National programme for information technology

Is sorely needed and must succeed—but is off to a shaky start

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With the national programme for information technology, the NHS in England has set itself an enormous task. A programme of this size has never been attempted in the United Kingdom and, in many respects, elsewhere in the world. But what is the national programme, why is it so important to the government and to the viability of the NHS, and is it on course to succeed?

The national programme means an investment of £6.2bn (€9.2bn, $11.1bn) over a 10 year programme of change. It promises to modernise information and communications technology across the NHS and provide the tools to help streamline the healthcare services. It will create a basic health record for all 50 million patients, enabling quick and easy access to the essential information that anyone making health decisions about a patient needs to know. It will connect more than 30 000 general practitioners and 270 acute, community, and mental health trusts in a secure system. It promises to "improve the convenience and quality of care" by having the right information in the right place at the right time. It will sustain the NHS reform programme and support patients' choice.

That is the hype, but why does the NHS need such a national programme? For many years the NHS has been flirting with information and communications technology. This has resulted in a multitude of disparate systems many of which are unable to share information. The publication in 2002 of the Wanless report (a review of the long term trends affecting the health service and the resources required over the next 20 years) convinced the Department of Health to commit to a fully integrated national system.[1] The report concluded that "without a major advance in the effective use of information and communications technology, the health service will find it increasingly difficult to deliver the efficient high quality service, which the public will demand." The Department of Health thought that information and communications technology in the NHS needed to be managed and controlled at a national level. The increasing complexity of health care, the need for timely access to quality data and the latest information by healthcare professionals, and the need to reduce clinical errors demanded a revolution in information and communications technology.

The term national programme for information technology is misleading because the programme isn't just about technology. Its successful implementation will affect the ways in which people work and services are delivered. (A good example is the electronic booking of appointments, which will require clinicians—who have traditionally been very independent—to relinquish some control over their diaries.) The national programme must spend money on facilitating these changes. Otherwise, the result could be good information and communications technology but no change in the way things are done.

A basic rule in project management is to gain the support and commitment of the senior management and all stakeholders. The programme has the endorsement of the senior project team, which includes the minister of state for health, John Hutton, the newly appointed deputy chief medical officer, Aidan Halligan, and the programme's director general, Richard Granger. The level of investment also confirms the commitment of the government and the NHS. But winning the hearts and minds of two other stakeholders—healthcare professionals and the public—will be more difficult. These two groups can make or break the project. They need to be convinced that the endeavour is worth the investment and the initial pain and that the future of the NHS depends on it. Unfortunately, as shown by the BMA's demand for greater involvement in the national programme, the involvement of these user groups to date has been poor.[2]

Two major bodies have been established to tackle the involvement of the health professionals and the public. The National Clinical Advisory Board represents healthcare professionals in the national programme. The public and patients have their voice through the Public Advisory Board.[3] Aidan Halligan's appointment also highlights how seriously the national programme is taking the importance of clinical engagement. However, the recent resignation of Peter Hutton from the chair of the National Clinical Advisory Board after just six months in office highlights how difficult this process has and will continue to be.

Will the national programme work? In a recent article in the *Financial Times*, Nicholas Timmins highlighted some major concerns about the programme.[4] He reports suggestions that Peter Hutton was "frozen out" of the programme after expressing serious concerns. The programme has been criticised as being too secretive, even excluding many NHS employees from its development. Peter Hutton also raised concerns over how uniformity and continuity of care will be achieved across different local service providers, stating that local variations would raise "major safety and training implications." EMIS, the largest supplier of primary care systems in the United Kingdom, announced that it would not sign current contracts with any of the local service providers appointed to deliver the national programme.

With so many concerns, and we have looked at just a few, one wonders how the national programme will succeed. However, far too much is at stake for it to fail. The consequences of failure are too ghastly to imagine. Billions of pounds invested in the programme will be wasted and the reputation of information and communications technology for healthcare destroyed. Without a national information technology programme the NHS of the future would be quite different. Equitable healthcare free at the point of need, financed through taxation, would be unsustainable and the rising costs prohibitive.

If the national programme can address effectively its political, logistical, technical, and contractual issues and win over and sufficiently engage healthcare professionals, patients, and the public while taking

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their concerns and views seriously then it just might succeed—for all our sakes.

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1 Wanless D. *Securing our future health: taking a long term view.* London: HM Treasury, 2002. www.hm-treasury.gov.uk/Consultations_and_Legislation/wanless/consult_wanless_final.cfm (accessed 4 May 2004).
2 *BMA calls for greater involvement in national programme for information technology.* Press release, 29 April 2004. www.bma.org/ap.nsf/Content/PR%2DBMA+calls+for+greater+involvement+in+national+programme+for+information+technology+%2D+29+Apr+2004 (accessed 4 May 2004).
3 *New groups for patients and health staff will help shape NHS computer plans.* Press release, 30 September 2003.
4 Timmins N. £6bn NHS systems project may be heading for sick list. *Financial Times* 2004 April 29:1.

Beyond the gadgets

Non-technological barriers to information systems need to be overcome too

Someone once said that the only person who welcomes change is a wet baby. To be most comfortable with the status quo, unless it is inflicting discomfort, seems to be part of the human make up. Probably every doctor has experienced the feeling of being overwhelmed with medical information, whether about a patient or with the ever increasing amount of information in the literature. Most doctors have recognised that integrating information systems into their clinical practice is not just a good idea but has become mandatory. Yet, major issues need to be overcome—not just technological ones—which if not considered for a new information system will lead to a "system failure" (box 1). It would be wonderful if we could create the new electronic medical environment with a "big bang" and avoid all of the issues outlined. Unfortunately that is not possible. The first requirement is to become comfortable and assured that an information system is important. To reach a "yes" conclusion, most people go through several stages to reduce their personal resistance and to reach a level of comfort with using information technology actively in the daily workflow of a medical practice. This editorial introduces these stages and makes suggestions for overcoming an issue with each stage.

The following stages are adapted from the transtheoretical model, which is one way to look at the process that individuals go through in a change process (box 2).[2] Doctors might be familiar with this model from smoking cessation programmes.[3]

Pre-contemplation could also be called the denial stage. "My practice is working just fine." "Using a computer will take more time." "Placing a computer in the patient examination room will be a barrier between the patient and me." "My office practice is quite well organized and eveyone is happy." "How can I see as many patients as I do in one day and still use a computer?" "You are asking me to do the clerical work that others do and every time I type it costs me time and money." At this stage you might read about what others with similar practices are doing.

The contemplation stage is when a doctor acknowledges that a problem exists but is not yet ready to invest in the change. "I went home late again last night, I just cannot seem to get everything completed in a timely manner." "Have you located Mrs Smith's chart yet? I need to see the results of her last test and she has been waiting for more than an hour." "I wonder if technology could help with my practice." At this stage you might talk with your colleagues or visit an exhibit area at a medical conference.

The preparation stage is about getting ready to make changes. To deal effectively with the reality of change, the person desiring to make the change and the staff need to be involved in any change process. Everyone wants to feel that they are needed and their ideas are appreciated. This carries over to the workplace where workers want a chance to get actively involved with their work and show their competence and value to their work group. Thus you must prepare yourself and your staff to accept the changes that you will make in patient care. Providing the opportunity for staff involvement will help reduce their resistance. If they have ownership in the process they will help to ensure the system's success.

The action stage is actually implementing the system or making the desired change. No single strategy can be used in every situation, but the leader must develop appropriate strategies and plans to help facilitate the implementation of any changes—both the technological ones and the corresponding issues involving people and workflow. While the resistance at the earlier stages might have rested with the doctor leader, at this stage resistance most likely would be from the staff if they have not been properly prepared to accept the new system and if the information system will alter their workflow practices. Strategies for effective communication and involvement are crucial at this stage.

Maintaining the change can be very difficult for action oriented people. Once a new system is

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Box 1: Non-technical issues that need to be overcome[1]

- Underestimating the complexity of the new system and the changes that it will cause in your practice
- Not having a clear vision for the changes you are proposing
- The requirements for your new system continuously to expand, but you fail to renegotiate deadlines or resources to support the expanded criteria
- You have management and organisational issues, and you are trying to solve these by installing an information system
- Ineffective listening and communication with both vendors and your staff
- You become so technology oriented that you seek the newest system (whether it has been tested or not)
- You do not invest enough time in training on the system
- You become so emotionally committed to your system that people will not tell you when it is not on track for fear of your reaction
- You fail to have your staff "own" the system