are few data from which to calculate a requirement. Politicians and planners feel comfortable or uncomfortable only when specific figures are offered rather than vague generalisations. It is, therefore, important to try to establish the starting point relevant to the early 1990s in order to convince those that are responsible for overall planning and funding that there is an increasing need to train skilled personnel in all the health professions but particularly in medicine.

The public, practitioners, and the patients want their treatment carried out by competent trained doctors to the highest standards. That means largely by consultants. The Association of Surgeons of Great Britain and Ireland considers that the desirable ratio of consultant surgeons to a catchment population is 1:30 000.² This is calculated from such accurate activity analysis as that from Taunton,³ in which the total general surgical activity in both NHS and private practice that was required in the year 1990-1 for a relatively captive population in west Somerset was as follows: 25.1 new outpatient referrals per 1000 population; 28.1 intermediate equivalent (hernia) operations per 1000 population.⁴

By using the workload recommendations of the Royal College of Surgeons of England⁵ it becomes possible to calculate how the outpatient and operative workload requirements of the population can be met. If 10%-15% of the total activity is carried out in private practice and a similar proportion is carried out by trainees without the direct supervision of a consultant then one consultant is required for approximately 30 000 population. This compares with a current average in England and Wales of 1:50 000.

An increase in consultant surgeons would have several benefits. It would help to reduce the caseload and so permit the conditions of the Patient's Charter to be met and would make it possible for consultants to be more involved in the routine care of patients, both emergency and elective, and so diminish the responsibilities of junior doctors for service commitment. The goal of one consultant general surgeon for 30 000 population is modest when compared with international comparisons or even with Scotland, where there is currently one consultant for 31 000 population, and Northern Ireland, where there is one for 28 000. Assessments of this sort would form a basis for quantitative calculations of the needs of the future.

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- 1 Brearley S. How many doctors does Britain need by 2010? *BMJ* 1993;306:155-6. (16 January.)
- 2 Association of Surgeons of Great Britain and Ireland. *General surgical workload*. St Helier: HGM, 1992.
- 3 Collins CD. Providing the ideal surgical service. *Ann R Coll Surg Engl* 1993;75(suppl):22.
- 4 Collins CD. Recommended values for use in surgical audit and surgical workload analysis. *Ann R Coll Surg Engl* 1991; 73(suppl):94.
- 5 Royal College of Surgeons of England. *General surgical workload and the provider/purchaser contract: notes for guidance*. London: RCS, 1990.

EDITOR,—Stephen Brearley argues that the Medical Manpower Standing Advisory Committee may have grossly underestimated the need for increasing the intake of medical schools.¹

Certainly, when Medical Forum was asked to submit evidence its comment that an increasing number of doctors were seeking careers outside medicine was met by an attitude akin to "well this has always happened," as if to brush the issue under the carpet. Any acknowledgement that there is an impending massive crisis in medical recruitment is missing from the committee's report.

Improving selection and retention of medical staff to redress the expected deficit in manpower would be an alternative or additional approach.

Perhaps this is considered too expensive, but it is hard to believe that 240 doctors can be trained at no capital cost, even if there is head space at medical schools.

The issue of dwindling medical manpower in the face of increasing demand needs a three pronged attack through selection procedures, training, and making the job rewarding and enjoyable enough for people to want to do it. If all three aspects are not addressed the 240 additional cannon fodder will not remain in the system either.

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- 1 Brearley S. How many doctors does Britain need by 2010? *BMJ* 1993;306:155-6. (16 January.)

Medical education

EDITOR,—In her series on medical education Stella Lowry has failed to mention one major initiative in community based medical education. The department of primary care at University College London Medical School has been running a community based general medical firm for first year clinical students since September 1991. This six week firm has replaced one of the traditional hospital based medical firms. The model that we have developed is to attach students in pairs to a general practice tutor in a teaching practice. The students spend half the week in the practice, where they see patients at home or in the surgery. They are expected to take a full medical history and perform a physical examination. Once they have finished they are joined by their tutor, who goes through the history and supervises their examination skills.

The programme is structured, and tutors are asked to ensure that students see patients with problems pertaining to the "topic of the week." These topics are chosen to reflect prevalent clinically important medical conditions—for example, ischaemic heart disease, diabetes, asthma and chronic obstructive airways disease, common cancers, and stroke and other common neurological conditions. At the end of each week there is a plenary session on the topic of the week, in which students present patients they have seen and reflect on what they have learnt. The programme is problem oriented and concentrates on teaching the core clinical skills of history taking, physical examination, and communication with patients. The department also runs seminars on developing clinical and communication skills to reinforce the students' experience in the practices.

Students find the firm both educational and enjoyable; in particular they appreciate the one to one teaching from the general practice tutor and the structured nature of the firm. The programme developed from a pilot study with four students per firm. This academic year the number of students per firm has increased to eight and we are collaborating with the department of oncology at the Whittington Hospital, which undertakes a fifth of the teaching. Next year we intend to have two parallel firms of eight students each. This will account for half the 215 students in the year, and we hope to continue expanding until all first year students participate in one community based general medical firm.

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- 1 Lowry S. Trends in health care and their effects on medical education. *BMJ* 1993;306:255-8. (23 January.)

Undergraduate medical education

EDITOR,—The article by Lesley Rees and John Wass is an excellent example of factual and well reasoned analysis¹; it must not be ignored. The academic excellence of the University of London is based on its federation and on the diversity of the medical schools and other university institutions.

Deans of Medical Schools in Britain and throughout the world favour an annual intake of 100-150 students. Above this number the staff-student relationship, vital in medicine, deteriorates rapidly, with concomitant loss of quality of teaching at the bedside and in the laboratory.

There is no evidence that excellence is a prerogative of size. There is also little to support the contention that teaching and research in medical schools are improved by mergers into multifaculty institutions with large departments of biological sciences. The loss of basic medical sciences can only be detrimental to clinical teaching and research and to the staff of university hospitals. There are no factual data that amalgamation of institutions has any advantages beyond economies of some central services such as catering and purchasing, and perhaps administrative convenience.

London attracts about 20% more students than the provincial multifaculty universities, as well as a large proportion of clinical students from Oxford and Cambridge. The costs of training a student in London are no greater than in the rest of England. There has been a consistent increase in the number of well qualified applicants of about 30% to the Royal Free Hospital School of Medicine, and we are able to admit only one in 18 applicants. Yet current government policy is based after all on choice, market forces, and competition.

Further restructuring of medical schools in London will lead to:

- loss of the ability of medical schools to define priorities;
- loss of ability to develop innovative teaching and research;
- larger classes;
- separation of basic medical science and clinical sciences; and
- the loss of the new integrated preclinical and clinical courses.

Although realistic estimates of the capital costs to the university for radical restructuring are not available, these are known to be substantial (perhaps £200m immediately), and the implications of all the Tomlinson proposals to the wellbeing of Londoners, to the university, and to the practice of medicine in London must be viewed with great concern.

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- 1 Rees L, Wass J. Undergraduate medical education. *BMJ* 1993; 306:258. (23 January.)

Death from cancer at home

EDITOR,—R H V Jones and colleagues in their follow up study of cancer deaths at home comment that patients' pain was relieved more effectively than any of the other symptoms.¹ But of the 207 patients in the study, 42 received only moderate relief of pain—and eight had no relief of pain in their final month of life. Three patients refused all analgesia, but even so 25% of their patients did not receive adequate analgesia.

This clearly highlights that the primary care team was not performing well with any aspect of symptom control. The list of accessibility of professional support does not mention any help,