perceptions of eczema diagnosis, prognosis and treatment, current self management and service use, barriers to self care and how these are overcome.

Method Participants were recruited through primary care with practices writing to carers of children aged 5 or less who have a recorded diagnosis of eczema. In-depth semi-structured interviews are being carried out with up to 30 carers of children with eczema. The interview guide covers carers' perceptions of eczema and eczema treatment, current self management practices, history of help-seeking and education about eczema, as well as barriers and facilitators to self management. Thematic analysis of interview data will be carried out using a coding frame developed from themes emerging from the data.

Results Practices have written to 272 carers to invite them to participate. Recruitment is still underway but to date we have received 36 replies, of whom 15 have indicated that eczema is no longer a problem. We have carried out 11 interviews and plan to carry out a further 19. Early findings indicate the diversity of experience of families in terms of severity and impact of eczema, as well as degree of child's resistance to topical treatments. Carers show considerable creativity in overcoming resistance through a range of techniques including distraction, making treatment into a game, or applying treatments to children only when asleep. Further results will be available by the date of the conference.

Conclusions A better understanding of carers' experiences of managing childhood eczema and barriers to this will allow more effective provision of information and support to families. This study will allow us to design a web-based intervention to support self-management amongst parents and carers of children with eczema.

P2.33

Antibiotic prescribing for acute respiratory tract infections in primary care: a synthesis of qualitative research.

Sarah Tonkin-Crine, Lucy Yardley, Paul Little
University of Southampton, Southampton, UK

Introduction Numerous interventions have been developed to promote prudent antibiotic use for acute respiratory tract infections (ARTIs). While systematic reviews have assessed which interventions may be most effective, none have examined why some interventions may be more effective than others. Knowing what general practitioners (GPs) feel is acceptable and feasible to implement may help to answer this question.

Methods We carried out a systematic review of twelve qualitative studies exploring GPs' views and experiences of antibiotic prescribing and/or interventions promoting prudent use of antibiotics for RTIs. Studies had to contain qualitative methods and analysis and be published in English. Papers were assessed on their quality based on the Critical Appraisal Skills Programme (CASP) quality assessment tool for qualitative studies. A meta-ethnographic approach was followed to synthesise the qualitative findings.

Results Thirteen themes were identified from the synthesis. The first theme discussed GPs' satisfaction with their prescribing decisions. Seven themes highlighted factors which may influence GPs' prescribing decisions; these included perceptions of external pressure to reduce prescribing, uncertainty about management and previous experience of ARTI management. Five themes highlighted the benefits of interventions which had helped GPs to prescribe more prudently in practice. Links were indicated between the last two sets of themes to indicate that interventions may only be beneficial for GPs' when they address one or more of the factors which influence their prescribing decisions.

Conclusions The findings suggest that an intervention should address five factors which influence GPs' prescribing decisions in order to promote prudent use whilst remaining attractive to GPs and feasible in practice. In order to maximise acceptability interventions should; allow GPs to reflect on their own prescribing; help decrease uncertainty about appropriate patient management; educate GPs about appropriate prescribing; facilitate more patient centred care; and be beneficial to implement in practice.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

P2.34

Chest X-Ray Ordering for the Evaluation of Acute Cough Illness in Primary Care: A Survey amongst Swiss GPs.

Silvana Romerio Blaeuer, Klaus Bally, Benedict Martina, Peter Tschudi, Andreas Zeller
Institute of Primary Health Care, University of Basel, Basel, Switzerland

Background: Most acute cough illnesses are due to benign and self-limited upper respiratory tract infection (URTI). Yet a critical minority (5%) will have a potentially life-threatening condition, such as community-acquired pneumonia (CAP). After history taking and physical examination, ordering a chest X-ray might be the next diagnostic step to differentiate between URTI and CAP. The aim of this study was to evaluate whether the degree of accuracy of GPs' assessments of pneumonia is related to actual requests for chest X-rays.

Methods: A questionnaire was administered to eleven GPs in Northern Switzerland. GPs consecutively included patients presenting with acute cough (< 3 weeks) as their chief complaint. GPs' were asked to specify the suspected diagnosis after clinical assessment (history taking and physical examination) and before ordering a chest X-ray.

Results: Overall, 212 patients (mean age 51.3 ± 20 years, range 6 to 94, 52% male) presenting with acute cough for 7.3 ± 5.4 days on average were analysed. In total, chest X-ray was ordered in 84 (39.6%) patients and radiographic changes consistent with pneumonia were confirmed in 40 (47.6%) subjects. In almost all (n=47, 94%) patients in which GPs suspected pneumonia (n = 50, 23.6%) due to their clinical assessment chest X-rays were performed. There was a positive association between GP's clinical suspicion of CAP and evidence of pneumonia on chest X-ray (spearman's rho 0.54, $p < 0.0001$). If GPs had no suspicion of CAP chest radiography showed no evidence of pneumonia in 83% [95% CI 0.68 to 0.92] of patients (negative predictive value), whereas the positive predictive value (GP suspected pneumonia) was moderate (71% [95% CI 0.57 to 0.82]). If GPs primarily suspected an infection of the upper respiratory tract chest X-rays were ordered significantly less frequent ($\chi 2 = 72.3$, $p < 0.001$).

Conclusion:
After history taking and physical examination GPs' decision to order a chest X-ray (or not) seems to be accurate to differentiate between URTI and CAP in patients presenting with acute cough.

P2.35

Methods for studying the cognitive causes of diagnostic error: a systematic review

Martine Nurek, Brendan Delaney, Olga Kostopoulou
King's College London, London, UK

INTRODUCTION Cognitive factors are the most prevalent cause of diagnostic error. This systematic review aims to collate and characterise the methods that have been employed for their study.

METHOD Five electronic databases were searched and reference lists consulted.

RESULTS Seventy six studies were eligible for review. They were categorised into either 'experimental' (situations for studying the behaviour of interest are created by the researcher) or 'observational' (situations for studying the behaviour of interest are sampled from real cases). Experimental studies were subdivided into 'process-tracing' (that collect data during the diagnostic process) and 'post-hoc'. Observational studies were subdivided into 'database' (sampling error cases from databases) and 'clinician-based' (eliciting error cases from physicians).

Studies were characterised along four dimensions:

1. **Theoretical framework**: present in 88% of experimental studies and 17% of observational studies.
2. **Potential for bias**: Many (59%) process-tracing experimental studies suffered potential reactivity (data-collection method could have interfered with the behaviour being studied). Many (57%) post-hoc studies drew inferences about the diagnostic process on the basis of retrospective measures. Almost all (96%) database observational studies suffered

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

subjectivity in the case review: lack of a review protocol (31%) and/or low or no measured agreement among reviewers (93%). Furthermore, they attempted to infer cognitive processes from record data. All clinician-based studies suffered the pitfall of retrospective self-report: vulnerability to memory and justification biases.

3. **Generalisability**: Almost all experimental studies employed written simulations of patients. Each participant diagnosed a median of three cases. Observational studies investigated a much larger number of diagnostic errors (database *Md*=64, clinician-based *Md*=54), but with substantial variation between studies in the number of records searched and cases analysed.
4. **Multiple methods**: Only 11% of studies attempted to replicate or supplement findings through the use of multiple methods.

CONCLUSION Our review identified several shortcomings in all methodological approaches used to study the cognitive causes of diagnostic error. These are often overlooked by the authors. Multiple methods could go some way to improving the validity of findings but are rarely employed.

P2.36

Ten years of Clinical Opportunistic Screening for Type 2 Diabetes in General Practice: An historical cohort study

Philip Evans, Peter Langley, Christine Wright, Sir Denis Pereira Gray
St Leonard's Research Practice, Exeter, Devon, UK

Introduction There is increasing interest in the effectiveness of screening for Type 2 Diabetes Mellitus (T2DM), a disease whose incidence is rising dramatically. One method of early detection is clinical opportunistic screening (COS). This is a screening test offered opportunistically to high-risk patients during a consultation. Our previous work examined six years of consecutive diagnoses and determined that the majority of patients were diagnosed via COS and their HbA1c at diagnosis was significantly lower in the screened group (median difference = 1.1%). This study is an update of these figures including a more detailed examination of other factors at diagnosis and outcomes in follow-up.

Method Patients newly-diagnosed with T2DM between 2000 and 2010 within the Practice were identified from the clinical database. Their records were examined and the presence of any symptoms of diabetes established. Age, HbA1c and body mass index (BMI) at diagnosis, together with subsequent use of oral hypoglycaemic agents (OHAs) and insulin were determined.

Results During the 10-year period, 217 new T2DM diagnoses were identified. Of these, 135 (62%) were diagnosed by COS. The mean age at diagnosis for the screened group was 62.8 years versus 58.8 years for the symptomatic group ($p = 0.04$). The mean HbA1c at diagnosis for the COS group was 7.73% versus 8.78% in the symptomatic group ($p = 0.004$). There was no significant difference in BMI at diagnosis between the groups. Patients diagnosed by COS were less likely to be treated with OHAs (Chi square = 6.11, $p = 0.01$) and, where OHAs were initiated (139/217 patients), median time to treatment in the COS group was 260 days versus 20 days in the symptomatic group (Mann Whitney U = 1720.5, $p < 0.001$). When insulin was commenced (29/217 patients), this was less likely in the COS group (Chi square = 4.30, $p = 0.04$).

Conclusions The majority (62%) of new T2DM diagnoses were made by COS. Such patients had significantly lower HbA1c at diagnosis, were older, and were less likely to require treatment with OHAs or insulin during follow-up. This indicates potential health benefits for patients screened by this particular method.

P2.37

Interventions to reduce unplanned hospital admissions: a systematic review of case management

Alyson Huntley[1], Mala Mann[2], Dyfed Huws[2], Shantini Paranjothy[2], Peter Brindle[3], Glyn Elwyn[2], Sarah Purdy[1]
[1]University of Bristol, Bristol, UK, [2]University of Cardiff, Cardiff, UK, [3]NHS Bristol, Bristol, UK

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Background Hospital admissions have a significant financial impact on health care services. Case management in health provision is the coordination of services which may help to reduce unplanned hospital admissions.

Objective To identify studies describing case management aimed at reducing the risk of unplanned hospital admissions.

Methods A systematic review based on Cochrane methodology. This review is being performed as part of a series of systematic reviews on interventions to prevent unplanned hospital admissions. A literature search has been conducted across 17 databases, information sources and relevant websites for the years 1950 - 2010. These references have been screened by abstract by two reviewers, with disagreements resolved by a third reviewer. If appropriate, the data will be meta-analyzed.

Results Our search identified 166 abstracts that describe studies of case management. Of these, 60% are randomised controlled trials or controlled trials, 20% are before and after studies and the remaining are a variety of study designs. The most commonly studied patient populations are older/elderly (27%), heart failure (19%), mental health (10%), asthma (10%), diabetes (7%), COPD (7%) and others (20%). Whilst all these will be included in the review, in the light of previously published work, the effect of case management in older/elderly people is the least investigated and will be focused on.

Conclusions We have identified an important area of evidence not previously reviewed and meta-analyzed, namely that of effectiveness of case management for prevention of unplanned hospital admissions in the generic older/elderly population. These data will be presented at the meeting.

P2.38

Effectiveness of an educational intervention for general practice teams to deliver problem focused therapy for insomnia: pilot cluster randomised trial

A Niroshan Siriwardena[1], Fiona Togher[1], Michelle Tilling[1], Andrew Harrison[1], Jane Dyas[2], Hugh Middleton[2], Roderick Orner[1], Tracey Sach[3], Michael Dewey[4]

[1]University of Lincoln, Lincoln, Lincolnshire, UK, [2]University of Nottingham, Nottingham, Nottinghamshire, UK, [3]University of East Anglia, Norwich, Norfolk, UK, [4]Institute of Psychiatry, London, UK

Introduction Sleep problems are common leading to physical and psychosocial morbidity and impaired quality of life. Sufferers often seek help from primary care and receive advice or hypnotic drugs which are ineffective long term. Cognitive behavioural therapy for insomnia (CBTi) is effective but is not widely used in general practice. We conducted a pilot study to test procedures and collect information in preparation for a larger definitive trial to measure effectiveness and cost-effectiveness of an educational intervention for general practitioners and primary care nurses a to deliver problem focused therapy to adults.

Methods This was a pilot cluster randomised controlled trial. General practices were randomised to an educational intervention (2x2 hours) for problem focused therapy which comprised assessment (of secondary causes, severity and using sleep diaries) and modified CBTi compared with usual care (sleep hygiene advice and hypnotic drugs). We recruited patients with sleep problems due to lifestyle causes, pain or mild to moderate depression or anxiety and Pittsburgh Sleep Quality Index (PSQI≥4). The primary outcome was PSQI and secondary outcomes including Insomnia Severity Index (ISI), Epworth Sleepiness Scale, Beck Depression Inventory and PSYCHLOPS were measured at 0, 4, 8 and 13 weeks. Intervention fidelity was evaluated using telephone interviews of participating practitioners and patients.

Results Out of 64 participants recruited, 37 completed the trial. Analysis was conducted masked to treatment allocation. We used a mixed effects model to test for overall change and whether the intervention affected the rate of change over time. There was significant dropout during the pilot study, mainly due to delays in recruitment. We detected neither an overall change over time (PSQI score increase per week 0.06 [95%CI -0.03 to 0.16]) nor differential change between intervention and control groups 0.10 (-0.03 to 0.23) although the study was not powered to detect such a change.

Conclusion This pilot study confirmed that it was feasible to undertake a trial of education for

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

primary care clinicians to deliver problem focused therapy for insomnia in general practice but also exposed problems with study recruitment, dropout, and intervention fidelity which should be addressed in the design of a full trial.

P2.39

A Cochrane Systematic Review of computer-based diabetes self-management interventions for adults with type 2 diabetes

Kingshuk Pal[1], Sophie Eastwood[1], Susan Michie[5], Andrew Farmer[2], Maria Barnard[3], Richard Peacock[4], Elizabeth Murray[1]
[1]eHealth Unit, Department of Primary Care and Population Health, University College London, London, UK, [2]Oxford University, Oxford, UK, [3]Whittington Hospital NHS trust, London, UK, [4]Archway Library, London, UK, [5]Psychology and Language Sciences, University College London, London, UK

Introduction: Diabetes is one of the commonest chronic medical conditions in the UK, affecting around 2.5 million adults. Structured patient education programmes reduce the risk of diabetes-related complications four-fold. However in 2006 only 11% of patients with type2 diabetes reported attending structured education. Computer-based self-management programme could meet this unmet need. Internet based self-management programmes have been shown to be effective for a number of long-term conditions, but it is unclear what are the essential or effective components of such programmes. The aim of the review was to assess the effects on health status and quality of life of computer-based diabetes self-management interventions for adults with type2 diabetes mellitus and to define the active ingredients of successful interventions.

Method: Standard Cochrane approved methodology was used with double screening of abstracts, full papers and double data extraction. We searched 9 Electronic bibliographic databases including the grey literature and theses. In addition we used an innovative taxonomy of behaviour change techniques (BCT) to analyse the active components of the interventions.

Results: 3704 unique citations were screened, of which 74 were potentially eligible for inclusion. After perusal of the full papers 11 studies were found to fulfill the inclusion criteria. Initial meta-analysis demonstrate a small positive effect on the primary clinical outcome (HbA1c). Additional meta-analyses will explore secondary outcomes including health related quality of life, emotional outcomes and proximal outcomes (e.g. diet, physical activity). Analysis of the behaviour change techniques is currently in progress and will be presented at the conference.

Conclusions: This systematic review will define the components used in successful interventions and any behaviour-change theories used in their design. We will present a summary of the data the on effectiveness of computer-based interventions in adults with type 2 diabetes. The methodological approach could be applied to complex behaviour-change interventions in other fields and could provide clinicians with a more systematic approach to appraising behaviour change interventions in general.

P2.40

Chronic Medical Conditions Influence Prescribing of Antibiotics in Pregnancy

Wilhelmine Meeraus[1,2], Irene Petersen[2], Ruth Gilbert[1]
[1]UCL Institute of Child Health, London, UK, [2]UCL Research Department of Primary Care and Population Health, London, UK

Introduction: One third of women in the UK are prescribed oral antibiotics in pregnancy. Factors associated with antibiotic prescribing include age and social deprivation but information is lacking on the influence of chronic medical conditions (CMCs). We examined the rate of oral antibiotic prescribing in pregnancy among women with and without CMC using The Health Improvement Network (THIN) primary-care database.

Method: We identified a THIN cohort of 112,901 pregnant women aged 15-50. We defined CMC status based on prescriptions received to treat CMCs in the one year period prior to the start of pregnancy. Women were considered to have a CMC if they received 2 or more prescriptions from the same drug class and if there was less than a 4 month gap between issue of the prescriptions. We calculated the proportion of women receiving any antibiotic prescriptions in pregnancy by CMC status and used Poisson regression to account for age, social deprivation, calendar-year, smoking,

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

illicit drug use, preterm birth, multiple birth (e.g. twin/triplet), problem alcohol use and obesity.

Results: In total, 18,841 (17%) women were classified with a CMC. More women with CMCs received antibiotics in pregnancy than women without CMCs (43% [8,158/18,841] *vs* 31% [28,925/94,060]) and women with a CMC received more courses of antibiotics than women without a CMC (0.79 prescriptions per pregnancy [14,830 / 18,841] *vs* 0.47 prescriptions per pregnancy [43,899/ 94,060]). In univariate analysis, women with CMCs were more likely to be prescribed antibiotics in pregnancy than women without CMCs (Incident Risk Ratio (IRR)=1.42, 95%CI: 1.39-1.45). Adjusting for confounders weakened the association slightly (IRR=1.37, 95%CI: 1.34-1.40).

Conclusions: A women's CMC status affects her risk of being prescribed antibiotics in pregnancy. CMC status should be controlled for alongside traditional confounders in primary-care studies of pregnancy.

P2.41

Updating home safety messages for healthcare professionals.

Toity Deave[1], Trudy Goodenough[1], Elizabeth Towner[1], Denise Kendrick[2], Jane Stewart[2]
[1]University of the West of England, Bristol, UK, [2]University of Nottingham, Nottingham, UK, [3]University of Newcastle, Newcastle, UK, [4]University of Norwich, Norwich, UK

Introduction Unintentional injury is the major public health challenge facing pre-school children in England with steep social gradients in mortality and morbidity. The patterns and types of injury are closely linked with child development. The majority of pre-school injuries occur in the home but implementing research into practice in the field of injury prevention has received little attention.

The NIHR funded, 'Keeping Children Safe at home', programme focuses on the prevention of injuries in pre-school children in England. The aim is to develop evidence-based interventions that can be implemented in Children's Centres and in other venues, eg. hospitals and GP practices.

This study aimed to explore the knowledge and reported safety practices of parents of children aged 0-4 to in relation to thermal injuries. The findings will contribute to the design of a randomised controlled trial of an Injury Prevention Briefing for fire-related injuries.

Method Structured interviews were conducted with parents/carers of children under 5 who attended Children's Centres in four study centres: Nottingham, Norwich, Newcastle, Bristol. The focus was on fire-related safety practices.

Results The sample of 200 comprised of 10 parents/carers attending 5 Children's Centres in each study centre completed questionnaires. Working smoke alarms were reported in 190 (95%) households, 170 (85%) were situated at each level. 118 (59%) families had a bedtime routine and 86 (43%) had a fire escape plan. 142 (71%) families owned hair straightners, 30% were used daily. 44 (19%) families reported keeping matches where under 5's could reach them.

Conclusion Whilst primary healthcare professionals are in an ideal position to promote child injury prevention messages, this study highlights some key issues not widely addressed. Families lack fire escape plans and fire-prevention bedtime routines; these have been shown to be effective in reducing fire-related deaths. Parents are not always aware, or able to anticipate, how rapidly children's abilities change that put them at risk of injury, for example, leaving matches where under 5's could reach them. Finally, re-appraisal of the appropriateness of health promotion messages is important so that new household consumables that may lead to significant injuries, eg. hair straighteners, can be identified.

P2.42

Introducing Primary Health Care clerkship in a hospital centred curriculum

Emmanouil Smyrnakis, Alexandros Panos, Thomai Stardelli, Athanasia Chainoglou, Magdalini Gavana, Elias Kondylis, Stathis Giannakopoulos, Maria Moirasgenti, Eleutherios Vouzounerakis, Alexis Benos
Aristotle University of Thessaloniki, Medical School, Thessaloniki, Greece

INTRODUCTION In Greece, both intrinsic and extrinsic shortcomings since its legal foundation in 1983, have left Primary Health Care (PHC) facing serious organizational challenges and under

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

constant, intensive competition by specialist, hospital based and private care. The Primary Health Care Team (PHCT) is left unmotivated and its activities within the community framework fragmented. Furthermore PHC is academically isolated, having little or no involvement in future health professionals' teaching.

In 2009 the AUTH Medical School, introduced PHC training in its curriculum. Our aim was, to critically analyse the evaluation of the students' attachment in PHC in order to estimate its impact and redesign its content.

METHODS After completion of their 4-weeks attachment in PHC the students were asked to evaluate all the educational aims and procedures during their training, using a specifically designed questionnaire. These are including the PHCT, its' role and activities; prevention strategies and the principles of health promotion; standardized medical record keeping; patient centered care; interconnection of different health care levels.

RESULTS During the academic year 2009-10, 327 students have been trained in PHC in our university and of these 302 completed the final questionnaire (92.35% response rate). 81.79% of the students state that after their attachment in PHC, they now understand better the roles of the PHCT members and 85.76% agree that the time spent with the non-GP PHCT members was not a waste of time. More than half of the students (58.27%) report that they have understood the principles of health promotion. 85.1% of the students state that as a result of the attachment their ability to fill in a patient referral letter has improved and 87.1% state the same about patient record keeping. Overall, 91.39% of the students assess that the attachment helped them understand the framework and the function of PHC.

CONCLUSION Students report a high level of learning objectives' achievement, in spite of the relatively challenged PHC setting. We believe this comes as a result of the specific learning tools that were selected by AUTH Medical School. In order to investigate this further, more objective means of the attachment should be also analyzed.

P2.43

Evaluating the Prognostic Value of Blood Pressure Variability on Cardiovascular Outcomes

Kathryn Taylor, Emily Adams, David Nunan, Richard Stevens, Rafael Perera, Carl Heneghan, Alison Ward
University of Oxford, Oxford, UK

INTRODUCTION An individual's risk of cardiovascular events may not only be attributed to their mean blood pressure (BP) load but may also depend significantly on its variability. We systematically reviewed the literature on short term BP variation (within 24 hours) to determine the strength of this hypothesis.

METHODS Medline, Embase and Cochrane Library were searched to August 2010. Study inclusion criteria included randomised controlled trials and observational cohort studies, adults (>18 years) and follow-up >1 year. We investigated four measures of variability (standard deviation of BP, night-day ratio, nocturnal fall and morning pressure surge).

RESULTS Searches identified 3576 studies, of which, 40 were eligible.

13 studies examined ‘standard deviation’ of BP variability, 22 nocturnal fall, 8 night-day ratio and 6 considered morning pressure surge.

1 study followed-up for 1-2 years, 20 for 3-5 years and 19 for >5 years.

12 studies measured standard deviation of BP variability, 2 considered average real variability and 1 measured coefficient of variation. 3 reported nocturnal pressure fall as a continuous variable, 13 studies dichotomised into 2 dipping categories, 2 studies had 3 categories and 7 studies had 4 categories. Definitions of dipping categories varied across studies.

27 studies reported risk of cardiovascular events, 11 studies gave cardiovascular mortality, 12 reported stroke, 10 considered all cause mortality and 3 reported coronary heart disease. Definitions of cardiovascular events and stroke varied across studies.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

21 studies adjusted for average 24hour BP, 3 studies adjusted for daytime BP, 2 for nighttime BP, 1 adjusted separately for both day and night and I adjusted for clinic BP.

Due to this variation across methods, it is not possible to include all 40 studies in a single meta-analysis. We will present the relationship of BP variability on cardiovascular outcomes based on 27 studies.

CONCLUSION We found considerable variation both in terms of clinical and statistical methods used. The interpretation and use in clinical practice of BP variability, as an important prognostic indicator of cardiovascular events, is hampered by divergent clinical and statistical methods. There is urgent need to harmonize methodology sufficiently to draw conclusions across the research field.

P2.44

The risk of cancer associated with Angiotensin-II Receptor Blockers

Krishnan Bhaskaran[1], Ian Douglas[1], Stephen Evans[1], Tjeerd van Staa[2], Liam Smeeth[1]
[1]London School of Hygiene and Tropical Medicine, London, UK, [2]General Practice Research Database, London, UK

Introduction A recent meta-analysis of randomised trials found an increased overall cancer risk associated with the use of angiotensin-II receptor blockers (ARBs). An accurate assessment of any increased risk of cancer seen during everyday clinical use is required.

Methods The objective was to compare time to incident cancer between individuals prescribed ARBs and those prescribed angiotensin converting enzyme inhibitors (ACEi). A cohort study was carried out using data from the General Practice Research Database (GPRD), a large UK-based primary healthcare database. All patients with ≥1 prescription of ARB or ACEi since 1997 were included. The primary outcome was time to incident cancer (excluding non-melanoma skin cancer), and the primary comparison was between those prescribed ARBs and those prescribed ACEi. For individuals switching from ACEi to ARB, the eligible observation period for ARB began 12 months after switching. Secondary outcomes were time to incident lung cancer, time to other major cancers (breast, colon, prostate), and time to cancer-related death. Statistical analysis was by Cox proportional hazards, with adjustment for confounding factors (age, gender, smoking, socioeconomic status, body mass index, alcohol intake, diabetes, diabetic therapies, history of cancer).

Results From initial descriptive counts, there were 765,520 individuals with at least one prescription of an ARB or ACEi in GPRD, of whom 83,306 (11%) were prescribed drugs from the ARB class only, 541,316 (71%) were prescribed ACEi only, and 140,898 (18%) had received prescriptions for both classes of drugs. Within the ARB group (with or without ACEi use), the median duration of follow-up was 3.73 years (IQR 4.27), and a total of 15,296 individuals (6.8%) had a record of cancer after their first ARB prescription date. Full data have been received and analysis is underway; detailed results of the primary and secondary analyses will be presented.

Conclusions ARBs are effective drugs with a previously good safety record. Our results will allow clinicians and patients to adequately assess their risk-benefit balance.

P2.45

A systematic review of the effectiveness of electronic patient record (EPR) prompts in clinical trial recruitment.

Thomas Round, Brendan Delaney
Kings College, London, UK

Introduction Many randomised control trials experience problems in recruiting eligible participants. They can fail to recruit an adequate sample size, and the small numbers can call into question the study representativeness. Recruitment strategies via primary care can be expensive. Utilising the electronic patient record (EPR) to prompt recruitment of eligible patients during the consultation could be a solution. We aimed to systematically review studies of the effectiveness of EPR prompts in trial recruitment.

Method The medline database was searched (inception - 2010), and we identified observational and "before and after" studies utilising EPR prompts to recruit patients to trials in any clinical setting. The reference lists of relevant articles were also searched. Authors of identified articles were also directly contacted to clarify any issues regarding recruitment, and any unpublished data.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Data on enrolment per potential subject was pooled separately for observational and controlled studies.

Results 139 papers were identified, with 6 meeting eligibility criteria and 6 found from reference lists. 3 were subsequently rejected after examination of the full paper. Following contact with authors, data was available for 4 studies from 1 published symposium. There were a total of 12 studies included, 8 observational and 4 "before and after" in clinical settings of primary care, paediatrics, emergency departments (ED) and general medicine. Of the "before and after" studies 1 reported eligibility and enrolment and another referral and enrolment, whilst 2 reported both. For the observational studies the pooled enrolment figure was 4%, with a large variation in enrolment (0.6% - 77%). For the "before and after" studies the relative risk of enrolment after EPR prompt was 2.07 (1.72, 2.49) compared to standard enrolment, with no significant heterogeneity (Chi^2 = 1.18, P = 0.56). For referral to research team the relative risk was 3.39 (2.95, 3.89), with significant heterogeneity between trials (Chi^2 = 229.85, P =<0.00001).

Conclusion Computerised EPR prompts have not so far been subjected to robust research. A limited number of observational and "before and after" studies have shown a wide range of effect. The potential role of electronic prompts in clinical trial recruitment needs further controlled evaluation.

P2.46

Developing the 'Sexunzipped' website: young people's views on the design and content of an online sexual health intervention

Ona McCarthy[1], Ken Carswell[2], Caroline Free[3], Fiona Stevenson[1], Elizabeth Murray[1], Graham Hart[1], Julia Bailey[1]
[1]University College London, London, UK, [2]Barts & The London School of Medicine and Dentistry, London, UK, [3]London School of Hygiene & Tropical Medicine, London, UK

Introduction The objective of this study was to use information from focus groups with young people to inform the design and content of an interactive sexual health website intervention.

Method Participants were recruited purposively (ethnically heterogeneous, age 16-20 living in the UK) face to face from three sexual health clinics in London, UK over 16 months. Twenty one (mixed and single sex) semi structured focus groups, three behaviour change format testing interviews and four interviews to generate quotes were held. In total, 74 young people were consulted. Topic guides based on key objectives directed the focus group discussions and were modified as the project evolved. The groups were digitally recorded and moderated by two project researchers using open ended questioning to elicit a wide range of views. The main project researcher made detailed notes on key topics from the audio recording. The information was collated and influenced the design and content writing of the site.

Results Consultation with young people resulted in an interactive, pleasure focussed sexual health website that includes activities and topics interesting and engaging. Among other things, young people wanted: a mature site that contained images of people and scenarios; a clear writing style; a real and honest voice; social interactivity; and straightforward information on a range of topics from basic sexual health to wider social issues of sexual relationships.

Conclusions It is challenging to meet all of young people's technological desires but possible to create an online intervention acceptable in design that offers activities and topics fundamentally interesting and engaging.

P2.47

The opinions and attitudes of opinion leaders, parents/guardians, young people and their representatives to the use and linkage of routinely collected NHS health data for pharmacovigilance

Emma Scobie-Scott, Christine Bond, Peter Helms
University of Aberdeen, Aberdeen, UK

The study has been approved by the University of Aberdeen College of Life Science and Medicine Ethics Review Board and is part of the CHIMES project led by Professor Peter Helms University of Aberdeen

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Introduction The practice of 'off licence' prescribing of medicines in the paediatrics is recognised as a contributing factor in adverse drug reactions (ADRs) seen in children. Under reporting of ADRs using the UK Yellow Card Scheme may also impact on the quality prescribing guidance available to practitioners.

One prospective way of addressing the lack of available paediatric pharmacovigilance data is to harness NHS data sets that are available following technological advancements; such as the introduction of the Community Health Index (CHI) number (a unique personal identifier) across Scotland which has the potential to capture all individual NHS contacts.

The study aims to identify the opinions of parents/guardians and young people to the linkage of routinely held health data to aid the detection of paediatric Adverse Drug Reactions (ADRs).

Method Interviews with a purposive sample of opinion leaders and parents/young people's representatives (n-18); and content setting focus groups with young people and parents/guardians (n-3) were undertaken. Responses analysed inductively and deductively allowing exploration of the original research questions and identification of emergent themes. A framework approach was applied to the data by a process of constant review, identifying main themes and subthemes.

Results All interviews are completed and focus groups are ongoing. Findings to date show the participants have a limited understanding of how data is currently employed by the NHS at a national level. Most participants indicate an expectation that the NHS would already be employing anonymised nationally collected health data to improve population health. Legal and bioethical issues raised were primarily concerned with maintaining confidentially and privacy of the individual. Opt-out consent is integral to the public's support of data linkage.

P2.48

Access to mental health: how is IAPT delivering?

Adam Qureshi, Richard Byng, Lexy Newbold, Rod Taylor, William Henley
Peninsula School of Medicine and Dentistry, Plymouth, UK

Title: Access to mental health: how is IAPT delivering?

Introduction: The Improving Access to Psychological Therapy (IAPT) programme has seen a large increase in therapists treating depression and anxiety in the community. Services need to have a central hub and collect outcome measures, but diverse pathways have emerged. The objective of this study is to evaluate access to IAPT services in the Southwest and identify potential improvements.

Method: This collaborative research evaluation (universities, the SHA, commissioners and providers) included questionnaires to each service eliciting the pathway design and analysis of data across 10 PCT services. Data for 61,869 individuals includes time-points for referral and attendance, sessions and interventions attended and anonymised demographic information about patients. A PCT by PCT comparisons of referral rates and waiting times, levels of depression and anxiety, as well as a cross regional multi-level analysis of predictors are being carried out.

Results:
1.)Most services have self-referral and stepped care, but detail of pathways varied.
2.)Referral and access rates (per population) varied between PCTs. The proportion of those referred but not gaining contact was 27% (due to failure to engage, not being suitable, or referral to other services).
3.)Time from referral to first clinical contact varied between PCTs (20 to 104 days) as did time between referral and completion of an episode of care (70 to 185 days).
4.)Types of treatment available (CBT, groups, counselling) and that offered at first clinical contact also varied between PCTs.
Further analyses including multilevel modelling of predictors, levels of mental health need (anxiety and depressions scores) and rates adjusted for deprivation will also be presented.

Conclusion: Synthesising the data comparing PCTs and the regional regression analysis gives a detailed picture of the current level of access to IAPT and points to service and other factors predictive of better access. The means of improving access can be formulated from the integration of these analyses. The IAPT programme, by collecting data uniformly across services offers a glimpse of how GP consortia will be able to make evidence informed service

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

redesign decisions in the new era of outcomes frameworks.

P2.49

Qualitative evaluation of the Health Research Support Service Primary Care Pilot Project: facilitators and barriers to successful implementation

Fiona Stevenson, Paul Wallace
University College London, London, UK

Introduction Primary care database research using resources such as GPRD, Q-Research and THIN is now well established and highly productive. This is restricted to psuedo-anonymised data and accounts for only 20% of practices. There is considerable interest in more widespread coverage so research may achieve its full potential as a 'core' activity of the NHS. The Health Research Support Service (HRSS) is a major National Institute of Health Research initiative to process patient-identifiable information from medical records independently of both the data source and the researcher that requires the data ('honest broker' function). A HRSS Pilot Programme has been set up to test the viability and benefits of the proposed service. We have conducted an independent evaluation of this in primary care. The findings are likely to have significant implications for any future roll-out of the planned national programme.

Method We used participant observation in practices and meetings about the project alongside focus groups and interviews with key stakeholders (GPs, practice staff, patients). We explored participants' understandings of the processes involved, their views of the acceptability of the HRSS and what they think happens to data from medical records. We were particularly interested in discussions around trust and guardianship of medical records. All data were transcribed verbatim and subject to thematic analysis.

Results Preliminary analysis suggested there have been problems relating to communication between the HRSS project team and practices. Concerns were also raised about the documentation used to explain that it was necessary to opt out as opposed to opt in to the HRSS pilot and it was not clear if patients understood this. Data collection for the main phase of the project will be complete by the end of March and we will be in a position to present all the findings by July 2011.

Conclusions Lessons learnt will have significant implications for the routine use of GP records for research and add to the debate around patient opt in / opt out of research. The findings add important insights about the potential impact of initiatives such as the HRSS from the perspective of patients, clinicians and researchers.

P2.50

Patients' Expectations and Experience of a GPSI service for Chronic Fatigue/M.E.: A Qualitative Study

Jeannette Lynch, Clare McDermott, Geraldine Leydon
University of Southampton, Southampton, UK

Introduction The 2007 NICE Guidelines on Chronic Fatigue Syndrome/ME (CFS/ME) recommend early management of the condition. Investment by the Department of Health has expanded the number of CFS/ME services within the UK but there has been little previous research focussing on what patients expect from specialist CFS/ME services or their experiences of these services. This study was designed to recruit patients following initial GP referral and review them after one year. Qualitative interviews were used to determine hopes and expectations for the referral and then experiences and outcomes.

The first study looking at initial hopes and expectations has been reported in detail elsewhere, this paper will look at patients' experiences and perceived outcome and how these relate to expectations.

Methods Patients referred to a CFS/ME Service in the South of England were contacted before their first appointment. They were invited to take part in telephone interviews with an independent qualitative researcher prior to their initial appointments and after one year. A semi-structured interview schedule was developed and the constant comparative approach used to inform and guide subsequent interviews. Interviews were audio-taped, transcribed and analysed using an

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

iterative approach and drawing on the principles of constant comparative analysis.

Results Twenty participants consented to participate in the study. Initial data suggested common themes of searching for a pathway through a complex illness with a desire for a specific diagnosis, and an expressed openness towards exploring interactions between physical, psychological, social, and lifestyle factors such as diet and exercise. Follow-up interviews are currently being carried out for this study with 12 completed to date. Results will examine participants' experience of a GPSI clinic and how this relates to initial expectations and outcomes. It will asses their perception of whether specialist services can offer more than can be obtained within mainstream GP services for this condition.

Conclusions Participants were looking for diagnosis and support from the service but were open to a multi-factorial model to explain symptoms and were positive about self-help as the main treatment avenue. The experience of patients and how services can be improved to reflect this will be discussed.

P2.51

Does appointment duration and doctor-patient relationship influence medicine's prescription? Patient's opinion

Catarina Matias[1], Inês Rosendo[2], Liliana Constantino[1], Paula Miranda[1], Ana Rita Simões[1], Philippe Botas[1], Maria Glória Neto[1], Luiz Miguel Santiago[1]
[1]UCSP Eiras, Coimbra, Portugal, [2]UCSP Santa Comba Dão, Santa Comba Dão, Portugal

Introduction: Prescription and chronic use of medicines for anxiety and depression are growing in Portugal.

Almost all studies approach doctors and healthcare's system's perspective. Is important no know patient's opinion.

Therefore, we aimed to study anxious and/or depressed patient's opinion about appointments duration and doctor-patient relationship (DPR) in medicine's prescription.

Material

- Validated questionnaire. Questions:

A: "If appointment´s duration was bigger, anxiety/depression prescription would be smaller."

B: "If DPR was better, anxiety/depression prescription would be smaller."

- Investigating doctors;
- 3 Family Medicine doctor's patients;
- Secretaries that distribute questionnaires

Methods Observational, descriptive study. Data obtained in a convenience sample (8-20 November 2010).

Results

164 questionnaires obtained, 70,7% female and 73,2% under 50 years.

56 patients (34%) were/are under anxiety/depression medication (group 1) and 76 (46%) had anxiety/depression diagnosis (group 2).

Group 1:

A: 38,2% agree; 35,6% disagree; 26,3% no opinion

B: 42,1% agree; 39,4% disagree; 18,4% no opinion

Group 2:

A: 35,7% agree; 37,5% disagree; 26,8% no opinion

B: 37,5% agree; 42,9% disagree; 19,6% no opinion

Conclusion The majority of patients are woman. They are in working active group of the population.

1/3 was/is under medication for anxiety/depression. The majority of this group considers that bigger appointment duration and better doctor-patient relationship could decrease prescription.

1/2 of the patients had, in some part of their lives anxiety and/or depression diagnosis. The majority of group don´t think that bigger appointment

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

duration and better doctor-patient relationship could decrease prescription.

Can we say that patients under prescription are more sensitive to communicational skills of their family doctor and appointment duration? This is a question that leads us into a new investigation subject.

P2.52

Fibromyalgia patients score higher on HADS than patients with Rheumatoid Arthritis

Moya McAleavy McAleavy, Michael Stevenson, Aubrey Bell, Kieran McGlade
Queens University, Belfast, UK

Introduction Fibromyalgia syndrome (FMS) has an estimated prevalence of 3.4% in females and 0.5% in males and is an important condition in general practice because of the associated high consultation rates and significant patient distress. Previous studies on small numbers of patients in secondary care have indicated a high rate of psychological morbidity in FMS patients. We wanted to establish whether psychological symptoms were greater in patients presenting with FMS in primary care than in other conditions causing chronic widespread pain such as rheumatoid arthritis (RA).

Method As part of a larger study patients with a diagnosis of fibromyalgia (FMS) and patients with a diagnosis of rheumatoid arthritis (RA)were identified from the computer records of sixteen general practices. Patients were sent a questionnaire which included the Hospital Anxiety and Depression Scale. The total, anxiety and depression scores were compared using independent t tests

Results Three hundred and ninety eight of 1416 patients identified returned fully completed HADS questionnaires. Three hundred had a diagnosis of FMS (31.9% response rate) and 98 had RA (29.7% response rate).

Patients with fibromyalgia scored higher then RA patients on both anxiety and depression symptoms: The mean score for anxiety was 12.8 in FMS patients and 8.5 in RA patients (independent t test $t = 7.97$, $p < 0.001$). The mean score for depression was 10.2 in FMS patients and 6.8 in RA patients (independent t test $t = 5.77$, $p < 0.001$). The mean total HADS score was 23.0 in FMS patients and 15.4 in RA patients (independent t test $t = 7.36$, $p < 0.001$).

Conclusions Patients with FMS in primary care have significantly higher anxiety and depression scores than those with Rheumatoid arthrtitis. These findings would suggest that it may be beneficial for general practitioners to routinely screen fibromyalgia patients for depression and anxiety.

P2.53

Patterns of prescription of antiepileptic drugs in pregnancy, a study in The Health Improvement Network (THIN)

Shuk-Li Man[1], Irwin Nazareth[1], Mary Thompson[2], Irene Petersen[1]
[1]*University College London, London, UK,*
[2]*Cegedim Strategic Data Medical Research, London, UK*

Introduction Women taking antiepileptic drugs (AEDs) must consider the risks and benefits associated with these agents in pregnancy. Recent research has suggested lamotrigine may be less harmful to the unborn child than other AEDs. However, NICE guidelines do not make any specific recommendations on which AEDs should be prescribed in pregnancy. Limited information is available on prescribing AEDs in UK primary care, and change in treatment regimen during pregnancy.

Methods We identified 138,773 pregnancies in women aged between 13-55 years in the UK primary care THIN database. Trends in AED prescribing during pregnancy were examined between 1994 and 2008. Discontinuation of prescribing was examined by analysing the time between 3 months before the start of pregnancy and their last prescription before delivery. A comparator group of non-pregnant women who had at least one prescription of AEDs was identified.

Results In total, 751 (0.5%) women had at least one prescription of AEDs during their pregnancy. The most commonly prescribed AEDs in pregnancy were carbamazepine (0.22%), lamotrigine (0.15%) and sodium valproate (0.14%). Prescribing of lamotrigine in pregnancy has steadily increased over time whilst carbamazepine and sodium valproate have

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

decreased. Of 717 women who had a prescription in the 3 months before pregnancy, 191 (27%) did not continue treatment into pregnancy and just over 50% continued into their third trimester. For comparison, we identified a 3 month window with an AED prescription in 1,434 non-pregnant women. No prescriptions were continued beyond the 3 month window for 18%, however 65% continued for at least the following 6 months.

Conclusion Attitudes to AED prescribing in pregnancy have changed over time with the clear increase in prescribing of the more recent lamotrigine, and decrease in carbamazepine and sodium valproate. This may be a result of increasing awareness of potential negative effects on the unborn child. Pregnant women appear to stop treatment sooner than non-pregnant women, however, many still choose to continue treatment throughout pregnancy. This highlights the need for further research into the relative risks and benefits of AEDs.

P2.54

The development of an online survey to explore patient experiences of nutrition care in general practice: Type II diabetes as a case study.

Lauren Ball[1,2], Michael Leveritt[1,2], Roger Hughes[1,2], Ben Desbrow[1,2]
[1]Griffith University, Gold Coast, Queensland, Australia, [2]Griffith Institute of Health, Gold Coast, Queensland, Australia

Introduction The role of Australian general practitioners (GPs) in providing nutrition care to patients for chronic disease management is currently receiving increased attention. However, limited focus has been provided on the experiences of patients receiving nutrition care in this setting, as well as the nutrition-related expectations placed upon GPs by patients.

Appropriate nutrition behaviour is considered as one of the first-line management features of Type II diabetes, and best practice guidelines exist outlining the appropriate nutrition care for patients with Type II diabetes. Individuals with Type II diabetes may therefore represent an Australian sub-population that has received nutrition care by their GP for the management of a nutrition-related chronic disease.

This study aims to describe the development of an online survey which explores the nutrition-related experiences, expectations and satisfaction of individuals diagnosed with Type II diabetes under the care of an Australian GP.

Method A cross-sectional retrospective survey was developed online using *LimeSurvey* (Griffith University Online Survey Tool). Survey items were designed using a review of relevant literature and practice guidelines for management of Type II diabetes in general practice.

Sixty-three survey items were clustered into 5 groups, including (1) general demographic characteristics; (2) diabetes-related demographics; (3) nutrition-related self efficacy; (4) perspectives on ideal GP nutrition care; and (5) reflections of previous GP nutrition care. Survey responses are either multiple choice options (MCQ), dichotomous (yes/no), five-point Likert scales, or open ended comments.

Initial survey piloting comprised of qualitative semi-structured interviews with nine individuals with Type II diabetes in order to identify any relevant investigation area absent in the survey design. Secondary survey piloting comprised of a review of the online survey by five GP for reasonableness testing. Final survey piloting focused on face validity of survey items and comprised of completion of the survey by six individuals with Type II Diabetes, and feedback provided to investigators.

Results & Conclusion An online survey is now ready for administration. The survey will be administered electronically by Diabetes Australia Queensland on a potential participant pool of individuals with Type II diabetes who have registered an email address contact with Diabetes Australia Queensland (n=9,664).

P2.55

A Survey of Academic GP Training in the UK

Clare Taylor[1], Tom Bailey[1], Martin Wilkinson[2]
[1]University of Birmingham, Birmingham, UK, [2]West Midlands Deanery, Birmingham, UK

Introduction General practice is at the heart of the NHS, yet much of the evidence used for clinical decision making is derived from studies in

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

highly selected secondary care populations. Training the next generation of clinical academics to lead research teams within primary care is crucial.

Methods We developed an online survey to evaluate academic GP training in the UK. A link to the survey was sent to all Heads of Primary Care Departments to cascade to their trainees. The survey contained 35 questions to explore four key areas:

- Trainee demographics and background
- Content and funding of current training
- Support with deanery requirements
- Future career plans

Results *Demographics and background:* 54 trainees responded to the survey; 37 (69%) were female and 49 (91%) were between 25 and 34 years old. 49 (91%) went to medical school in the UK and 44 (81%) respondents had a second degree (BSc or above).

Current training programme: The main focus of the training programme was research for 43 (80%) respondents and medical education for 8 (15%) respondents. 28 (54%) trainees were NIHR funded, 16 (31%) were funded by the deanery and 3 (6%) were funded by a university department. 36 (68%) trainees are undertaking a higher degree as part of their academic training.

Support with deanery requirements: 49 (91%) respondents had an allocated academic supervisor. 26 (48%) trainees had an academic supervisor with access to their e-portfolio. 24 (44%) respondents were aware that their academic supervisor needed to submit a report to the deanery review panel.

Future career plans: At the time of the survey, 30 (56%) trainees were planning to continue an academic career after training, one trainee definitely was not and 22 (41%) were unsure

Conclusions Academic GP training programmes are providing an opportunity for GP trainees to learn research and teaching skills and consider a future as a clinical academic. More support is required for trainees to fulfil the deanery requirements for academic training.

P2.56

Identification pre-school children at risk of poisoning injury using routinely recorded primary care data

Elizabeth Orton, Joe West, Denise Kendrick, Laila Tata
University of Nottingham, Nottingham, UK

Introduction In the UK unintentional poisoning is an important cause of morbidity in children. In 2009/10 the National Poisons Information Service received over 15,000 enquiries about poisonings in children under 5. A third of enquiries were from primary care yet little work has been undertaken using primary care data to identify children at risk of poisoning injury. The objective of this study was to determine if routinely-collected primary care data can be used to identify risk factors for poisoning injury in pre-school children.

Methods *Design***:** Population-based, nested matched case-control study.
*Setting***:** The Health Improvement Network (THIN) database.
*Participants***:** Cases were children under 5 with a first record of poisoning between 1998 and 2004. Up to 10 controls per case were matched on GP practice. Cases, controls and household members were identified using an open cohort of 180,064 linked mother/child pairs.

Results In total 2,193 poisoning cases were matched to 21,557 controls. Children aged 2-3 years were over 7 times more likely to have a poisoning injury compared to children aged 0-12 months (odds ratio (OR) 7.40, 95% confidence interval (95%CI) 6.32-8.67) and children born 3rd or later were nearly twice as likely to have a poisoning injury than first born children (OR 1.92, 95% CI 1.56-2.35). Odds were increased if the mother had depression during pregnancy (OR 1.60, 95% CI 1.15-2.21), postnatally (OR 1.36, 95% CI 1.14-1.60) or if the mother smoked (OR 2.21, 95% CI 1.08-1.36). Odds of injury decreased with maternal age (OR 0.46, 95% CI 0.32-0.66 mothers aged over 40 compared to mothers under 20). If there was an adult in the household who had hazardous alcohol consumption children were 67% more likely to have a poisoning injury (OR 1.67, 95% CI 1.21-2.30) and the odds of injury increased with deprivation (OR 1.42, 95% CI 1.20-1.69 for children in the most deprived quintile compared to the least deprived).

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Conclusion Information routinely collected in primary care can be used to identify children at increased risk of poisoning injury. Pre-school children have frequent visits to primary care, providing a unique opportunity for preventive interventions.

P2.57

Barriers and Facilitators to Information Sharing Across the Health and Social Care Interface King G, Boddy D, Heaney D, O'Donnell C, Smith F, Mair F.

Gerry King[1], David Boddy[2], David Heaney[3], Catherine O'Donnell[4], Fiona Smith[5], Frances Mair[6]
[1]Centre for Rural Health Research and Policy, Aberdeen, Scotland, UK, [2]University of Glasgow, Glasgow, Scotland, UK, [3]Centre for Rural Health Research and Policy, Aberdeen, Scotland, UK, [4]University of Glasgow, Glasgow, Scotland, UK, [5]University of Glasgow, Glasgow, Scotland, UK, [6]University of Glasgow, Glasgow, Scotland, UK

Introduction The major problem facing health and social care systems today is the growing challenge of an elderly population with complex health and social care needs. It has been postulated that current solutions to improving quality may do more harm than good if they continue to focus more on diseases than on people. In order to provide holistic care there is a need to develop integrated approaches to health care delivery involving primary, secondary and community health care services and social care. The research described here aims to: 1) identify possible mechanisms that contribute to fragmentation across health and social care interfaces; and 2) explore implementation processes and the role of "boundaries" (structural, professional, and geographical) in facilitating or preventing information sharing and co-operation across the health and social care interface.

Methods A qualitative case study approach identifying how boundaries affect the flow of information within and between health and social care organisations. Three case studies focused on Single Shared Assessment. Forty two professionals were interviewed. Normalisation Process Theory was used as an underlying conceptual framework. Interview data was transcribed verbatim and a framework approach to data analysis undertaken. "Coding clinics" were undertaken by the study team to ensure the reliability of our inferences.

Results Respondents identified boundaries affecting the sharing of information across health and social care both positively and negatively, including characteristics of the innovation; working processes; financial issues; staff motivation; culture; implementation processes; structural, professional, and patient boundaries including the role of stakeholders. Respondents also identified implementation practices and proposed models for change within each context.

Conclusions Contextual factors affect information sharing between and across health and social care services. Successful information sharing depends on: 1) implementing complementary organisational changes which encourage staff to co-operate with other units to transfer and use information across boundaries; 2) ensuring there is adequate engagement with staff, that they can make sense of new developments in information sharing and ensuring that new initiatives fit with working practices. The risk of continuing fragmentation is high if these issues are not addressed.

P2.58

Association between multiple morbidity, deprivation and hospitalisation - analysis using linked routine primary-secondary care data

Rupert A Payne[1], Gary A Abel[1], Karen Barnett[2], Bruce Guthrie[2], Stewart W Mercer[3]
[1]University of Cambridge, Cambridge, UK, [2]University of Dundee, Dundee, UK, [3]University of Glasgow, Glasgow, UK

Introduction Multiple morbidity is increasingly common, exacerbated by socio-economic deprivation. There are limited data describing the association between multiple morbidity and utilisation of secondary care services, or the effect of deprivation on this association. We sought to characterise these relationships through use of linked routine primary and secondary care data.

Methods General practice data from 40 representative surgeries across Scotland, were

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

linked by probabilistic matching to national hospital in-patient records. 47 clinical conditions were searched for prior to 1/4/2006, based on GP readcode and/or prescribing records. Hospital outcomes in the subsequent 12 months were identified, classified according to urgency (routine vs. urgent/emergency) and whether they were considered potentially avoidable. Logistic regression models were constructed to evaluate the association between multiple morbidity and hospital admission.

Results
180815 patients aged 20 years and over were identified. Median age was 49 (IQR 36 to 63) years. 16.6% of patients had 2 concurrent clinical conditions, 11.7% had 3 conditions, and 22.3% had 4 or more conditions. Rates of multiple morbidity increased with deprivation (15.7% vs. 27.6% with 4 or more conditions, in lowest and highest deprivation quintiles respectively). In the 12-month follow-up period, 21661 patients had at least one admission of any type. 10828 patients had at least one urgent admission. 2037 patients had at least one urgent admission classified as potentially preventable. The median and mean durations of admission were 2 and 5.6 days respectively. Logistic regression modelling shows that multiple morbidity (2 or more conditions) is associated with hospitalisation for any admission type (OR 3.06, 95% CI 2.95-3.18), urgent admission (OR 3.45, 3.26-3.65) and particularly potentially preventable admission (OR 5.61, 4.79-6.58). Increased deprivation was also independently associated with hospitalisation (highest versus lowest deprivation quintile: all admissions, OR 1.33, 1.25-1.42; urgent admission, OR 1.65, 1.51-1.80; potentially preventable, OR 2.04, 1.67-2.50). Male sex and increasing age were also independently associated with hospitalisation.

Conclusions
Multiple morbidity and deprivation are associated with hospitalisation. Evaluating these factors may be valuable in identifying groups who may benefit from targeted interventions aiming to improve patient-defined outcomes, well-being, and quality of life.

P2.59

What is the relative contribution of clinical quality of care and self-management to glycaemic control in patients with type 2 diabetes?

Yolanda Martinez[1,2], Peter Bower[1], Stephen Campbell[1], Mark Hann[1]
[1]*University of Manchester, Manchester, UK,* [2]*Mexican Institute of Social Security, Aguascalientes, Mexico*

Introduction Achieving good glycaemic control in diabetes requires good quality clinical care *and* effective self-management, but the relationship between these aspects of care and their relative contribution to glycaemic control is unclear. We measured self-management, clinical quality of care, and glycaemic control in patients with type 2 diabetes in Mexico to explore these relationships.

Method This study is based on a longitudinal cohort of patients (n=256) with type 2 diabetes recruited from five primary care clinics (2009-2010) of the Mexican Institute of Social Security in Aguascalientes. Self-management and quality of care were measured via medical records and interviews. Measures of self-management included knowledge, behaviour, and self-efficacy. Measures of quality of care included treatment intensification, continuity of care, doctor-patient communication and patient satisfaction with care. The main outcome was glycaemic control at six-month follow-up, but here we report descriptive data on the contribution of self-management and quality of care to glycaemic control at baseline.

Results There were modest but significant associations between quality measures of continuity of care, doctor-patient communication and satisfaction with care. Diabetes self-efficacy was more consistently associated with diabetes self-management than diabetes knowledge. There were very modest but significant associations between self-efficacy, self-management and quality ratings of communication and satisfaction. Generally clinical quality of care and self-management were not highly associated.

The mean HbA1c was 8.0% (SD 2.2%). In general, associations between HbA1c and measures of self management and quality of care were weak; however, HbA1c was significantly associated with appropriate treatment intensification. Furthermore, regression analysis showed that (controlling for demographic and clinical variables) appropriate treatment intensification was a key factor in glycaemic control.

Conclusion Appropriate treatment intensification was the main predictor of glycaemic control at

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

baseline. Future work will explore the relative contribution of quality of care and self-management to diabetes control at follow-up.

Understanding the association between self-management and clinical quality of care and their relative contribution to glycaemic control will allow Mexican health care organisations to target interventions in an efficient and cost-effective manner.

P2.60

Integrated system-wide chronic illness care: feasibility and outcome in COPD

Patrick White[1], Helen Booth[1], Sofia Georgopoulou[1], Craig Davidson[2], Jack Barker[3], Noel Baxter[4], Paul Seed[1], Hannah Thornton[1]
[1]King's College London, London, UK, [2]Guy's and St Thomas NHS Foundation Trust, London, UK, [3]King's College Hospital NHS Foundation Trust, London, UK, [4]Surrey Docks Health Centre, London, UK

Introduction Chronic illness management has become a central responsibility of primary care, but goals in chronic illness care are complex and the range of skills required to achieve them may challenge many primary care teams. Integrating chronic illness management across primary and secondary care is a new approach to optimizing the management of chronic illness. In this study a service innovation in COPD across two foundation hospital trusts and two primary care trusts was established to improve the outcome of care and use savings from hospital admissions to pay for long-term implementation.

Method The service innovation had four elements: enhanced hospital-based admission-response ; integrated pulmonary rehabilitation; new intermediate care COPD service; new bespoke electronic COPD clinical record; new 24/7 emergency telephone support service. The evaluation, which used routinely collected data, assessed contact with services, COPD admissions, primary care COPD prescribing, interventions and outcomes in the intermediate care service, and impact of 24/7 telephone support.

Results 6068 patients with a diagnosis of COPD were identified on the lists of 98 practices. Pulmonary rehabilitation referrals increased by 35% with 38% of all COPD patients referred in the course of the innovation.1100 patients were seen by the admission response service, 1230 patients in the intermediate care service, and 453 patients were registered to use the 24/7 emergency telephone line. Admissions occurred at 980/year, were stable during the project and did not differ from admissions in the two years before the project. There was a steady increase in prescribing of tiotropium and of inhaled combination long-acting bronchodilators and corticosteroids. No differences were seen between the admission and prescribing rates in the intervention population when compared to two adjacent PCTs over the same period.

Conclusions Substantial numbers of practices and patients took part in the innovative services. No impact of the innovation could be seen in terms of increased prescribing or reduced admissions. Rising prescriptions of COPD drugs were not reflected in falling admissions in the NHS. Amount of investment that is required across the system to lead to savings in COPD is likely to be substantial

P2.61

Risk factors in community aquired *Clostridium difficile* associated diarrhoea. Is contact with infants important? A case control study from primary care.

Hajira Dambha, Pippa Oakeshott
St Georges Medical School, London, UK

Introduction *Clostridium difficile* is a hospital acquired diarrhoea. Recent evidence suggests that this infection is increasingly common in the community amongst young healthy adults. The cause of this is unclear. There is evidence of asymptomatic carriage of hospital acquired *C.difficile* infection from newborns into the community. We aimed to investigate if contact with children under the age of four years is a risk factor in community acquired *C.difficile* associated diarrhoea.

Method We conducted a case control study within general practices in South London. We included adults over the age of 18 who presented to their general practitioners with diarrhoeal symptoms, resulting in submission of a faecal sample for *C. difficile* testing. 75 cases were selected from faecal samples positive for *C.difficile* infection. 75

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

age and gender matched controls were selected from *C. difficile* negative faecal samples.

Questionnaires were sent out to general practitioners within a week of identifying cases and controls. General practitioners were asked to complete the questionnaire with the patient present, and return the information within 2 weeks. Risk factors included: physical contact with children under the age of four within the last four weeks, degree of contact, medications over the last four weeks, antibiotic therapy, co-morbidities, recent hospital admission, and previous *C. difficile* infection

Results To date, response rate to the questionnaires is 111 of 150. Preliminary data from the first 13 cases and 13 controls is shown in the table. The mean age was 53 years, with 8 males and 7 females in each group. Full results will be presented.

Conclusion The study will allow us to determine if contact with children is a risk factor for community acquired *C.difficile* associated diarrhoea. This may enable earlier identification and treatment of high risk individuals in primary care.

P2.62

The Reality of e-Health Support for Unscheduled Care.

Andrew Thornett[3,1], Mike Dent[1], Ken Eason[2], Patrick Waterson[4], Sue Hignett[4], Dylan Tutt[1]
[1]Staffordshire University, Stafford, Staffordshire, UK, [2]Loughborough University, Loughborough, Leicestershire, UK, [3]NHS Walsall, Walsall, West Midlands, UK, [4]Northants Primary Care Trust, Northampton, Northamptonshire, UK

Introduction Providing clinicians in unscheduled care with electronic patient information has become a major priority. The NHS SDO project, EPICOg, is investigating the use of electronic patient information across organizational boundaries.

Method We examined the provision of unscheduled care support in Walsall and Northamptonshire local health economies. The systems involved were mapped with informatics staff, by interviewing GPs (five in Walsall and four in Northamptonshire) and others involved (out-of-hours staff, practice administrators, A&E and Walk-In Centre staff).

Results Up to five different computer systems support unscheduled care in each area. In Walsall most GPs use the EMIS system and other systems are used in secondary and community care. The out-of-hours service uses a separate system called Ad-Astra. All clinicians in the area also have access to FUSION, a portal system which gives access to records of past hospital episodes and community care. It does not provide access to GP patient records. Unscheduled care staff report that the electronic records they can access are unlikely to provide much help in a patient encounter. A similar range of systems are in use in Northamptonshire except that all out-of-hours services and some GP practices use System One and, where both use the system, unscheduled care staff can with permission access the GP records. However, even in this situation staff report that it is difficult to locate useful information.

All unscheduled care encounters are recorded electronically and are sent to GPs arriving by post, fax, email attachments and sometimes directly into GP record systems. Practices have to put in place additional processes if they are to avoid missing important information. These processes often involve printing electronic letters, processing them and then scanning them into patient records.

Conclusions The irony is that everybody uses an electronic system but sharing patient information is either difficult or involves a paper-based stage. Information is available but not electronically joined up. We have identified a number of areas where quite simple changes could make access to records easier and the processing of subsequent letters safer and more efficient.

P2.63

Who works in Scotland's deprived & rural practices?

Michael Norbury, Jon Dowell, Bruce Guthrie
University of Dundee, Dundee, UK

Introduction The socio-economic status of medical students in the UK has changed little over time, with the majority of students coming from professional and managerial backgrounds. The two commonest reasons for broadening access to medical school are social justice, in terms of

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

equality of opportunity, and that broader access will improve the distribution of NHS care by reducing the impact of the inverse care law. The latter is supported by research from the US, Canada and Australia which identifies factors that increase the likelihood that a physician will work in an under-served area, including family socioeconomic status and growing up in a rural/remote environment.

The aim of this research is to examine the existence and strength of associations between GPs socioeconomic background and whether they grew up in a rural/remote area, and their subsequent choice of practice location.

Method An email invitation, which included a web-link to an online questionnaire, was sent to 2,050 General Practitioners in Scotland for whom email address details were available. Participants were asked to provide the identifier code for the practice in which they currently worked in order that the socioeconomic and rurality data for their current practice population could be extracted from a national database. Participants also provided sex, age and their year of graduation. Questions relating to socio-economic status at the time of application to medical school were based on the Office for National Statistics self-coded version of the socio-economic classification (NS-SEC). Postcode at time of application to medical school was linked to the urban-rural indicator (URIND) to determine previous exposure to rurality. One reminder email was sent during the data collection period.

Results 120 emails were returned as undeliverable or unread. 911 (47.2%) responses were received between 25th November 2010 and 31st January 2011. Analysis of the association between GP socioeconomic background, previous exposure to rurality and the demographics of their registered patient populations is currently ongoing.

Conclusions The hypothesis being tested is that GPs from lower socioeconomic or rural backgrounds are more likely to serve deprived and rural patient populations. We intend presenting our findings at the SAPC conference in July 2011.

P2.64

How much reassurance do negative tests provide? A Systematic Review.

Alexandra Rolfe, Christopher Burton
University of Edinburgh, Edinburgh, UK

Introduction Clinicians often undertake investigations (such as blood tests or imaging) which have a high probability of being negative in the expectation that this will reassure the patient that there is no serious underlying illness. However, many patients continue to worry about their symptoms and undergo further negative investigations using valuable resources for little gain. We aimed to systematically review randomised trials examining the extent to which investigations provide reassurance.

Methods Using Cochrane collaboration guidelines we searched CENTRAL, MEDLINE, EMBASE, PsycInfo, CINAHL and Proquest. We also searched reference lists, performed citation searches and contacted authors. We analysed randomised controlled trials which looked at quality of life, anxiety or satisfaction after an investigation or test which turned out to be negative. From 6826 titles we reviewed 547 abstracts and read 53 full papers. Searches of references, cited and related articles revealed further papers. 20 papers met the inclusion criteria and study quality was assessed by two independent reviewers.

Results Trials covered a wide range of investigations, including endoscopy, CT scanning, blood tests and exercise ECG. Studies of investigation versus management without immediate investigation showed no consistent differences in quality of life, anxiety or reassurance. Relatively few trials examined subsequent healthcare use. One study of deferring tests showed no difference in anxiety, but reduced the number of tests undertaken. Trials that included an adjunct to the investigation, such as a brief explanation about the possibility of a negative result suggested that this reduced subsequent anxiety. Due to the diverse nature of the investigations and symptoms we have not carried out a meta-analysis.

Conclusion Negative investigations, although they may be important for doctors in reaching a diagnosis, do little to reassure patients. Strategies to help GPs frame the possibility of negative testing in constructive ways may increase the reassurance which these tests provide.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

P2.65

ADEPT: Alcohol Detoxification in Primary Care Treatment.

Karen Alloway, John Heffernan, Deborah Sharp, John Macleod, Glyn Lewis, Tim Peters, David Nutt, Liz Anderson, Anne Lingford-Hughes
University of Bristol, Bristol, UK

Alcohol dependent people generally require medication for detoxification to prevent complications such as seizures and delirium tremens. Benzodiazepines are widely used, are effective and work by boosting the GABA-ergic inhibitory function. Recent preclinical evidence suggests that reducing glutamatergic excitatory function may also be of value in reducing neurotoxicity associated withdrawal. Acamprosate is a medication used for relapse prevention in alcohol dependence and reduces glutamatergic function. In order to inform a full RCT, this study assessed the feasibility of recruiting patients from primary care undergoing alcohol detoxification to examine whether adding acamprosate to standard medication can improve symptom control and outcomes.

Methods. A controlled trial and qualitative study was undertaken in patients and GPs. We conducted a randomised double-blind placebo controlled trial comparing: chlordiazepoxide + thiamine + daily monitoring + acamprosate with chlordiazepoxide + thiamine + daily monitoring + placebo. The patients were aged 18 - 65 and receiving medication from their GP for alcohol detoxification. Measurements were taken face to face on the first and last day: withdrawal, depression, anxiety, a psychomotor and memory task; they were then phoned daily about withdrawal symptoms and sleep, and 3 and 5 weeks post-randomisation for drinking outcomes. For the qualitative study, the sample was purposive and drawn from participating patient and GP participants.

Results. From the 26 practices recruited, 57 patients were referred and 36 were randomised. Of these 36 patients, 6 were lost to follow-up by final day of detox, a further 3 were lost at 3 week follow-up and a further 1 at 5 week follow-up. Our recruitment rate was 0.20 patients per month, comparable to another local trial recruiting depressed patients. Qualitative analysis from 9 patients (2 non-completers, 7 completers) and 6 GPs showed that ADEPT was popular with both groups citing benefit of extra support as key to supporting and participating the study. Being recruited in to the study quickly, was generally perceived positively rather than a barrier.

Conclusion. We have shown that recruitment of patients undergoing alcohol detoxification from the GP in primary care into an RCT is feasible. We are now developing the full RCT protocol.

Funded from the NIHR Research for Patient Benefit Programme.

P2.66

Carers' perspectives on care provided by General Practitioners for people with dementia

Alexandra Davidson, Steve Iliffe
University College London, London, UK

Introduction In the UK, two thirds of people with dementia live in the community and around half a million carers provide the mainstay of community support. Carers of people with dementia report a significantly higher prevalence of depression and burden than carers of people with other chronic conditions, and the success of continuing care seems to depend in particular on the well-being of the family carer. General Practitioners (GPs) are well-placed to provide proactive carer support, as well as providing quality care for the person with dementia, but are widely criticised by both the third sector and government for not engaging with this population in need. This literature review focuses on carers' perceptions of general practice.

Method Publications up to October 2010 were identified by searching Medline and psychINFO, as well as a hand search of the journal Dementia. Inclusion criteria included studies involving family caregivers and GPs published in English; exclusion criteria included non-English publications and papers involving any speciality other than General Practice.

Results 9 papers were identified; 7 qualitative, 1 quantitative and 1 systematic review. Several themes have emerged from the data, largely centred on the process of diagnosis, provision of information and subsequent support. Carers report delays in obtaining a diagnosis, dismissive attitudes toward their recognition of early symptoms and failure to refer to secondary care

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

early enough. They described difficulty discussing their caring role with their GPs. GPs were perceived to focus mainly on medical issues of the person with dementia, which carers felt was well-provided, but often seemed unaware of carer problems. Provision of information about the diagnosis and how to access support services was often sparse.

Conclusion GPs are well-placed to act as care providers and care planners, providing access to information and support for carers. However, problems with the interaction between the carer and GP are important in delaying diagnosis and access to appropriate support and information. Attitudinal barriers combined with time constraints often lead to a medical focus to the care provided, and inadequate assessment of carer problems.

P2.67

The relationship between multisite pain and mental health and physical functioning in older people: results from a UK-based study of patients in primary care (the PROG-RES study).

Barbara Nicholl, John McBeth, Vicki Welsh, Christian Mallen
Keele University, Keele, UK

Introduction: Multisite pain is associated with poor mental and physical health; why this is the case is unclear. We hypothesised that among older people who consulted their GP with pain, multisite pain would be associated with poorer mental and physical health 6 months later and the association would be mediated by psychological and social factors amenable to intervention.

Method: Patients aged ≥ 50 years who consulted their GP with musculoskeletal pain were invited to complete a questionnaire, which asked participants to shade on body manikins the site of any pain experienced in the past month, and measured levels of depression, anxiety (Hospital Anxiety and Depression Scale) and pain interference with daily activities (scored 0-10). Putative mediators assessed were pain coping styles and social networks. Subjects completed a questionnaire 6 months later that reassessed levels of anxiety, depression, and pain interference. To establish the relationship between pain at baseline, putative mediators and outcome at 6 months, path analysis was used. The number of pain sites and the outcome variables were considered as continuous variables. Separate regression models were constructed for each outcome. All analyses were adjusted for baseline confounders and baseline levels of the outcome variable. Results are presented as β coefficients (95% CIs).

Results: 443 patients with musculoskeletal pain responded, 370 (83.5%) participated at 6 months and 278 (62.8%) provided complete data at both timepoints (60% female; median (95% CI) age = 63 (61-65) years). At baseline 91% of subjects reported 2 to 34 sites of pain. For each additional pain site reported at baseline an increase in depression score was observed at 6 months (β=0.08; 0.03-0.14), independent of baseline depression and other confounders. No variables mediated this relationship. The relationship between number of pain sites and anxiety levels at 6 months was entirely explained by baseline anxiety. Number of pain sites independently predicted pain interference at 6 months (β=0.07; 0.02-0.12); this was partially mediated by baseline depression.

Conclusions: Among older people who consulted their GP with multisite pain, coping strategies and social networks did not explain the relationship with subsequent high levels of depression, anxiety, or poor physical functioning.

P2.68

Finding the Needle in A Haystack: Referral Pathways for Soft Tissue Sarcoma

Elizabeth J. Bates[1], Robert J. Grimer[2]
[1]Department of Primary Care Clinical Sciences, Birmingham University, UK, [2]Royal Orthopaedic Hospital, Birmingham, UK

Introduction Soft Tissue Sarcomas (STS) are a rare family of malignant tumours with high mortality which account for 1% of cancers in the UK and 2% of cancer related deaths. The rarity of these tumours, the wide range of presentations and the necessity of specialist treatment pose challenges to existing models for referral pathways and result in frequent delays in diagnosis. Recent studies have shown that the majority of patients with a diagnosed sarcoma do not reach specialist care via the “2 week wait” pathway and that medical professionals contribute significantly to delays. This study examines patient’s journey to diagnosis since introduction of

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Two Week Referral guidelines for STS (1999) and implementation of the 2006 NICE guidance "Improving Outcomes for People with Sarcoma" .

Methods Semi-structured interviews over a 3 month period with adult patients admitted to a specialist centre for surgery (ROH) following a first diagnosis of STS. Dates and other details were verified from medical records and the oncology database maintained by the centre.

Results Of 38 patients, 34 presented first to a General Practitioner. Median time from onset of symptoms to first presentation was 3 months (mean 16.7). Median time from presentation to first referral was 1.25 months (mean 11.3). 85 % of patients recalled at least one red flag symptom at Primary Care presentation and 32.4% recalled 2 or more, however only 35% of patients were referred at first visit. Only 15.8% of patients are referred to ROH within 2 weeks of presentation (median 4 months, mean 15 months). The most common referral route by GPs was urgent or non-urgent referral to surgeons in non-specialist centres (79%). Following non-specialist referral the average delay in reaching specialist care was 3.7 months.

Conclusion Despite recent guidelines and implementation of "Improving Outcomes" considerable delays persist at every stage of the referral pathway. This study highlights factors specific to Primary Care which contribute to the needle of STS remaining in the haystack. Speeding diagnosis of this rare malignancy against the background of benign soft tissue lumps with potentially malignant features without swamping highly specialist services will require a unique approach.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Workshop Abstracts

WS1
Ensuring Quality Assurance within Primary Care Teaching Practices

Facilitators
David Pearson, Sandra Nicholson, Siân Alexander-White
Academic Unit of Primary Care, School of Medicine; University of Leeds; Academic Unit for Community-based Medical Education Barts and The London School of Medicine and Dentistry; Community Based Medical Education, Institute of Heath and Life Sciences, University of Liverpool.

Background
The number and diversity of educational placements in Primary Care has significantly expanded despite increased service demands. Clinical learners, universities and deaneries expect high quality. Regulatory bodies such as the GMC have emphasised the importance of QA procedures (especially in undergraduate medical education, e.g. GMC 2009).

Proposed changes to how health care education is organised (DH 2010) provide a challenge to all of us who commission or provide educational placements. How can we be sure placements are of high quality? What is best practice? How strong is the evidence base? What constraints do we face and how can we work to overcome these?

Despite a limited literature base on placement quality (e.g. Jones and Stephenson, 2008; Cotton et al, 2009) much of what we do in quality assuring teaching is based on tradition and expedience. Our workshop aims to encourage participants to better understand the growing evidence base for QA; share good practice and disseminate our shared ideas.

REFERENCES

GMC (2009) Tomorrow's Doctors Outcomes and standards for undergraduate medical education. GMC: London

DH (2010) Liberating the NHS: developing the healthcare workforce www.dh.gov.uk

P Cotton, D Sharp, A Howe et al (2009) Developing a set of quality criteria for community-based medical education in the UK. Education for Primary Care 20: 143-51

Jones, R., Stephenson, A. (2008) Quality Assurance of Community-based Undergraduate Medical Curricula by Academic Departments: Cross Sectional Survey. Education for Primary Care 19:135-42

Aims
Our workshop aims to interactively explore best practice and evidence for quality assurance as applied to primary care teaching practices, particularly concentrating on undergraduate medical teaching in the UK context (but with lessons transferable to other settings, levels of teaching and healthcare professions).

Educational objective
Participants will be encouraged to reflect on their own and home institution's practice ahead of the workshop. During the workshop we will share best evidence, and good practice, on QA procedures and explore the barriers to integration of these in participants' own educational settings and institutions.

We aim to develop a consensus of shared good practice underpinned by best evidence amongst participants and use this to develop a consensus paper on good practice in QA (within educational practices in UK primary care).

Format
Introduction, presentation & discussion [20 mins]
What is QA? Why is it important? How do we measure it? (Overview of main issues, driving forces and tools of measurement, results of our pre conference survey)

How can QA be supported in teaching practices? [10mins]
Problems, issues and constraints
Small group work to discuss problems and issues in QA

Tips and suggestions –sharing good practice[20mins]
3 short [5 min]presentations with Q & A time; Experiences from Leeds (Are visits an unnecessary luxury?); London (E- feedback in QA) & Liverpool (Engagement with practice tutors).

Integrating good practice [20 mins]
Small group work to discuss good practice, integration into own institutions and developing QA strategies

Action points and consensus paper preparation [20mins]

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Discussion & personalised action points.
Use nominal group technique to highlight the points participants consider most important in designing and delivering an effective QA strategy.
Outline of consensus paper on good practice in QA.

WS2
Inspiration through creation! Using creative approaches to extend perception and reflection in the undergraduate medical curriculum.

Facilitators
Dr Louise Younie, GP, teaching fellow
Dr Trevor Thompson, GP, consultant senior lecturer,
Dr Catherine Lamont-Robinson, artist-researcher
University of Bristol

Background
For several years we have been creating opportunities for Bristol students to engage in arts-based creative activities. This offers them the chance to explore narrative, develop self-awareness and enhance their capacity to reflect maturely. This workshop is for anyone who wants to discover more about how creativity can enhance a medical education. It deals with the "rationales, recipes and results" of such creative engagement. See www.outofourheads.net for examples of the sorts of creative work we foster. This work fits within the wider context of the medical humanities.

Aims
To consider what arts-based inquiry has to offer medical students educationally and to personally explore this through engaging with creative-reflective processes and group dialogue.

Educational objective
Participants will a) see examples of how creative approaches are used b) understand the rationale for such approaches c) consider their own institutional opportunities and barriers and d) have a chance to experience the inspiration of creative for themselves! Participants should come away with a plan for making creative work work for them in their own curriculums.

Format
The workshop will be highly interactive and experiential. Format as follows:

i. Educator, artist-researcher and student perspectives of arts-based inquiry in medical education – introducing Bristol approaches.

ii. Participant introductions through the sharing of a pre-chosen piece from the 'out of our heads' website that resonates.

iii. Embracing the creative process - experiential creative session using a variety of materials

iv. Witnessing, sharing and responding to creative pieces. What do they evoke personally, professionally and in us as educators?

vi. Small group discussions to collaborate on potential ideas for taking this field forward in your own institution. What are the openings and the barriers?

WS3
Pilot and feasibility studies: How best to obtain pre trial information and publish it.

Facilitators
Sandra Eldridge, Gillian Lancaster, Mike Campbell, Sally Kerry
Barts and the London School of Medicine and Dentistry, University of Lancaster,
University of Sheffield

Background
Many randomised trials in primary care are time consuming and costly to carry out due to the nature of the interventions and primary care environment. Feasibility studies and pilot studies can be carried out to aid in the design of a main trial but definitions and approaches to these studies vary. There is a need to clarify terminology and good practice. In addition, feasibility or pilot studies may be difficult to publish and therefore not be readily available as learning tools to other researchers. Even when published they are often poorly reported. Clear, well conducted, and well reported, pilot or feasibility studies can (and should) be published in their own right and lead to higher quality RCTs

In this workshop we will clarify the different roles of feasibility and pilot studies; discuss some of the barriers to their implementation, and provide some recommendations for good practice in conduct and reporting.

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

Aims
The aim of this workshop is to clarify what are the purposes of pilot and feasibility studies, provide a better understanding of the different requirements of these studies and how to report them appropriately. We will also explore the barriers to good practice experienced by participants and discuss how best to overcome these.

Educational objective
The participants will take away:
a)An improved understanding of the role of both pilot and feasibility studies in the development of robust trial designs
b)A knowledge of the how to conduct and report these studies appropriately

Format
The workshop will be 90 minutes and will be interactive throughout. It will consist of
1)a survey of participants as to what they understand by pilot/feasibility studies
2)a brief introduction to key differences between pilot , feasibility and main studies and how this affects the conduct and reporting
3)collecting examples of trials from participants which have benefited from pre trial studies and those that would have benefitted from more information
4)presentation of a good example of a pilot study and how this was presented for peer review publication
5)discussion of the barriers to obtaining enough pre trial information to inform a robust trial design

WS4
Introducing the routine use of Patient Reported Outcome Measures (PROMs) in primary care clinical practice

Facilitators
Jose M Valderas, Peter Croft, and Members of the Arthritis Research UK Primary Care Centre, Keele NIHR School for Primary Care Research, Department of Primary Health Care, University of Oxford. Arthritis Research UK Primary Care Centre, University of Keele

Background
Patient Reported Outcome Measures (PROMs) are health status assessments elicited from the patients themselves, usually in the form of standardised questionnaires. PROMs are currently at the center of an ambitious programme for the orientation of the NHS towards a performance model based on health outcomes. PROMs information at the provider level is expected to assist patients in their choice of providers and also to orientate providers about the need to improve their performance. From 2009 PROMs are already being routinely collected for several elective surgical procedures in the UK, and although no similar initiative has been yet developed for Primary Care, the expectation is that within a few years it should be the exception rather than the rule to find an area of NHS activity that is not assessed and actively managed according to the outcomes achieved.

The facilitators of the workshop have more than a decade of research experience on this topic having contributed to theoretical advances in relation to PROMs (classification, appraisal, interpretation, use, and systematic review of their impact) as well as using them in practice and in GP systems in implementation studies.

Aims
This workshop will be specifically developed for the SAPC meeting. The aim is to give an introduction to the routine use of PROMs in clinical practice in order to assist the implementation of this measurement in the practices of the participants.

Educational objective

The learning objectives include:
To gain a better understanding of : a) what PROMs are (and what they are not); b) what PROMs scores mean and how they should be interpreted, with a particular focus on the application to clinical practice; and c) the evidence for the use of PROMs in clinical practice, with a particular focus on primary care, and current research needs in this area
To be able to identify and appraise PROMs for use in clinical practice
To be able to complete and administer different types of PROMs

Format

The workshop has been structured with a focus on a balanced use of interactive techniques, including individual and group work and lecture type short presentations. The educational material will include a power point presentation, and handouts including the slides and two papers.
Outline schedule: 1. Preliminary administration of a 5 items multiple choice questionnaire (MCQ), requesting participants to identify relevant issues in the MCQ that would like to be addressed [5 min]; 2. Introduction of participants and overview

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press

of responses to MCQ [5 min]; 3. Lecture type presentation (LTP): essential theoretical concepts [10 min]; Exercise: participants to individually develop their draft their own 1-3 items PROMs, and discussion in groups of 4 based on the previous presentation [20 min]; 4. LTP: review of sources of PROMs (repositories) and characteristics that need to be taken into account when considering the choice of an instrument [15 min]; 5. Discussion of an appraisal tool in the same groups in terms of relevance for their own practice [10 min]; 6. LTP: Review of evidence on the use of PROMs in clinical practice and implications for designing a system for the routine collection and use of PROMs [15 min]; 7. Final Q&A, wrapping up, and feedback survey [10 min].

https://doi.org/10.1017/S146342361100048X Published online by Cambridge University Press