# Information management and technology (IM&T) in primary care groups and trusts: the gap between national strategy and local implementation

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Primary care groups and trusts (PCG/Ts) are key to the successful implementation of the NHS information strategy, *Information for Health*. This study describes the current levels of IM&T within PCG/Ts and their constituent general practices and examines the ability of PCG/Ts to support the delivery of national targets. Results are derived from the National Tracker Survey of Primary Care Groups and Trusts, which uses a stratified sample of 72 (15%) of PCG/Ts.

The findings indicate that although PCG/Ts are beginning to identify their priorities and work on the huge development agenda in primary care, they may have difficulties meeting both local and national targets. PCG/Ts need additional, appropriately skilled staff and better information to support the planning process. They also need access to high quality data from a range of sources to support their key functions. The quality of data currently available to PCG/Ts is generally perceived by IM&T leads as being poor and is seriously hindering progress. The paper concludes that there is a gap between the vision described in the national information strategy and the ability of local organizations to deliver targets. If the national strategy is to be implemented successfully it may need to be adapted in the light of the findings presented.

**Key words**: implementation; information management and technology; information strategy; primary care; information systems

## Background

The establishment of primary care groups (PCGs) in England in April 1999 represented a radical change in the organization of primary and community health services in the NHS. By 2004 all of these groups will become fully fledged primary care trusts (PCTs), controlling most of the budget for the provision of health care to the populations they serve (Secretary of State for Health, 2000). However, in 2001 the Department of Health (2001) announced that Health Authorities would be replaced by Strategic Health Authorities by April 2002. This has led to PCGs becoming PCTs prior to the 2004 deadline. PCTs will provide a range of primary and community based health services and commission other services, including hospital services. Access to appropriate, reliable and timely information about health needs, health service provision, budgets and administration will be essential to underpin their core functions and support the modernization of services demanded by government. However, Gillies (2000: 95) has noted that 'current information management practice falls well below the level required to implement primary care groups', let alone the more demanding requirements of becoming a free standing trust.

The importance of information to the provision of better health care has long been recognized in the NHS. However, the 1992 IM&T strategy (NHS Management Executive, 1992) met with a great

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deal of criticism. Most significantly, the National Audit Office (1999) criticized the strategy for its lack of business plans and specific, measurable, achievable, relevant and time related (SMART) objectives. For primary care professionals inappropriate priorities, poor timing, and the sheer quantity of projects were major problems (Jones, 1996). Partly as a result of the criticizm levelled at its predecessor, the publication of the current NHS information strategy, *Information for Health* (NHS Executive, 1998), was preceded by wide consultation with groups and individuals throughout the NHS. Information for Health was published before the establishment of PCGs, but contains many targets for the development of IM&T in primary and community health services. The vision set out in the strategy focuses on the development of the electronic health record, a 'longitudinal record of patients' health and health care' (NHS Executive, 1998), constructed from the primary care electronic patient record and appropriate information from other systems (e.g., hospital, community health and social care). The NHS Plan (Secretary of State for Health, 2000: 31) acknowledged the need for up-to-date IT systems and a history of investment in IT in the NHS which has been 'too slow and patchy'. Between them, *Information for Health* and the NHS Plan set out a series of ambitious targets for the development of information systems in primary care, culminating in the production of the electronic patient record and electronic health record in 2005. Every Health Authority is required to produce a local implementation strategy (LIS) setting out its plans for developing IM&T and achieving the national targets.

Despite the wide consultation which preceded *Information for Health* it has already begun to attract some criticism from those involved in IM&T in primary care. Keeley (2000: 268) warned that the 'pressure for rapid results may drive the NHS into another round of wasteful investment in systems that do not deliver', and Gillies (2000: 92) indicated that 'unless the use of existing technology can be improved, the proposed changes will not be successful'. The success of the strategy and the achievement of targets will depend on the ability of key stakeholders within the NHS to implement the changes. PCGs and PCTs have a pivotal role to play in developing IM&T in primary care which will be critical to the success of the overall strategy for the NHS as a whole. The purpose of this paper is to examine the progress PCGs and PCTs have made to date, the problems they are encountering and the likelihood that they will meet the targets which have been set, drawing on data from the National Tracker Survey of Primary Care Groups and Trusts.

## The national tracker survey of primary care groups and trusts

This longitudinal survey uses a stratified random sample of 72 (15%) of the 481 PCGs established in 1999. The sample was stratified by NHS region to ensure that it was geographically representative. A further analysis of the sample, compared to data derived from the National Database of PCGs (Hann *et al.*, 2001) showed no statistical differences between the sample and all PCGs. This analysis used a range of indicators including population size, average number of general practitioners, average practice list size and percentage of single-handed practitioners (Wilkin, Gillam and Leese, 2000).

The survey aims to describe how PCGs tackle their core functions, evaluate their achievements against national and local goals, and identify features associated with successful delivery of core functions (Wilkin, Gillam and Leese, 2000; Wilkin, Gillam and Coleman, 2001). Two annual surveys (October to December 1999 and October to December 2000) have been completed to date using face to face interviews (1999 only) telephone interviews (2000 only) and postal questionnaires. Interviews were conducted with Chief Officers, Chairs and Health Authority PCG leads. Postal questionnaires were sent to PCG leads for clinical governance, prescribing, IM&T, commissioning, and to social services representatives. By the time of the 2000 survey, two PCGs had merged leaving a total of 71, of which six had become PCTs.

Response rates for the interviews were between 97% and 100% in each survey and for postal questionnaires between 51% and 82% (Wilkin, Gillam and Leese, 2000; Wilkin, Gillam and Coleman, 2001). The data presented in this paper are derived from the second survey in which postal questionnaires were sent to 71 PCG and PCT IM&T leads. Fifty-one (72%) returned completed questionnaires. The questionnaire was designed specifically for the survey and covered information needs,

development of IM&T within the PCG and within constituent practices, data quality, budgets and staffing, and views on achievement of national targets. Most questions employed fixed response categories which were tested in pilot studies.

## Results

Sixty two per cent of PCG/T IM&T leads were general practitioners (GPs) and only 10% were IM&T specialists. Most respondents spent between one and five hours each week on IM&T work for the PCG/T. Most PCG/Ts are beginning to identify priorities for IM&T development and are starting to work on the huge agenda in primary care. The strategic framework for IM&T implementation within local health communities is provided by the LIS. Only a third (16) of the PCG/T IM&T leads felt that the LIS reflected their own needs well, and 29% (15) said that the LIS reflected their needs only poorly or not at all. However, 44% (22) had developed their own PCG/T level IM&T strategy, perhaps reflecting the perceived failings of the LIS.

IM&T leads were asked to rate how well current information systems met the needs of the PCG/T (Table 1). It is clear that in most PCG/Ts existing information systems fail to deliver the required information to support the work of the organization. Apart from prescribing and budget monitoring information, only a small minority of IM&T leads

rated information as meeting their needs well or very well, and almost three-quarters felt that information to support health needs assessment met their needs poorly or not at all.

Most of the information required by PCG/Ts is obtained from the information systems of other organizations. IM&T leads within PCG/Ts were very critical of such data sources with 84% (41) rating the data from community health systems as poor or very poor. Other data rated poor or very poor were local authority data, 70% (32), data from general practice, 63% (31), and hospital data, 63% (31).

However, PCG/Ts were beginning to make inroads into the IM&T development agenda to improve the quality and accessibility of information available. Seventy-one per cent (34) had local area networks and electronic links to other organizations were generally well used. Eighty-eight per cent (43) had links to their Health Authorities, 82% (42) used links to the Internet and 86% (44) used email. Some progress is also evident in IM&T in general practices. The use of electronic links by practices is becoming more widespread (Table 2), with substantial proportions connected to NHS Net. However, only 35% (13) had practices with telemedicine or telecare options in use and none had more than half using telemedicine or telecare.

Over three-quarters (33) of PCG/Ts stated that more than half of their practices were using Read codes for recording diagnoses and presenting problems. However, the use of other information management tools was generally much lower. MIQUEST (Morbidity Information Query Export Syntax) is a data extraction tool, which may be used to extract data from different GP clinical systems using a common query language. MIQUEST has been in use for many years and was used by

**Table 1** IM&T leads' assessments of how well information systems meet the needs of PCG/Ts for information related to key functions

| Functions | Poorly or not at all (1/2) | 3 | Well or very well (4/5) |
|---|---|---|---|
| Health needs assessment | 36 (72%) | 11 (22%) | 3 (6%) |
| Commissioning | 25 (50%) | 18 (36%) | 7 (14%) |
| Monitoring service provision | 26 (55%) | 17 (36%) | 4 (9%) |
| Clinical governance | 31 (63%) | 10 (20%) | 8 (17%) |
| Budget monitoring | 18 (39%) | 15 (33%) | 13 (28%) |
| Workforce planning | 33 (70%) | 11 (24%) | 3 (6%) |
| Prescribing | 14 (28%) | 15 (31%) | 20 (41%) |

*Note*: Rated on a five point scale from 1 = 'not at all' to 5 = 'very well'

**Table 2** Use of electronic links by general practices

| Type of electronic link | No practices currently using link | Less than half currently using link | Half or more currently using link |
|---|---|---|---|
| Patient registration | 0 | 4 (9%) | 39 (91%) |
| NHS Net | 6 (14%) | 16 (36%) | 22 (50%) |
| Pathology | 8 (21%) | 20 (51%) | 11 (28%) |
| Telemedicine | 24 (65%) | 13 (35%) | 0 |

the Collection of Health Data in General Practice (CHDGP) project. MIQUEST is important for PCGs and PCTs as it will enable them to obtain consistent, comparable data from practice based systems. However, only one in ten PCG/Ts claimed to have more than half of their practices using MIQUEST.

PRODIGY (Prescribing rationally with decision support in general practice) is a decision support tool for prescribing which is freely available on most GP clinical systems. Only 11% (4) of PCT/Ts had more than half of their practices using PRODIGY.

IM&T leads were aware of the need to enhance the quality and accessibility of information and many of them are looking to the primary care information services (PRIMIS) initiative to encourage the use of training and support to ensure that practices make best use of their computer systems. PRIMIS also advocates the use of MIQUEST for data extraction. Half of the PCG/Ts in our sample were either already signed up to the PRIMIS initiative or were planning to do so.

In the light of the inadequacy of existing information it was not surprising that the top priority for developing IM&T was improving data quality. Eighty per cent (41) of IM&T leads rated improvements in data quality at PCG/T level as a high priority and 75% (38) rated improvement of data quality in general practice as a high priority. Other common priorities were developing the IT infrastructure of the PCG (55%, 28), IM&T training for PCG/T staff (55%, 28), IM&T training for practice staff (59%, 30) and upgrading the IT infrastructure in practices (49%, 25). However, it was evident that PCG/Ts were struggling to develop IM&T with inadequate resources. Although 64% (32) IM&T leads said that they had access to staff with appropriate skills, 71% (36) rated current levels of staffing as inadequate or very inadequate. Many IM&T leads did not even know what resources were available for purchase (61%, 31), maintenance (71%, 36) and training (78%, 40). Nevertheless, although they were unable to provide accurate information on the budgets available for IM&T, two-thirds (29) felt that current resources were inadequate.

Meeting national targets is critical to the successful implementation of the national strategy contained in Information for Health. In the light of our findings presented above, it is important to ask whether these targets are realistic. We asked IM&T leads to assess the likelihood that their PCG/T would meet the main targets set out in *Information for Health* and the NHS Plan. The results summarized in Table 3 suggest that, apart from a few notable exceptions, substantial proportions of PCG/Ts consider it unlikely that they will meet the targets within the deadlines set. Only 42% anticipated meeting the first target of having information to monitor referral rates by April 2001. More encouragingly, the vast majority expected to get all practices connected to NHS Net by 2002 and three-quarters expect to meet the deadline for accessing the National Electronic Library for Health.

However, targets such as connection to NHS Net and NELH are relatively straightforward as they are concerned primarily with the implementation of technological solutions. Use of the electronic patient record, 24 hour access to patient records, electronic transfer of patient records and use of telemedicine are likely to be more difficult to achieve as they are so much more complex and require developments in information systems and information management. Although the deadlines for these are considerably longer, most IM&T leads were more cautious about the likelihood of achieving these targets, with between a quarter and a half stating that they were unlikely to do so.

## Discussion

Evidence from the survey of IM&T leads in PCG/Ts indicates a huge gap between the information needs of these organisations and available data. In their first two years PCG/Ts have started to develop IM&T within their own organizations and among their constituent practices. Nevertheless, it was evident that the task of developing PCG/T and general practice systems remains formidable. IM&T leads recognize that this will require a dramatic improvement in data quality, which in turn requires a major change in behaviour as well as upgrading information technology. The size of the task facing them is vast and the resources available are limited, hence it is not surprising that many IM&T leads were pessimistic about their ability to achieving some of the ambitious targets, which have been set at national level.

The 1992 NHS information strategy (NHS Man-

**Table 3** Will your PCG/T meet the following national targets?

| Target | Deadline | Likely to meet target (1/2) | | 3 | | Unlikely to meet target (4/5) | |
|---|---|---|---|---|---|---|---|
| | | No | % | No | % | No | % |
| Monitor Referral Rates | 2001 | 20 | 42 | 15 | 31 | 13 | 27 |
| All practices connected to NHS Net | 2002 | 44 | 86 | 1 | 2 | 6 | 12 |
| Use NHS Net for booked appointments | 2002 | 18 | 35 | 21 | 41 | 12 | 24 |
| Use NHS Net for laboratory results | 2002 | 32 | 63 | 14 | 27 | 5 | 10 |
| Access to NELH | 2002 | 37 | 74 | 9 | 18 | 4 | 8 |
| Electronic patient record in use | 2004 | 17 | 33 | 22 | 43 | 12 | 24 |
| Electronic Prescribing in use | 2004 | 28 | 56 | 16 | 32 | 6 | 12 |
| Electronic Transfer of Patient Records | 2005 | 20 | 40 | 17 | 33 | 14 | 27 |
| 24 hour emergency access to patient records | 2005 | 17 | 35 | 15 | 30 | 17 | 35 |
| Telemedicine and Telecare options available | 2005 | 18 | 37 | 16 | 33 | 15 | 30 |

*Note*: Rated on a five point scale from 1 = 'definitely will meet target' to 5 = 'definitely will not meet target'

agement Executive, 1992) was criticized for its inappropriate priorities, lack of business planning and poor timing and was commonly regarded as a failure. However, it should be remembered that the strategy had some successes, such as linking GPs and Health Authorities and introducing a system of accreditation of general practice clinical systems (NHS ME, 1993). Nevertheless, one of the lessons to be learned from this experience is that minor but important successes such as these will be largely ignored if the strategy as a whole is perceived to have been a failure. A second, and more important, lesson is that it is essential to listen carefully to those most involved in the implementation of the strategy. It was for this reason that the author of the current strategy, Frank Burns, spent a great deal of time listening to IM&T specialists and users of information systems before writing the strategy.

If the current strategy outlined in *Information for Health* (NHS Executive, 1998) and updated in the NHS Plan (Secretary of State for Health, 2000) is to be more successful it will have to rely heavily on PCG/Ts to deliver key components of an integrated NHS information system. It will also be essential to listen to the experiences and views of those most closely involved in its implementation. The NHS Plan recognizes that 'not everything can be put right overnight – the decades of neglect make that impossible' (Secretary of State for Health, 2000: 49). However, the ambitious targets and deadlines seem to suggest that there is an expectation that problems will be put right very quickly, if not overnight. Building the Information Core states that the

'new emphasis is on realigning priorities and increasing the pace of delivery to ensure that we have, for example, electronic booking of appointments, NHS staff connected to NHS Net and patients able to access their own medical records more quickly than envisaged in 1998' (Department of Health, 2001: 38). Implementing IT solutions, such as connecting practices to NHS Net, is relatively straightforward and the survey suggests that most PCG/Ts will meet the deadlines for these targets. Indeed, Department of Health figures (Walker, S., 2001) show that by July 2001, 96% of practices were connected to NHS Net and 91% had email facilities. This indicates that the target for connecting 100% of practices by April 2002 is likely to be met.

However, it should be remembered that the deadline for this target had been extended by two years from its original deadline (NHS Executive 1998:109). The achievement of this target has been made possible by the time extension and also by the financial and staff resources made available by the Department of Health. Resolving fundamental problems with data quality and developing electronic patient records are much more complex problems and will require more time because they demand changes in behaviour which in turn require education and training. The overriding impression from the responses of IM&T leads to questions about the implementation of national targets is that many of the deadlines are too short to bring about the necessary changes, at least within the constraints of current resources. Failure to meet high

profile targets by the specified deadlines will result in another publicly acclaimed failure in NHS IM&T. In 1999, Nagpaul issued a plea for NHS policy makers to 'slow down, consult the BMA and implement a sensible, meaningful and achievable strategy' for IM&T in primary care (Nagpaul, C. 1999 : 1). Our evidence provides powerful support for this plea. The strategy outlines a vision of excellent information and IT systems in the NHS, a vision many aspire to. However, it is important to review the number of projects and refocus on a smaller number of key targets which are achievable within the remaining term of the current strategy and within resource constraints. One of the lessons learned from the failure of the 1992 information strategy was the importance of listening carefully to those charged with implementing the strategy. It is to be hoped that those responsible for the current strategy listen carefully to the messages emerging from the National Tracker Survey of PCGs and PCTs, and that they adapt the strategy accordingly.

## Acknowledgement

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