Using the IM&T Strategy to benefit patients

Ray Rogers
Director NHS Executive, Information Management Group

The Nursing Specialist Group has a major contribution to make to what is happening in information technology within the National Health Service. Nursing is a key feature in much of what the IMG is trying to do and all specialities are involved in our projects and in strategic thinking. I have picked out three things for consideration:

- implementing the information strategy by concentrating on a few of its elements, particularly those relating to patients;
- enabling clinical systems;
- clinical collaboration in taking forward the information management and technology agenda.

The IMG is endeavouring to put in place an infrastructure and create an environment in which the full potential of information management and information technology can be exploited throughout the NHS. To meet all the various objectives of the NHS Executive, health carers, management, planners and everybody involved in the NHS, the infrastructure has to allow any of these users to plug their application in to it. Unless we have that infrastructure we will not be able to make full use of the technology. The NHS is probably the biggest organisation in Europe and should be fully exploiting information technology as do many organisations around the world. There are some key building blocks to the infrastructure.

Standards

Standards may seem the most boring, but it is in fact the most important, for if we want to integrate and share applications particularly those that are clinical and multidisciplinary, then we have to integrate the computers, their applications and our way of working with those computers. We are no longer talking about uni-professional systems or uni-departmental systems. We talk about systems for the organisation as a whole and systems which can integrate across the NHS. To do this, standards are required, they are numerous and often come in complex packages.

Standards do not stand alone. The IMG have endeavoured to make clear what they are by putting them together in a structured handbook which has been published. We are now looking to see how we can get better compliance with those standards. For example, we have devised a purchasing questionnaire which asks the supplier do you comply with these NHS standards - Yes or No? If the answer is no, tell us the extent
of non-compliance and why. The idea being that the answer "no" triggers thinking about whether to buy the product. That questionnaire is on trial in South and West Region before being rolled out to the rest of the NHS in April 1995.

**Data dictionary**

Underpinning the standards handbook and questionnaire is a data dictionary. It may look boring, but it is also important. Unless we are clear about our data definitions and their relationships, and comply with them across the NHS then integrating communications is very difficult. Version 1 has been published.

**Messages**

The standard syntax for messages is EDIFACT, an international standard well used in commerce, not used to date a great deal in health. Once the NHS had adopted it as the standard many health care organisations across Europe also adopted it. The IMG has been working with clinicians to try and get standard messages in EDIFACT format for general practitioners' communications with hospitals. The content and format for messages about referrals, discharges, pathology requests and results, radiology requests and reporting, death notification and some others will be published in a package. We found these very difficult to agree, once discussion starts on the format of a referral you can guess the kind of debate that occurs among the clinical professions.

We have been doing more work on clinical terms, contract minimum data sets and hope to consult on one for the community which takes a step forward from contact counting. There has also been work on health care resource groups and benefits groups which will give us a language between professionals and administrators.

Standards are important, but so is another part of the infrastructure: NHS wide networking. If we are to exchange messages across the NHS (not just locally) and to get to national applications we need to have such a system. It is already well advanced and we are dealing with networking in a way which integrates voice, data, images and radio mobiles.

As part of the infrastructure we are replacing the NHS number and to get a better grip on knowledge about the populations served by the NHS we are developing administrative and population registers. We also need to get to grips with security and confidentiality, topics close to the heart of health care professionals.

The new NHS number was part of the strategic decision that we had to have a unique identifier in order to exchange information unambiguously. To do that, with computers being pretty stupid things, you need an identifier. The existing one is no good because it has too many formats, it cannot be validated. The new one has ten digits with a check digit. The IMG has a contract to create the 50 million numbers required by July 1995. The Exeter FHS computer unit creating the software which will enable extracts to be taken from the central register, roll them out to FHSAs in a weekend in August, then to GP practices during the rest of 1995 Ñ 1996, followed by other systems. That is going to be a very interesting time for colleagues at the IMG.

In networking we are making good progress. A message handling service has been procured from Syntegra, the integrating arm of British Telecom. It is under trial in
different places and with a range of applications. That will be available in the second quarter of 1995. A procurement is out for a wide-area network, the spine of the network, and to procure some frameworks so that people can take wide-area networks into the new regional environment. We are also putting in place a management structure for the whole of the organisation of NHS wide networking. So by the second quarter of 1995 we should have in place a national spine for the message handing service.

We have done a great deal of work in the area of voice, mainly in getting substantial discounts. Also in radio-mobiles for ambulance authorities. The most important thing is to recognise that by the middle of 1995 we will be able to see how we can exploit networking in a greater and more exciting way than we can exploit it now. Once we have the spine then anybody will be able to get at the national applications we already have working: outcome databases, and library databases linked to Medline could be available, but also we will enable telemedicine because the spine will have the bandwidth to allow such applications. The shortlist for the contract is British Telecom, Mercury and France Telecom. Which ever gets the contract will be out there exploiting some very exciting applications. The environment will also enable the more local links like GP to hospital to FHSA.

Security and confidentiality in the networking environment has involved very fruitful collaboration with the clinical professions in settling the general principles.

The latest version of the Read Codes covers all the medical terms, preferred terms, synonyms, abbreviations and qualifiers to build quite complex terms with the Read Coded Thesaurus. All the professions have given their support to making the Read Codes the underpinning thesaurus for all person-based systems in the NHS. A policy statement on this is being discussed with all the professions. The nursing, midwifery and health visiting terms work will complete its initial development phase by March 1995.

Clinical systems

The strategic direction for clinical systems is clear: we want electronic patient records. Most of the information required for all the other purposes resides within clinical records. At the moment we cannot get it in computer terms because a) we cannot capture it all, hence the work on the Read terms, b) it is difficult to input it all and then to get it out for multiple purposes.

The patient record has multiple purposes; the most important being the direct purpose of caring for patients and clients. At the moment, except in some small instances, we can not achieve a patient record in an electronic medium, but it is the source of data for outcomes, for audit, for research, and for many other things wanted by the clinical professions. We also need the data for management, contracting, planning and so on. Unless we can achieve the electronic record we cannot serve all those purposes in a computerised world. So what are the IMG doing about it?

First of all we are looking a the front end: the interface between the clinical carer and the computer. We call it the integrated clinical workstation. We have a demonstrator to show what an integrated clinical workstation should look like in a variety of settings and serving a variety of professional carers. We are looking for the common
features evident to people in all the clinical environments within organisations and between them. It is proving very exciting.

Nobody in the world has really got to the electronic patient record, so we have a three year research project in two places to get a prototype to explore all the difficulties and features of getting to it. This will give demonstration systems to show what can be done. The two hospitals will work with a collaborative group of 50 to 60 hospitals. We will also be looking to exploit the new multi-media environment. Incidentally the main problems which we face are not technical, they are cultural ones.

Much of what we are doing, we have recognised, is about trying to ensure that clinical systems can achieve their full potential, but they will not be able to do so unless we tackle some fundamental problems. So we have established what we are calling the Enabling Clinical Systems Programme Board, chaired by Graham Winyard and with the Chief Nursing Officer as a key member. We are trying to map out what we need to do. For example asking "Is the electronic patient record legally acceptable?". If it is then what sort of audit trails do we have to have? How do we tackle electronic signatures? What are the security and confidentiality issues - how do we get things in; how do we get things out? What does the interface look like; how do we solve some of the cultural problems and so on.

**Clinical collaboration**

We have been very fortunate at IMG in being able to draw on a whole variety of people from the professions. People have given up an enormous amount of their time. In the Read Terms Project alone we probably have 1 000 to 1 200 professionals beavering away. Across all the projects we probably involve 2 000 to 2 500 professionals. However, one of our difficulties has been relating to the professions because there are so many interest groups. We have been encouraging those groups to come together in umbrella-type organisations. The nurses are doing this, the professions allied to medicine have already done so, the pharmaceutical profession with industry have done the same, the medical profession is also coming together. We are keen to see all these groups communicate one with another. The Nursing Specialist Group is important, the grass-roots people with a real interest in the subject, will be part of these organisations. The IMG would not be able to achieve what we are trying to do without such assistance.