

General practice

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Advances in most medical disciplines are usually characterised by the emergence of new technologies and therapeutic discoveries. In general practice, however, recent advances have been more oriented towards the introduction of radical new organisational structures, internal systems, and methods of technological transfer.¹ These developments are shaping new roles for general practitioners within their health services.² Many of these changes have been driven by governments keen to control the spiralling rise in health care costs.

In many countries the increased importance being attached to the primary health care sector is reaching new heights. The example par excellence is the United States, where we are witnessing what amounts to a rebirth of the family physician.³ This seems almost ubiquitous—at a time when most of the major disciplines in medicine are being increasingly dominated by rapid technological advances in genetic engineering and molecular biology.

The Clinton administration, amid a climate of rising health costs generated by the demand for new technologies together with the growing threat of medical litigation, has proposed extensive reforms of the American health care system.³ If these reforms are successfully implemented, the primary health care sector will be placed firmly at the base of the system, with a crucial gate keeping role to regulate access to the high cost secondary and tertiary sectors. The impact of this major policy shift is likely to be far reaching and provide a role model for a number of other countries to follow.

Organisational structures and systems

While the Americans continue their rediscovery of general practice, other countries have in the past year continued to experiment with improvements to the organisation of primary health care services. In the United Kingdom, most of the organisational changes are occurring at the interface between primary and secondary care.⁴ Open access to investigations such as endoscopy⁵ and echocardiography, hospital at home schemes,⁶ and consultant outreach clinics⁷ are all helping to reshape the way in which general practice operates. Formal evaluation of the effectiveness of many of these organisational changes is still in its early days. One exception is fundholding by general practitioners, which is now firmly on the research agenda in a number of countries.⁸ This mechanism of financing general practice has the potential to exert a major influence on shifting the focus of control and responsibility for economic management of health care back into the hands of the general practitioner. However, the long term effect of fundholding on the quality of care remains the subject of considerable debate.⁸

Governments elsewhere have been experimenting with new organisational and financial structures for general practice.⁹ For example, the federal government in Australia provided funding during 1993 to establish 104 independent, locally based networks of general practitioners around the country. Over \$27.5m has enabled each of these networks to establish an infra-

Recent advances in general practice

- Changes in organisation and funding
- Development of information management systems
- Availability of *Haemophilus influenzae* type B vaccine for infants 2 months and over
- Evidence on effectiveness of nicotine gum and patches for smoking cessation in general practice
- Doubts of the value of routine health checks for adults
- Greater emphasis on using results of research in decision making

structure from which integrated, community based health services can be delivered above those already provided as part of the current “fee for service” remuneration system. These networks, known as divisions of general practice, have met with widespread support from within the profession and may act as the catalyst of more radical change in provision and financing of health care in the future.¹⁰

Information systems

A major challenge facing general practice is the need for effective information management systems. Systems are being created to form “information highways” that can link general practitioners with a range of other health care professionals.¹¹ These developments have had a major impact on general practitioners in several countries. A growing number of general practitioners now use computerised medical records^{12,13} and prescribing routinely. Sophisticated recall and reminder systems are being developed at an amazing rate.¹⁴ Record linkage between hospitals and general practice has been improved, and there have been advances in providing computerised diagnostic and therapeutic decision support systems at the general practitioner’s desk.^{15,16} These developments should help general practitioners cope with the growing amount of clinical and technical information needed to provide optimal health care, as well as providing large clinical databases that can be used for research and enhancing quality assurance.

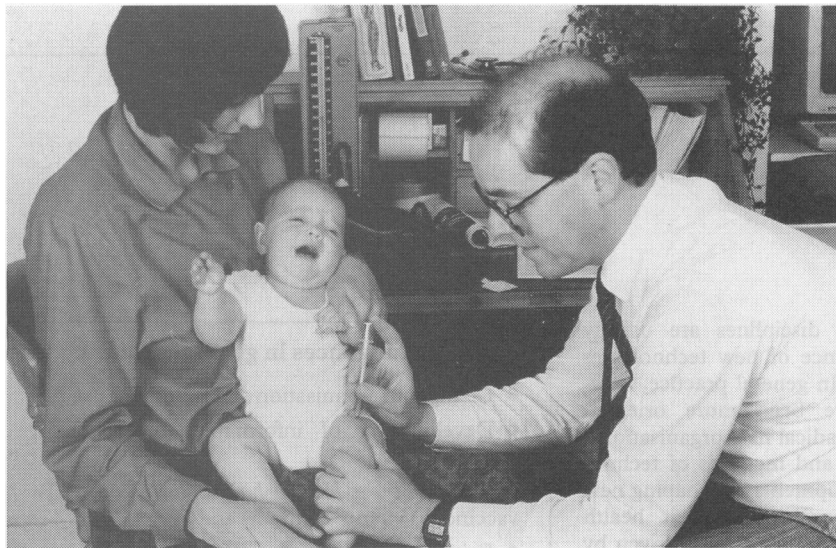
In countries with a high proportion of rural practitioners, technology development is helping to overcome professional isolation and foster increased communication with other practitioners. Use of video conferencing¹⁷ and interactive computerised patient assessment and education software¹⁸ and the emergence of rural satellite and communication networks have become more common features of general practice in many countries.¹⁹

Despite the rapid advances in the use of these new information technologies some issues still need to be resolved—for example, the storage and transfer of large amounts of confidential data raise concerns about confidentiality, access, and ownership of data.²⁰

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PRIEST/CLARKE/SPL

Haemophilus influenzae type B vaccine for infants 2 months and over is now available

Clinical advances

In many disciplines clinical advances occur at a breathtaking speed; however, by the time they reach general practice the "advances" are usually well established and accepted in routine specialist practice. During 1993 there have been two notable exceptions to this pattern: the availability of conjugate *Haemophilus influenzae* type B vaccines which confer immunity on infants aged 2 months and over²¹ and new pharmacological agents to help in stopping smoking.²²

HAEMOPHILUS INFLUENZAE B

H influenzae type B is the leading cause of meningitis and epiglottitis in young children.²¹ Until recently the only vaccine was a pure polysaccharide that was effective only in infants aged 18 months or older. During the past few years there have been several new conjugated polysaccharide vaccines developed which have been shown in clinical trials to protect infants aged 2 months or more.²¹ The success of these trials means that it is feasible to include immunisation against this common, and potentially fatal, condition as part of the routine childhood immunisation schedule in some countries.²³

SMOKING CESSATION

General practitioners have always had the potential to play an important part in helping smokers to quit. Early results of clinical trials involving brief advice from general practitioners produced only modest results.²⁴ The development of nicotine chewing gum during the 1970s was a major advance as it represented the first effective pharmacological aid that could be used with almost any smoker.²⁵ Early results of clinical trials suggested that the gum was less effective when used in a general practice setting than in more specialised smoking cessation clinics,²⁵ but two recent meta-analyses found that there was no difference in effectiveness when nicotine gum was used in general practice compared with other settings.^{26 27}

An even more exciting development is the availability of transdermal patches for clinical use in general practice. Three trials of nicotine patches undertaken in general practice were reported in the past year—all resulted in at least a doubling of the proportion of smokers who remained abstinent six to 12 months after treatment.²⁸⁻³⁰ A recent meta-analysis calculated the combined odds of quitting with active versus placebo nicotine patches as 2.6 at the end of treatment and 3.0 after six months.²¹ These results did not differ significantly according to the number of hours the patch was worn for each day, the strength of the patch, the duration of use, the setting in which the patches were

used, or the intensity of additional counselling support provided to help smokers quit. Innovative strategies are still required to encourage more general practitioners to become involved in helping smokers in their practices to quit.

Delayed clinical advances

Often there is a considerable lag between the time that evidence from primary research is first available and the incorporation of such results into clinical practice.³¹ Although this problem is common to most medical disciplines, the delays are often accentuated in general practice. For example, compelling evidence that use of aspirin given early in the course of acute myocardial infarction has a beneficial effect on morbidity and mortality was summarised in the research literature six years ago.³² In the United Kingdom, the British Heart Foundation issued national guidelines for general practitioners to adopt this practice in 1989.³³ Despite this evidence and the subsequent guidelines, research undertaken in the past 12 months found that less than a fifth of patients with a suspected acute myocardial infarction received any aspirin before hospital admission³⁴ and 40% of general practitioners did not even carry aspirin in their doctor's bag.³⁵

A few myths dispelled

In a similar context, it may take an even longer time for ineffective therapies or services to be removed from routine medical practice. In the past year there has been considerable evidence in two areas that warrant a rethinking of current practice. The first of these is the evidence that unselective screening of general practice populations is an ineffective way of significantly reducing cardiovascular risk.³⁶⁻³⁸ The second issue is the lack of convincing evidence to support the use of peak flow monitoring as part of the routine monitoring in general practice of patients with mild asthma.^{39 40} In the past these procedures have been advocated as having major roles in preventing cardiovascular disease and asthma.

The British government first introduced the requirement for health checks to be performed on a routine basis for all adults into the 1990 general practitioners' contract. However, the results of a number of studies, including two large randomised trials conducted in the United Kingdom and published earlier this year,^{36 37} have raised substantial doubt about the value of this practice.

In reporting the results of the one year follow up of 2136 subjects in the OXCHECK trial³⁶ the investigators found a non-significant reduction in total cholesterol and diastolic blood pressure among patients who had received health checks. Smoking prevalence, quit rates, and body mass index all remained unchanged. The larger family heart study (involving 12 472 subjects) produced similar results, with marginal reductions in blood pressure, cigarette smoking, and serum cholesterol value.³⁷ These reductions translate into only a 12% decline in the overall risk of coronary events among the population, which is very disappointing, particularly in a public health context. Above all, both studies highlighted the need for government policy to reflect research rather than vice versa.

In one sense the acid test of whether a discipline really "advances" is the extent to which the evidence derived from scientific discovery is able to be incorporated into routine clinical practice.⁴¹ Traditionally, general practice has relied more on the art rather than the science, but in recent years considerable efforts have been made to change this way of thinking. Greater

emphasis is now being placed on the importance of a solid base of evidence to support decision making.^{41 42} The response internationally from the general practice community to developments such as the Cochrane Collaboration,⁴² quality assurance programmes,⁴¹ and the increased opportunities for higher degree training have been both positive and enthusiastic.⁴³ The willingness of general practice to accept this growing culture toward a more scientific base to the discipline offers considerable hope for continuation and acceptance of further advances in the future.

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CHANGING ROLES

The specialist hospitals

The historical distortions in clinical service are also observed independently in postgraduate medical education. The development of the specialist hospitals in the nineteenth century with no undergraduate teaching responsibilities created institutions which offered a unique national service and specialist experience. Like the undergraduate teaching hospitals, they have also been exceptionally well endowed with both consultants and more junior medical staff. To a large extent they have been sheltered from the redistribution of junior staff between London and the provinces which has taken place over the past decade. No doubt if we were starting afresh they would have been associated with universities elsewhere in the country, but history has determined otherwise and their position for the main part in central London compounds the London problem.

They are also the products of their age. For example, there is no specialist postgraduate hospital dealing with the major medical problem of contemporary society—the care of the aged—and their contribution to this subject has been small. When they acted as national referral centres there was a strong argument for the junior doctor with specialist ambitions to spend a period working in them. Specialist services grew up, however, within the undergraduate hospitals elsewhere in Britain; and even in

London undergraduate teaching hospitals compete in offering clinical specialist services in such specialties as cardiology, thoracic medicine, paediatrics, and neurology.

So far the special health authorities which manage the postgraduate hospitals have been afforded a (cash limited) protection from the rigors of the internal market, but the Tomlinson report proposes that this should be ended. Even without this threat, however, their strength in the range of clinical experience they offer has been progressively eroded by the growth of services elsewhere.

The postgraduate specialist hospitals are argued still to offer unique experience in new developments at the frontiers of medical science. Here again, however, their pre-eminent role has been overtaken as their position as national referral centres has declined. It is difficult to see how it could have been otherwise. Now innovative work in the medical specialties is much more evenly dispersed in specialist units across Britain. The special health authorities still have their great international strengths: like all other teaching hospitals, they also have their manifest areas of weakness.

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