what we teach should always highlight the essential, however mundane it may seem. In turn we are all students of medicine throughout our careers and should learn and accept change if the grounds for change are good. Given that the modern hospital staff will have been drawn from a variety of backgrounds, it should be possible to obtain from all a certain uniformity of good practice. This also applies to specialist units who surely have an obligation to disseminate knowledge. To take the simplest example, every student asked about the probable consequences of foot infection in a diabetic will reply that they are serious. Yet many a doctor will look at such an infection with blithe incomprehension. Yes, this really does happen and makes some of those who specialise in the treatment of diabetes want to ensure that only they see every diabetic. The alternative is to make sure that common knowledge is always put into common practice.

The drift of this argument is towards the acceptance of regular review of day-to-day practice as an essential component of medical education at all levels of seniority and in all aspects of medicine. This is far from the excitement of learning some fresh concept in pathology or the amazing effects of a new drug on a rare disease. It also raises the thought of audit, a word that currently sends shivers down many a medical back.

Uniformity of learning is not likely to be achieved by regulation or statute. The dissemination of knowledge has to be sought by those who wish to learn and this wish has somehow to become a major motive in every medical career. If the best lessons are to be learnt from our mistakes then we all need a built-in review system to identify those errors. We shall not decline into a defensive huddle; there is so much to be found out and tested. We are not at the point of lamenting that 'there is nothing left remarkable under the visiting moon).

Crossroads in Medical Computing

Two main streams of medical computing activity have developed in this country and abroad over the past fifteen years. The first has been concerned with the more scientific aspects of medicine, for instance image processing, on-line data analysis, planning of radiation treatment and the making of diagnostic decisions. The other stream, less glamorous but equally important, deals with 'patient administration', covering, for example, the management of waiting-lists, admissions and discharges, appointments and the flow of investigations through 'service' departments. So why have locally successful systems not been more widely adopted?

First, the evaluation techniques used until recently failed to provide potential customers with the right sort of information by which to judge whether a system under scrutiny would be the best solution in cost-benefit terms to their particular problem. In the past four years a new approach to systems evaluation has been supported by the DHSS and applied to manual and computer-based patient administration systems in the NHS. It is too early to be clear about the success or otherwise of the new approach.

The second and perhaps more intractable impediment to the widespread adoption of already developed systems is the problem of transferability. Because of significant differences in practice at different sites, systems have to be flexible if they are to be set up with the minimum of development effort at the new site. Most prototype systems have simply not been developed with this flexibility in mind. The merit of having flexible and, therefore, transferable systems lies in the degree of uniformity of computer technology that would thereby be conferred on the NHS. The advantages of having relatively uniform systems are manifold; they include major economies in local development costs, the ability of systems in different fields of application to communicate with each other, the ease of record linkage within the Health Service (under confidentiality procedures that can be made entirely acceptable) and the ability of computer staff to move freely within the Health Service without re-education in each local system.

The design of flexible systems is no trivial problem. A recent DHSS initiative aimed at developing transferable systems has made little or no headway because of complex administrative difficulties inherent in the management procedures of departmental research. Yet the ultimate rewards of having such systems are potentially so great that it would be very unfortunate if the problem was not picked up by some appropriate organisation. The spectre arises of hospitals acquiring a large number of specialist computer systems, each perfectly satisfactory in their own 'patch' but unable to communicate with other systems holding data about a particular patient in the same hospital, let alone with systems in other hospitals which that patient has also attended; such inability to communicate not only means multiple replication of effort in entry of patient data, but also makes it likely that important information will be missed. There is considerable danger that commercial pressures and the parochial attractiveness of the many 'packaged' systems now on the market might have precisely this effect.

Evidence that the 'flexible' system problem is not insoluble comes from the USA, where there are instances of groups of very large numbers of hospitals using such modules as they need from a unified system. It has many times been remarked that the incentive to adopt such systems in the USA arises from the necessity for billing individuals and health insurance agencies. This is true, but it should also be remembered that any system that records items of expenditure for billing purposes can also be used to generate information about resource utilisation, a facility which, in the UK context, doctors (let alone administrators) should welcome or even demand.

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