TALKING POINT

Expansion of the medical schools

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There is a wide belief, sanctified by the Royal Commission on Medical Education, that the NHS is short of doctors. Guided mainly by the evidence contained in the Platt Report on the Medical Staffing in the Hospital Service, the commissioners drew up an interim memorandum, in which they stated that by 1964 the shortage of doctors in the hospital service and general practice was severe enough to have caused "public and professional concern."^{1a}

The Royal Commission stated that it would be wrong to correct this shortage by employing foreign graduates from underdeveloped countries, inferring that it would be immoral to do so.^{1b} The BMA Council agreed that it would be foolish to accept this solution.² Nevertheless, this dependence on foreign graduates has taken place and has now been deplored for the additional reason that it is clinically unsatisfactory. The Merrison Report reached the "inescapable conclusion" "that there are substantial numbers of overseas doctors whose skill, and the care they offer to patients fall below that generally acceptable in this country."³

To correct this shortage and escape from the dependence on foreign doctors the Royal Commission recommended that the annual intake of British medical schools should be doubled by 1990. Knowing from the Platt Report that one-third of all British graduates served the hospital service for less than one year and that under a half served for more than two years,^{4a} the commissioners accepted Platt's conclusion that the dependence of the hospital service on foreign graduates could only be avoided if there was a longer period of hospital service for young British doctors.^{4b} So they introduced the vocational training scheme.^{1c} The Government's anxiety to reduce dependence on foreign doctors by a medical school intake of 4000 a year by 1980 is openly admitted. In its current consultative document a "very high priority" is given to this policy.⁵

This paper attempts to calculate numerically whether this policy, taken at its face value and assuming it works perfectly, will result in independence from overseas graduates or not.

Hospital service

As well as stating that more consultants were needed the Platt Committee admitted that there was a critical shortage of staff in the junior grades.^{4c} The shortage was so severe that it had been necessary to appoint 3628 young foreign graduates to prevent "a complete breakdown of medical staffing below the grade of senior registrar."^{4d} The position has deteriorated. According to Merrison there are 7726 foreign junior hospital doctors in England and Wales alone. The report also says that the "maintenance of development of the National Health Service at present involves the admission of a total of between 2500 and 3000 overseas doctors a year."³ Some regional

hospital boards have been complaining for years that they were substantially understaffed "in relation to the norm," and it was always a shortage of junior hospital doctors they meant.^{1a} And the HCSA has issued a report claiming there was still a shortage in those grades of 17 500 against a consultant shortage of 3500.⁶

The first test of the Royal Commission's policy, therefore, is whether from British sources this shortage of junior hospital doctors can be eliminated or reduced. The belief that there is a shortage in the junior grades is based on the fact that established consultants think the existing number is too small to meet the service needs of the hospitals. For example, the HCSA assert that to carry out his duties satisfactorily each consultant needs, on average, three assistants, with a ratio of 1:1.3 between consultants and doctors of intermediate (registrar) grade and 1:1.6 between consultants and doctors of junior (SHO) grade—an overall ratio of 1:2.9.⁶

Ratio agreed in 1969

The aim of the health departments is more modest than that of the HCSA. In 1969, as the result of negotiations between the health departments and the Joint Consultants Committee, it was agreed that the ratio between consultants and the total junior hospital staff ought to be 1:1.3. To achieve this ratio it was decided that the consultant grade

should increase at the rate of 4% per annum and the junior grades at the rate of 2.5% per annum.⁷ This differential growth rate was intended to produce the desired ratio of 1:1.3 by 1978⁷; it was calculated on whole-time equivalents.

Table I shows the pattern of the postgraduate vocational registration scheme in its original form.^{1d} It is rigidly imposed on the calculations without allowing for the shorter period of hospital service for prospective general practitioners now in effect.

In table II the increase in the number of British graduates corresponds with the figures given in the Royal Commission report.^{1e} One of the conclusions reached by the Platt Committee, whose evidence the Royal Commission used, was that the hospital service would never obtain an adequate and efficient junior staff "unless reasonable prospects of a good career in some branch of medicine are assured to the doctors who serve in these capacities."^{4d} It is now generally understood that good career prospects depend on a numerical balance between the number of new graduates entering the NHS and the number of vacancies made for them by death and retirement. It depends equally on constructing the whole system, including the postgraduate training grades and the permanent NHS posts, so that the numbers of posts in each grade are proportional to the tenure of office in years as 1:1.8-1.0. Otherwise there will be bottlenecks, wastage, and frustration. Therefore the number of junior staff have been calculated according to this rule.

The numbers of vocationally trained juniors in table II, were reached as follows. The years 1965-9, for example, have 1830 "interns." As general professional training is for three years this grade will add up to 5490 (1830 × 3). After this grade those aiming at general practice leave the hospital service. To calculate the effect of this loss on the number of junior hospital doctors it is necessary to look at table III, which shows that there are approximately two unrestricted principals for every consultant. Thus the number in the next hospital grade (junior specialist), will only be 1220: that is the original "intern" year divided by three, giving 610, which is then doubled because the tenure of office of a junior specialist is two years. To give the

TABLE I—Original form of postgraduate vocational registration scheme

	Years
Graduation at age of 24	
"Intern" hospital post	1
General registration	
General professional hospital training for all doctors	3
Junior specialist (hospital) or assistant (general practice)	2
Vocational registration at age of 30	
Intensive training for hospital consultants	3
Permanent NHS post	
Consultant—hospital service (retiring at 65)	32
Specialist—hospital service (retiring at 65)	35
Principal—general practice (no retiring age)	35-40

TABLE II—Ratio of consultants to junior hospital doctors

Year	Graduates pa	Consultants at 4% growth pa	Junior staff produced by vocational registration	Ratio
1965-9	1830	10 315	10 370	1:1
1970-4	2350	12 904	13 316	1:1.03
1975-9	3150	15 685	17 850	1:1.14
1980-4	3850	19 084	21 815	1:1.18
1985-9	4250	23 216	24 085	1:1.04
1990-4	4500	28 246	25 500	1:0.9

TABLE III—Doctor-population quotient—Great Britain

Year	Population (million)	Total doctors "active"	Total permanent NHS posts	Unrestricted principals NHS	Unrestricted principals as % of total NHS posts	Patients per doctor
1961	51.28	59 200	31 283	22 820	73	2247:1
1965	53.10	62 700	32 734	22 624	68	2347:1
1975	56.40	68 100	34 761	23 965	69	2353:1
1980	58.4	86 700	43 350	28 900	67	2021:1
1985	60.6	96 400	48 200	32 134	67	1886:1
1990	63.6	107 000	53 500	34 666	67	1755:1
1995	66.5	119 800	59 900	39 934	67	1665:1

policy every advantage and chance of success it has been assumed that all those in the junior specialist grade enter the intensive training grade without loss. This means an intake into this final training grade of 610 doctors per year. As the tenure of the intensive grade is three years it will contain 1830 (610 × 3) members. Adding these figures together gives a total of 10 370.

DEPENDENCE CONTINUES

Despite medical school expansion and the introduction of vocational registration there is no hope of reducing the present heavy dependence of the hospital service on foreign graduates. The ratios of consultants to junior staff show that the expansion will not even reach the 1:1.3 ratio agreed, let alone the 1:2.9 demanded by the HCSEA.

Before accepting these ratios the effect of premature death in the consultant grade ought to be examined. Life tables suggest that one-quarter of the men aged 25 years in the "intern" year will die before they reach the retiring age of 65. If the doomed 25% of existing consultants died in their penultimate year, aged 64, it would have no discernible effect. If the doomed 25% died at the age of 48 years, half way along their career, it would reduce the expansion of the consultant grade by 12.5%, and reduce the rate of expansion from 4% per annum to 3.5% per annum. The effect on the ratio between consultants and junior staff would be to raise the ratio in 1965-9 from 1:1 to 1:1.15 and in 1990-4 from 1:0.9 to 1:1.03. Therefore, the premature death of consultants does not upset my conclusion in the previous paragraph: the hospital service would still remain heavily dependent on foreign graduates to reach the staffing ratios aimed at either 1:1.3 or 1:2.9.

General practice

Unlike the hospital service general practice is not heavily dependent on foreign graduates, so the problem is different. The Royal Commission's belief that there was a shortage of GPs in the NHS at the time rested on the fact that between 1963 and 1965 the number of principals had fallen by 400, that there were 1300 fewer assistants and trainees than there had been in 1956, and that the ratio of the population to principals had risen from 2180:1 (the 1961 figures) to 2280:1. The commissioners argued that by 1975 there ought to be "rather more than 26 500" principals; an increase of 3250 over 1965. To achieve this and to ensure that no list anywhere should exceed 2500 they allotted an extra 5000 doctors to general practice between 1965 and 1975, hoping also to restore the number of trainees.^{1a}

Moreover, they were concerned to prevent a

Age on retirement/resignation/death of unrestricted principals in general practice (England and Wales).

fall in the what they called the "doctor-population quotient": the number of doctors per million of the population, at some future date. Their report contains a graph showing that between 1911 and 1961 the number of doctors per million of the population had been increasing at a steady rate of 1.25% per year.^{1f} Nevertheless, because of a growing demand for medical care, the Royal Commission reached the "firm opinion the needs of the future will not be met by an annual growth rate of less than 1.5% in the doctor-population quotient."^{1g} The report did not, however, state what ratio of population to principal was aimed at in the long run, though the implicit target can be calculated.

Table III shows that the Royal Commission wished to reduce the number of patients for each unrestricted principal to well under 2000—with British graduates not foreign ones. The population figures are taken from the commission's report.^{1h} The number of unrestricted principals in Great Britain (1961, 1965, and 1975) are real. The figures show that for the last 15 years unrestricted principals account for rather over two-thirds of the permanent NHS posts; those for 1980 to 1995 are estimates. The number of unrestricted principals has

been calculated by taking two-thirds of the total number of permanent posts in the NHS—that is, consultants plus unrestricted principals—the total number of permanent posts amounting to one half of the number of "economically active" doctors. This proportion of a half is derived from the real figures for active doctors. The Royal Commission stated that by 1995 there ought to be 119 800 "active" doctors in Great Britain; from this it follows that the corresponding number of unrestricted principals would be 39 934. With the population estimated at 66.5 million we arrive at a ratio of 1665 patients per unrestricted principal. Can the expanded medical schools supply the doctors needed to achieve this doctor-population quotient?

COMPLICATING FACTOR

In 1965 there were 22 624 unrestricted principals in Great Britain. This is the basic number from which withdrawals must be subtracted and the net gain from expansion added. There is, however, a complicating factor, one which did not disturb the calculations for hospital staff. The figure shows that between 30-40% of all unrestricted principals in England and Wales have either died prematurely or withdrawn from general practice before they reach the age of 50. The Royal Commission concluded that a wastage factor of 33.3% must be added to counteract this loss which was due, as well as death, to the employment of doctors outside the NHS by local authorities, the Medical Research Council, universities, armed forces, prison service, administration, and industry. An even larger loss, according to the Royal Commission, was due to emigration, mainly to the highly-developed countries^{1a}—the "emigration hump."

Table IV sets out the increase in the number of unrestricted principals which would result from the expansion of the medical schools 1965-95. The average number who died or retired annually due to age in the first 10 years of this period was 600.* It has been assumed that the decrement of the original stock of 22 624¹² will proceed at the same average rate over the next two decades. The first column shows the annual output of the GP training scheme minus 600. To calculate the total number of unrestricted principals in 1995 the net gain of 32 287 must be added to the original stock of 22 624 with which the calculation started. The grand total, therefore, is 54 911 prospective unrestricted principals by 1995.

If we compare this total with the number of unrestricted principals in 1995 in table III it shows that the training scheme has produced a surplus of 14 977 unrestricted principals—

*This figure is calculated from statistics obtained from the DHSS's evidence to the Review Body in 1965, from the DHSS's annual reports 1968-70, and from the DHSS publication *Health Trends*, 1971-3. The figures for 1974-5 are estimates only.

TABLE IV—Increase in number of principals in general practice

Year	Yearly expansion	Five-year expansion	Wastage of one-third	Five-year net expansion
1965-9	620	3100	1033	2067
1970-4	966	4830	1610	3220
1975-9	1500	7500	2500	5000
1980-4	1966	9830	3277	6553
1985-9	2234	11 170	3723	7447
1990-4	2400	12 000	4000	8000
Totals	10 686	48 430	16 143	32 287

that is, 54 911 minus 39 934, despite an overall wastage of 33.3%.

In practice the size of this surplus will depend mainly on the extent to which the number of women graduates increases in future, and the proportion who decide to train for general practice. In 1960-7 24.7% of British graduates were women.¹¹ Given that 25% of those entering general practice do not resign before the age of 65, the Royal Commission's "wastage factor" goes up from 33.3% to 43.7%, which would reduce the surplus to 10 256. Even this surplus could be abolished if the medical schools increased the proportion of women graduates to half and they all trained for general practice. This would increase the "wastage factor" to 64.5% and the training scheme would produce only 39 817 unrestricted principals. This fits neatly with the 39 934 unrestricted principals required to achieve the desired doctor-population quotient and reduce the average list size to 1665 per unrestricted principal.

This final alternative would avoid medical unemployment but by 1995 would cost the British taxpayer £874 636 000 in 1976 values, with a doctor's training costing £28 000 per graduate.

Even this arrangement might not succeed in eliminating medical unemployment in general practice because the proposed annual rate of growth in the number of unrestricted principals is 4.06%, whereas the real rate of growth of unrestricted principals in Great Britain between 1968 and 1975 was 1.07%.¹²

Conclusion

The policy of expanding medical schools and linking it to vocational registration will fail to remove the heavy dependence on the NHS hospitals on foreign graduates and it will produce unemployment among those trained for general practice.

References

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- ² *Supplement, British Medical Journal*, 1967, 2, 92.
- ³ *Report of the Committee of Inquiry into the Regulation of the Medical Profession*, Cmnd 6018. London, HMSO, 1975.
- ⁴ *Medical Staffing Structure in the Hospital Service, Report of Joint Working Party*, a p 31; b p 28; c p 50; d p 52. London, HMSO, 1961.
- ⁵ *Priorities for Health and Personal Social Services in England*, DHSS, London, HMSO, 1976.
- ⁶ *Hospital Medical Staffing*, Hospital Consultants and Specialists Association, London, HCSA, 1974.
- ⁷ *Supplement, British Medical Journal*, 1969, 4, 54.
- ⁸ Doran, F S A, *Lancet*, 1966, 2, 490.
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- ¹⁰ Doran, F S A, *Supplement, British Medical Journal*, 1973, 1, 71.
- ¹¹ *Health and Personal Social Service Statistics for England* (Summary tables for Great Britain), p 28. London, HMSO, 1973.
- ¹² *Health and Personal Social Service Statistics for England* (Summary tables for Great Britain), p 30. London, HMSO, 1975.

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WMA meets in Brazil

The 30th WHA General Assembly was held in Sao Paulo, Brazil, from 24 to 29 October, under the presidency of Dr Pedro Kassab, President of the Brazilian Medical Association. Mr Walpole Lewin and Dr W Norman-Taylor represented the BMA and six other BMA members attended as observers.

Pollution

The scientific programme was devoted to pollution, and the papers, which included evidence which had been collected on carcinogenesis and mutagenesis, indicated that this subject had alarming implications for the medical profession. And the developing countries are not exempt. The assembly drew up a declaration with the object of drawing the attention of the medical profession to its duty to alert the public to this important matter. The declaration will be distributed to national medical associations in due course.

At the business sessions the dominant theme was the economic position of the WMA. Member associations are finding it difficult to keep up their levels of subscriptions (two Swiss francs per member). Only the generosity of the Brazilian Medical Association had made it possible to hold the assembly this year. As an economy measure the post of Secretary General will not be filled until 1977. In the mean time Dr André Wynen of Belgium will continue to act as honorary Secretary General.

Pensions increase and optants

The following notes have been prepared by the Superannuation Division of the DHSS.

Regulations have recently been made (operative from 1 March 1975) which provide for the payment of pensions increase to regulation 75(1) optants—that is, practitioners on the list of an executive council on 5 July 1948 and part-time specialists in post on that date who

(a) opted to contract out of the National Health Service superannuation scheme in favour of securing their superannuation benefits through their existing contracts or policies of insurance; and

(b) have maintained the relevant policy or policies under the terms of the option agreement to:

- (i) the date of ceasing employment; or
 - (ii) the maturity date of the policy or policies; or
 - (iii) 1 October 1971,
- whichever date is earliest.

The payments to regulation 75(1) optants are based on a notional pension the practitioner would have received if he had been in the Health Service scheme during his period of service as a regulation 75(1) optant. Under the Pensions (Increase) Act 1971 public service pensions are reviewed annually and where necessary are increased in step with increases in the cost of living during the review period (1 July to 30 June). The increases are payable from 1 December following each review period. Payments due to optants who retired or attained age 70 before 1 July 1974 will, however, be payable from 1 March 1975 (the date from which the regulations apply to regulation 75(1) optants) and not from 1 December 1974. The payments will cease on the death of a practitioner.

To qualify for payments under the regulations a regulation 75(1) optant must have completed five years' reckonable service (10 years if he ceased employment before 1 October 1971) and have ceased employment as a regulation 75(1) optant or attained age 70. An optant who has ceased employment must, also, have:

(a) attained age 60 (55 if mental health officer with 20 years' mental health officer service) at date of ceasing employment; or

(b) ceased all employment as a regulation 75(1) optant after 1 October 1971 and have since attained age 60; or

(c) have retired because of permanent incapacity.

All regulation 75(1) optants who have been identified as eligible from records held by the Department of Health and Social Security have been notified by the Department. Any former optants or optants over age 70 still in employment who have not been notified and who satisfy the above conditions should write to: Mr B O'Brien, Room 219, Department of Health and Social Security, Health Services Superannuation Branch, Hesketh House, 200/220 Broadway, Fleetwood, Lancs FY7 8LG, giving the following details:

- (i) Full name.
- (ii) Private address.
- (iii) SD reference number (if known) or date of birth.
- (iv) National Insurance Number.
- (v) Details of employment in the National Health Service since he last received the 8% payments to the maintenance of the relevant policies (employing authority appointments held and dates of employment).

These arrangements also apply to those who in 1948 opted to contract out of the National

Progress reports

The chairman of the Committee on Medical Education, Mr Walpole Lewin, reported the progress being made with education technology, the "equivalence" of medical degrees, and the provision of ongoing postgraduate training. In the report of the Ethical Committee the assembly was told of the interest being shown by the United Nations, and governments throughout the world, in the WMA's views on torture used in interrogation. This had originally come to the attention of the WMA through the joint efforts of the British and Irish medical associations. The updated code on human experimentation has also been well received and the WMA is updating its Code of Medical Ethics. The WMA has noted the BMA's views on the abuse of psychiatry for political ends.

All national medical associations have been asked to set up working parties to put forward suggestions for the smoother and more effective running of the WMA.

In 1977 the assembly will meet in Dublin and Dr P A Farrelly of the Irish Medical Association was elected president-elect.

Health Service superannuation scheme in Scotland, where they are referred to as regulation 72(1) optants. In the case of optants whose last period of service was in Scotland applications should be made as in paragraph 4, quoting where possible the SB number to: Scottish Office Superannuation Division, Awards Section, Room E/49, Government Buildings, Broomhouse Drive, Edinburgh, EH11 3XQ.