The primary care workforce crisis: a time for decisive action

THERE has been much talk of the recruitment crisis in general practice, which is usually ascribed to the effects of both the content and the implementation of the 1990 contract. General practitioners, however, have historically demonstrated their ability to adapt effectively to rapid change in both health care and the health service, and it might have been expected that any effects carried over from the start of the decade would be beginning to fade. It is timely, therefore, to examine more closely some of the factors affecting recruitment. Further information and more extensive references can be found in the RCGP publication *The Primary Care Workforce — a Descriptive Analysis*, published in December 1996.

There is no shortage of applicants for the 4500 places in British medical schools, and those of us who interview prospective medical students are impressed by the preparation and commitment of these young people. The great majority of entrants are school leavers and half are women. Typically, they will have a range of GCSEs at grade A or A*, three science A Levels with grades of at least AAB, a range of sporting and often musical achievements, and a consistent record of community service. They are person-centred and demonstrate a high level of communication skills. They are arguably the best of the best. By the time they become senior house officers, after six years of close association with our profession, two-thirds of them will have had serious doubts about their choice of career, and one-fifth of them will be actively regretting becoming doctors and will be seeking careers in other fields. Many of those who continue in medicine suffer from high levels of stress and serious crises of morale; increasingly, they are expressing an interest in working less than full-time and in seeking early retirement (Allen I. *The career choices of medical students and junior doctors.* Unpublished ms). A recent survey in the North West region of England identified almost one thousand doctors who had graduated from the universities of Liverpool and Manchester in the previous 10 years and who were not working in the profession. Extrapolation of this position would indicate that we are currently wasting the equivalent of the total output of two large provincial medical schools. Against this, any arguments for new medical schools would appear spurious.

There is, I believe, good reason to critically reconsider a medical education system which asks young people at 17 years of age to make irrevocable choices (often based on incomplete or erroneous information about what a medical career entails), which tests their commitment by making them pass knowledge-based science examinations at 18 years, and which expects them to function well in a job where uncertainty and incompleteness of information are the norm, and where knowledge of people and their behaviour is a core requirement. It is perhaps time to have a more public debate about the advantages and disadvantages of a graduate entry to our medical schools. However, because these young people are motivated, intelligent and adaptable (and because medicine is a broad-based discipline well able to accommodate a wide range of professionals, from laboratory-oriented scientists to patient-centred generalists), we might still succeed in sustaining the workforce, despite the inappropriate entry gate, if we were committed to providing high-quality personal and career guidance and support from 16 to 65 years of age.

If we were able to keep a larger number of doctors from leaving the system, what would the implications be for general practice? It has usually been accepted that around half the medical graduates in this country will enter general practice. While the supply of doctors into general practice was adequate, there was a degree of complacency and certainly no systematic enquiry into their motivations. As recruitment has become increasingly difficult, a number of studies have highlighted disturbing facts about career choice which might indicate that many general practitioners have perhaps not entered our branch of the profession as a preferred choice. Field and Lennox[1] in Leicester Medical School found that only around one in eight of the first-year students was planning a career in general practice. By the fifth year the proportion had increased, but only to a wholly inadequate one in five. Even this increase may not be due to the gradual realization of the attractions of a career in general practice. Petchey and colleagues[2] have described how career decisions are often based on negative choices, on the influence and prejudices of senior hospital doctors, and on chance. There is little opportunity at present to actively influence graduates towards a career in general practice during their pre-registration year; even when the 1983 Medical Act is changed to allow more potential placements in general practice, and the General Medical Council has made its expected recommendations, there will still be serious obstacles to having a significant number of pre-registration house officers in general practice. These obstacles include the entrenched positions of some of our specialist colleagues and the difficulties of persuading enough general practitioners to take on this important educational role in the face of increasing service pressures.

For doctors who have reached the senior house officer grade, the Calman reforms of specialist training should lead to a better-defined and shorter career path to becoming a consultant. The improved transparency of appointment processes and criteria for specialist registrar posts, and the greater acceptance of the need for flexible training and working, should remove many of the disincentives which currently cause doctors to enter general practice for negative reasons. Considering also that workforce planning in the NHS has historically been driven by the Specialist Workforce Advisory Group — which appears to respond in a consistently inadequate way both to the needs of general practice and to the expressed central policy of transferring clinical activity and the locus of decision making to primary care — it is easy to see why recruitment into general practice is under so much pressure.

Why have the recruitment problems not been recognised and dealt with sooner? While the overall number of principals in general practice has continued to rise, and the number of registrars in the general practice phase of training has broadly matched the number of vacancies, it has been easy to deny the burgeoning crisis, and our branch of the profession has almost certainly been guilty of understating the problems. The emphasis on reducing average list size rather than increasing consultation length has tended to weaken the argument for more general practitioners. The stark reality now is that the number of male principals is falling while the small majority of women trainees pushes the proportion of women principals towards one-third of the total. Women currently work for around three-quarters of the time worked by their male colleagues throughout a career, and all principals (in line with general trends in working patterns) are seeking increased leisure time and shorter careers. Training numbers are inflated by non-UK EEC graduates who now account for around 10 per cent of the total. It is thought that half of these trainees ultimately practice outside the UK. Overall, it has been estimated that to replace one hundred retiring principals with a medical workforce delivering an equivalent amount of care would require us to train one hundred and fifty trainees. Recruitment difficulties mean that we are actually training only a little more than half this number.

It has been suggested that now is the time to consider introducing major changes into the skill-mix of primary health care teams so that appropriately trained nurses can undertake many of the tasks now managed by doctors. Even if general practitioners were prepared to accept an unrelieved diet of complex problems and demanding patients, and to cope with list sizes of around 4000, there is little evidence that present nursing capacity could manage the extra workload suggested. Nursing has suffered planned neglect over the past 10 years and pre-registration nursing intake has fallen by more than a third. More than one-fifth of nurses on the register are over 50 years of age.[3] Although practice nurses show the lowest levels of turnover and wastage, the diversity of their experience, training, roles and expectations leaves them inadequately prepared to take on a wider range of tasks in primary care.[4]

The time is right for the locus of control of the NHS to move closer to the community it serves, and general practitioners and their primary health care teams are uniquely placed to lead this movement. Unfortunately, unless solutions can soon be found and recruitment and retention improved, we are in danger of squandering the greatest opportunity that has come our way since 1948 to influence the development of the service.

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Primary care telemedicine in the UK

TELEMEDICINE has been in existence for at least 25 years. The advantages claimed for the technique include improved access to health care, especially in rural areas, educational benefits for the participants, a more consistent standard of medical practice and cheaper health care delivery. Many of these claims are at least plausible, although scientific evidence is currently lacking.[1] Most early telemedicine projects have withered, after initial enthusiasm, because of organizational, technological and communication problems. Recent improvements in these areas, together with a convergence of economic and political aims, has led to rapid development.

Telemedicine has been defined in general terms to be 'medicine practised at a distance' and, as such, it encompasses both diagnosis and treatment as well as medical education.[1] In the primary care setting, it offers enhanced community-based care, convenience for patients and the potential for skills transfer, along with opportunities for medical education.[2] There is enormous scope for telemedicine in the primary care setting. In the UK, nearly 300 million GP consultations are carried out per year, which result in some 40–50 000 hospital outpatient consultations per day. At present, communication between GP and hospital, and between hospital and patient, is largely by mail, the result being long administrative delays in the consulting process.[3] Telemedicine offers the possibility of reducing or eliminating these delays. It is also envisaged that mobile telecare systems could have potential when visiting patients' homes; and clinical techniques, such as the monitoring of fetal heart rate, maternal blood pressure and uterine activity, may be a more reliable index of the true clinical state and can be recorded on a portable computer or transmitted for further analysis.[4] District nurses could relay images of leg ulcers, for example, from patients' homes for advice on clinical management. The ideal of the home-based, patient-centred, case conference without the need for the physical presence of primary care team members is now possible.

Medicolegally, the teleconsultation is no different in principle from a traditional consultation in which telephone, fax, e-mail or letter is used instead. The general practitioner has a duty to practise to a reasonable standard; for example, he or she must give an adequate history to the consultant and, if necessary, perform a reasonable examination. The GP must also obtain the patient's consent if the consultation is to be recorded for use in continuing medical education, for example. The content of the video may be accessed by the patient in the same way as written records. Clinicians will also need to keep some record (video or written) of the content of the consultation.[5]

Primary care telemedicine is being actively researched by groups in England (London),[6] Wales (Powys),[2] Scotland (Aberdeen)[7] and Northern Ireland (Belfast).[8] All groups are using low-cost videoconferencing equipment in a primary care setting with ISDN2 (a digital network available throughout the UK) as the communications medium. Most of the work has concerned point-to-point links between GP and hospital with relatively small numbers of patients. A few formal research trials are in progress. The largest study to date is the UK Multicentre Teledermatology Trial, in which a formal evaluation of diagnostic accuracy and the Health Service economics of teledermatology is being conducted in Belfast, Craigavon, Manchester and Hamilton (New Zealand). Several hundred patients have now been studied. Preliminary results confirm benefits to the GP in terms of problem-based learning and instant access, and benefits to the patient (the use of telemedicine is convenient and no dermatological condition is contra-indicated on technical grounds).[9]

The next largest trial is the Saviour Project, Aberdeen,[7] in which teleconsulting, teleradiology and telepresence are being used to support GPs in a small community hospital. More than 100 patients have been studied, of whom more than half were saved a long ambulance journey through the use of the telemedicine link. In the remaining projects, smaller numbers of patients appear to have been studied. In Wales, teledermatology and nurse education are being examined.[2] In London (Royal Free Hospital) teleconsulting between GP and hospital is being investigated.[6]

The only primary care telemedicine project that has so far achieved routine (i.e. unsubsidized) status is the Minor Injuries Link between London and Belfast. Medical advice from Belfast is used to support nurse practitioners who run a minor treatment centre in central London. Nurses work to strict protocols and carry out procedures, such as suturing wounds, as well as prescribing from a limited list. More than 20 000 patients have been studied, and in a small proportion of these the telelink has been used mainly to confirm diagnosis or discuss management. In the 12 months following the introduction of the link, the proportion of patients being referred from the minor treatment centre to general practice fell from 11.9% to 3.8%.

The operation has proved extremely successful and highly cost-effective.[10]

Although low-cost, primary care telemedicine remains an area of active research in the UK; all groups seem to agree that it is feasible and that the technique is acceptable to patients and carers alike. The major unanswered questions relate to its economics in the context of the NHS.

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Resuscitation by general practitioners

FEW medical emergencies present such a profound challenge to the general practitioner as the patient who suffers a cardiac arrest; the ability of the doctor to manage the situation will profoundly influence the patient's chances of survival. Cardiac arrest complicating the early stages of acute myocardial infarction is by far the most common cause of cardiac arrest that general practitioners are required to treat,[1,2] and several clinical studies have shown that approximately 5% of patients with acute infarction attended by a general practitioner actually arrest in his presence.[3,4] An eminently treatable ventricular arrhythmia, most commonly ventricular fibrillation, is responsible for cardiac arrest in the great majority of these cases, and prompt defibrillation will restore a normal rhythm in 70% of cases.[5] Asystolic arrest and electromechanical dissociation, which carry a much worse prognosis, are responsible much less frequently. Around half of the patients who arrest in the presence of their general practitioner ultimately survive to leave hospital if the doctor can defibrillate and provide other advanced life support measures.[3,4,5] The British Heart Foundation recommends that general practitioners treating patients with acute myocardial infarction should attend simultaneously with the ambulance service when it is necessary to guarantee that a defibrillator is available.[6]

The European Resuscitation Council (ERC) has been instrumental in formulating guidelines for the management of cardiac arrest, and these have been adopted in most European countries.[7] The procedures recommended in the guidelines are based on the best evidence available from clinical and scientific studies of the management of cardiac arrest, and are regularly revised to incorporate new advances. Current advanced life support guidelines emphasize the importance of early defibrillation. The role of drugs is considered less important; only adrenaline (to increase the effectiveness of basic life support) and atropine (for asystolic arrest) receive prominence. The International Liaison Committee on Resuscitation (ILCOR) hopes to produce similar guidelines acceptable throughout the world by the year 2000.

While the treatment of cardiac arrest has become more 'evidence based' and consistent, training in resuscitation techniques has also recently become standardized and more widely available. A series of papers published in the 1980s had reported serious deficiencies in the ability of trained nurses and junior hospital doctors to perform both basic and advanced life support techniques. In the United Kingdom, the Advanced Life Support (ALS) course of the Resuscitation Council (UK), which teaches both the theory and practical skills necessary to manage cardiopulmonary arrests in adults, was launched to remedy this situation. A uniform approach is adopted so that participants are trained to the same standard whatever their grade and wherever the course is held. The intensive course is designed for medical, nursing and paramedical staff, the emphasis throughout being on practical skills, with formal lectures occupying less than half the programme. At the end of the course, theoretical knowledge and practical ability are tested according to stringent criteria and successful candidates receive a certificate valid for 3 years. A total of 202 courses were held in 1995; 309 have taken place or are planned for 1996. The average number trained on each course is 25, the majority of participants being junior doctors who make up cardiac arrest teams, or nurses working in high-dependency areas, who also frequently manage patients with cardiac arrest. More recently, courses exclusively for hospital consultants have been held.

How have general practitioners been affected by these developments in the training and practice of resuscitation? The paper by West and Penfold[8] provides valuable information on this subject. Only a minority of the doctors in Suffolk who completed a postal questionnaire anonymously carried adequate equipment to manage a cardiac arrest. Only 16% carried a defibrillator that would allow a diagnosis of ventricular fibrillation to be made. The survey did not report on liaison with the local ambulance service, but the authors suggest that reliance was placed on it to provide the necessary equipment.

Knowledge of the recommended procedures for managing ventricular fibrillation was also assessed, and the results give further cause for concern. Over 90% of respondents recognized ventricular fibrillation correctly, but fewer than half had read

the current ERC guidelines for its management, and only 16% could quote correctly the first two steps recommended for its management; 10% had 'no idea' what to do. Only a small number (13%) of the general practitioners in this survey had attended an ALS course.

General practitioners who are appropriately trained and equipped to manage cardiac arrest undoubtedly save lives,[1,2,3,4,9] but the results of this survey demonstrate that such doctors are in the minority. Measures to improve the situation will need to address two distinct issues — equipment and training. The defibrillator is the most important (and expensive) item of equipment, but many practices already own one; surely every cooperative that provides out-of-hours cover for the patients of several practices should have one. The cost of other essential equipment and drugs is comparatively modest. Training in resuscitation techniques is available through the ALS course, and other suitable (although less comprehensive) courses exist. In most areas of the country, the district resuscitation training officer should also be able to provide suitable training.

The authors have opened an important debate about how resuscitation is provided in primary care, and how the necessary skills are taught and maintained. The Royal College of General Practitioners wisely insists that candidates for membership are proficient in basic life support, and the college might take a leading role in improving standards of advanced life support. Resuscitation skills decay with time, however, and need to be practised regularly; the demonstration of proficiency at one time in a doctor's career (for example, when taking the MRCGP examination) does not guarantee the maintenance of adequate levels of skill. The study reported in this issue has demonstrated a problem that needs to be addressed urgently. It is clearly unsatisfactory that the initial treatment of patients in the early stages of acute myocardial infarction should be provided by doctors untrained and ill-equipped to manage the most common lethal complication of this condition at the very time when it is most likely to occur.

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