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Further views on medical manpower

Doctors are profoundly worried about medical manpower,¹ and hence they ought to examine critically the two recent papers on manpower—from the DHSS² and by Maynard and Walker³ at York. Both show signs of having been produced in haste, understandably in the case of the York team, working to the Royal Commission's tight schedule. Furthermore, each report based its projections on numbers of doctors in 1975; the 1977 data (see p 595) show substantial differences, so that was not an encouraging start. Neither was it encouraging to see in the DHSS paper a doctor-population curve, of the familiar Todd kind, extrapolated to the year 2000 despite the fact that the actual point for 1975 was shown as further from the line than any other. The quoted numbers of British graduates did not even correspond in the two reports, since one gave the numbers up to the end of the year and the other up to 31 July.

Both reports made general comments on familiar problems such as immigration and emigration, the role of women, substituting non-medical manpower, and employing general practitioners in hospitals. Nothing new emerged; and, despite the usual complaints about lack of data, some relevant recent work (such as that of Beaumont³ on women doctors) was not included in the DHSS paper. The approaches to forecasting and some of the conclusions in this paper recalled work already published⁴—it pointed out, for instance, that without continuing immigration the total number of doctors in Britain must actually fall until at least the mid-1980s, and suggested that thereafter the number of overseas doctors likely to find employment was best regarded as an outcome of the calculations rather than a figure to be fed into them.

How many doctors will there be in Britain by the end of this century? The DHSS paper gave two estimates for the number of active practitioners in 2000, one based on no future immigration of overseas doctors (92 100) and the other on no net immigration—that is, a balance of inflow and outflow (109 600). An appendix explored alternative assumptions such as about retirement age and the working capacity of women doctors. Nevertheless, the basic projection used was difficult to relate to the main text since it did not include temporarily registered doctors. Maynard and Walker gave a "best guess" for the number of active doctors in 2000 (89 800), a high estimate (98 600), and a low estimate (72 100). Direct comparison with the DHSS figures is not easy since the assumptions were not identical, and the estimates of immigration used by the York group (which seem to be intended as gross figures) were almost certainly too low. So the current expert estimates of the number of doctors in 2000 range from 72 000 to almost 110 000;

and this vast degree of uncertainty is perhaps the most striking feature of their attempts to see 25 years ahead.

For some time economists have been emphasising that the important balance is not between the number of doctors trained and the number "needed" but between the number trained and the number we can afford to employ. Maynard and Walker were particularly anxious to avoid playing a mere "numbers game," but they seem merely to have developed the game by including economic factors instead of tackling the crucial question of how best to meet the health needs of the community. The DHSS paper took the possible growth in GNP (conservatively put at 2.5% a year) and the proportion of this likely to be spent on health services and concluded that we shall be able to afford a growth of 1.2% a year in the number of doctors. This is a wide margin, but even a 1.5% rate of growth would imply a higher number in 2000 than the upper prediction of 109 600, which offers some reassurance. The paper attempted no further detail, and made only a weak comment on the difficulties of costing, for example, the family practitioner service. The York group took into account salary costs, the drug bill, and hospital expenditure; interestingly, the DHSS paper provided collateral support for the York assumption of a close relation between hospital expenditure and the number of hospital doctors. How the drug bill in general practice is related to the number of doctors is another matter, but so far as the analysis went—and again comparisons are difficult because of the different ways of presenting data—there seemed to be no serious conflict with the DHSS conclusions. The whole of this part of the exercise showed once more how insubstantial is the work of even the reputable groups studying medical manpower.

On regional distribution, Maynard and Walker gave a comprehensive table showing the present wide and well-known discrepancies and what would be needed to give each region by 1990 a doctor-population ratio equal to the 1975 average for England and Wales—and even more ambitiously equal to the 1975 average for Scotland. The latter would call for 23 500 more doctors in the next 15 years—a target not attainable on any of the assumptions presented. This disparity must raise the general question of how the demand for doctors should be measured; the DHSS paper discussed factors such as demography, changes in medical practice, improvements in service, and scope for reduction in numbers of doctors, as well as regional disparities, but only in general terms. Its rough estimates seem likely to be confusing, however, since some referred to what was needed now, others to the possible need

by 2000, and one (for community medicine) to the requirement "over the next 10 years."

No discussion of medical manpower can make sense without specific assumptions on career structure. Maynard and Walker gave some arbitrary figures to the probability of promotion through the training grades (once again similar to those of other published studies⁵) and hence arrived at figures for the numbers of registrar posts required to accommodate British graduates. In contrast, the DHSS paper showed merely the number of registrar posts needed to give each specialist trainee two years in the grade—hardly an adequate assessment. Its forward look began with the likely number of candidates for career vacancies over the next 10 years and ended with the number of British graduates who might be occupying training posts, at all levels, in the tenth year from now—a computational non sequitur not easy to unravel. Maynard and Walker referred to some tentative work⁶ on the question of what constituted "consultant" work, making their comment more constructive than the DHSS paper's bald statement that nothing is known on this point. Clearly both groups recognised the urgent need to attend to the career structure—on which the profession itself is still divided—but neither report dealt satisfyingly with even the short-term issues.

The twin themes running through both reports are the lack of data and the need for further research. The questions posed have already troubled the profession for an uncomfortably long time. In the introduction to the discussion document, the DHSS defines its aim as setting out "as a basis for debate the assumptions underlying the present medical manpower policy and the broad developments that could be expected to flow from that policy" and to identify areas for further research. Indeed, the profession's representatives were opposed to the DHSS proposing any new policy: the doctors on the Central Manpower Committee wanted a factual document. Let us hope that the debate which the discussion paper is intended to initiate will lead to some clear decisions on manpower. The NHS cannot survive another 30 years of ad hoc policies.

¹ Maynard, A, and Walker, A, *Doctor Manpower 1975-2000: Alternative Forecasts and Their Resource Implications*. Report for the Royal Commission on the National Health Service, Research Paper No 4. London, HMSO, 1978.

² Department of Health and Social Security, Scottish Home and Health Department, Welsh Office, *Medical Manpower—the next Twenty Years*. A discussion paper. 1978.

³ Beaumont, B, *Lancet*, 1978, **2**, 1073.

⁴ Parkhouse, J, *Medical Education*, 1978, **12**, 230.

⁵ Parkhouse, J, *Proceedings of the Royal Society of Medicine*, 1976, **69**, 815.

⁶ Doran, F S A, *British Medical Journal*, 1978, **1**, 385.

Liver injury, drugs, and popular poisons

Adverse hepatic reactions are an established hazard of drug treatment. In 1965 Haubrich listed over 200 agents that produced acute liver injury, from acetazolamide to zoxazolamine.¹ But self-medication may also present a hazard. The mechanisms of toxicity fall broadly into two groups.² Some drugs produce a predictable and often dose-related response, either by direct damage to the liver cells or by interfering with bilirubin metabolism. Others cause damage that varies among individuals and cannot usually be linked to dosage.

The increased prevalence of viral hepatitis after taking oral contraceptives is a recently discovered example of hepatotoxicity³; and after years of controversy halothane has now earned a definite place in the growing list of drugs causing liver disease.⁴ When a patient is known or suspected to have liver disease a careful drug history is essential to diagnosis—the use of phenothiazines or treatment for tuberculosis, for example, may give the clue to the cause of jaundice.

Some patients, however, do not, cannot, or will not tell the whole truth. Many regard taking laxatives as such a routine that they do not volunteer the fact unless specifically questioned. Oxphenisatin^{5 6} (now withdrawn from oral proprietary preparations), danthron,⁷ dioctyl calcium sulfosuccinate,^{6 7} and perhaps even liquid paraffin in large amounts⁸ may cause liver disease. Oral contraceptives are well known to cause cholestasis, peliosis hepatis, and benign liver tumours; but many women do not consider them as drugs and do not tell the doctor they are taking them. Patients may be unaware of being exposed to industrial solvents such as trichloroethylene. This chemical may also be a drug of abuse,⁹ which is likely to be concealed; and similarly glue sniffing can produce toxic hepatic damage, probably from toluene vapour.¹⁰

Furthermore, self-medication has become more popular recently. Patients are more aware of the possibilities for treating their own ailments, partly as a revolt against high technology in hospital medicine. And indeed doctors are even advocating self-treatment for simple diseases as a way of easing the burden on general practice. But there has always been a hard core of resistance to conventional Western medicine, and the current interest in "alternative" medicine has brought "health" foods and herbal medicines into fashion. Thus many people treat themselves for real or imagined ailments, and most of them seem to come to little harm. But not all the agents they use are benign, and some can cause serious injury and even death. Neither patient nor doctor may be aware of their constituents, let alone the possible toxicity of substances taken as medicines.

Various herbal remedies contain alkaloids such as pyrrolidizine, which may cause severe liver damage and death. The genera in which these alkaloids occur include *Senecio* (of which the English ragwort is a species), *Crotalaria*, and *Heliotropium*—all found all over the world. Pyrrolidizine alkaloids have caused liver disease in, for example, Jamaica, South Africa, Israel, Egypt, and India. The plants are ingested as a herbal infusion and also as a food (ackee). Such liver damage was first reported from Jamaica,^{11 12} where occlusive disease of the small branches of the hepatic veins was endemic. This was linked with drinking bush tea—infusions are made of any available herbs (over 200 species are known to be used¹²). *Crotalaria* species are not normally used to make a beverage because of their bitterness, but they are often used for their alleged medicinal properties.¹³ A painful enlargement of the liver (without much jaundice) results; this may be followed by hepatic failure and death, non-portal cirrhosis, or complete recovery. There is a time-lag between ingestion of these alkaloids and onset of symptoms—as long as three months in one fatal case in an Indian epidemic of *Heliotropium* toxicity.¹⁴

These poisonous plants continue to be widely used more than 20 years after the discovery of their hepatotoxicity.¹³ Although those particular herbal medicines appear to be confined to distant countries, herbal tea (particularly the French tisane) is popular in Europe, being made from a wide variety of plants. Some of the medicinal preparations sold