Middle Articles

MEDICAL EDUCATION

Further Careers of Young British Doctors

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Summary: After surveys in 1961 and 1966, further questionnaires were sent in 1969 to those who had responded in 1966. These showed that wastage due to emigration and unemployment of married women doctors was nearly 20%. Compared with 49% of all qualified for three to four years in 1966, 73% had definitely decided on their future career seven to eight years after qualifying in the 1969 survey, the choice tending to be for specialties less popular among more junior doctors. Responsibility for patient care seemed not to be related directly to seniority or to performance in medical school examinations.

Introduction

In 1961 about 9,500 medical students in Britain were surveyed, by means of a self-administered questionnaire, to discover details of their social and educational background, their reactions to medical education and to life in medical school, and their plans for the future (Martin and Boddy, 1962, Martin, Last, and Stanley 1967). In 1966 some of these young doctors, comprising a random stratified 50% sample of U.K. citizens who had completed the undergraduate medical course and registered for practice by December 1965, were asked to provide further information about themselves in response to a mailed questionnaire. In all, information was solicited from 1,737 and was obtained from 1,496, a response rate of 86.1%. The objectives of the postal survey in 1966 were to define the relation between academic record and subsequent career (Last, Martin, and Stanley, 1967), to identify factors associated with career choice (Last and Stanley, 1968), and to determine the nature and causes of attrition—for example of married women graduates (Stanley and Last, 1968), and by emigration (Last, 1967a). Some factors associated with performance in medical school examinations were also identified (Last and Stanley, 1969).

Present Inquiry

There remained several unresolved questions about the formation of career choice, the extent of loss from the medical

profession by emigration and by unemployment of married women doctors, and the acquisition of responsibility for patient care in relation to examination performance and seniority. Accordingly the same young doctors who had provided information about themselves in 1966 were once more asked to do so early in 1969, again by means of a self-completed mailed questionnaire. Replies came in slowly, mainly because the recipients' frequent movements meant that their correspondence was sometimes slow to reach them. The first mailing produced a response of 58% after six weeks; two reminder letters sent at intervals of three to four weeks raised the response rate after four months to just over 90% (Table I). As the non-respondents included 34 whose questionnaires were returned unopened through the Dead Letter Office this response rate is satisfactory. The non-respondents also included 22 whose last known address was abroad. Three replies received too late for analysis are included among the non-respondents; one of these was from an unemployed married woman doctor and another from a doctor who had emigrated. Intuitively we might expect an over-representation of both these types of doctor among non-respondents.

Whereabouts of Respondents

Of those who replied 169 (12.5%) were overseas (Table II). If non-respondents with overseas addresses were also assumed to have been overseas almost 13% of the sample population had left Britain at the time of this inquiry—that is in the period three to seven years after graduation. Canada is by far the most popular destination for emigrating doctors. Though some who are overseas may be out of Britain temporarily it is justifiable to estimate, if the sample is representative, that losses to British medical manpower attributable to emigration exceed 12% in this generation of doctors.

TABLE II.—Location of Young British Doctors in 1966 and 1969

	1966	1969
U.K.	1,270	1,177
Canada	20	59
U.S.A.	9	19
Australia and New Zealand	8	15
Developing countries	25	34
Other	17	42
No response	4	7
Total	1,353	1,353

TABLE I.—Sample and Response 1966 and 1969

Class	No. Surveyed in 1961	U.K. Citizens who Completed Course and Registered by December 1965	50% Sample	Responded 1966, Resurveyed in 1969	Deceased/Untraced in 1969	No Response in 1969	Responded in 1969
Junior	1,549	874	440	375	4	27	344
Intermediate	1,514	1,203	617	532	9	50	473
Senior	1,597	1,344	680	589	5	48	536
Total	4,660	3,421	1,737	1,496 (86.1%)	18	125	1,353 (90.4%)

Number of non-respondents whose last known address was overseas: 22. Three replies received too late for analysis are included among non-respondents. Non-respondents also included 34 whose questionnaires were returned from the Dead Letter Office.

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Employment Status

There is further loss of medical skills through the unemployment of married women doctors. In this sample 331 respondents were women, 233 of whom were married. Of these 51 were unemployed medically and 108 were working part time, some for only one or two sessions weekly (Table III). If the average professional commitment of part-time workers is reckoned, probably rather generously, at half that

TABLE III.—*Sex and Marital and Employment Status*

	Male		Female		Total
	Single	Married	Single	Married	
Working full time	153	814	93	64	1,124
Working part time	6	9	1	108	124
Full-time day release	4	6	2	—	12
Whole-time postgraduate study ..	3	1	—	8	12
Unemployed	1	6	1	51	59
No response	4	15	1	2	22
Total	171	851	98	233	1,353

of full-time workers a further 54 married women doctors will be unemployed; thus the total loss of medical skills in this survey was 105 women (that is, 7.8% of all in the sample, or 31.7% of all women doctors). These women doctors are mostly at the age and stage in their married lives when domestic commitments are maximal, but many wrote additional comments on the questionnaire indicating uncertainty about their future active participation in medical practice. Even if they return to medical work many doubt whether they will be able to achieve their full potential. If medical emigration and unemployment of women doctors are taken together very nearly one in five of all British-born medical graduates in these cohorts have been lost to British medicine.

Formation of Career Choice

A somewhat surprising finding of the survey in 1966 was the extent of indecision about future medical careers, even among graduates of three and five years' standing (Last and Stanley, 1968). An objective of this survey was to discover more about the nature, extent, and duration of young doctors' uncertainty about a career. Identical questions on career preference were asked in 1966 and 1969—that is, how definite was the decision and what was the first preference among a range of alternatives. Analysis of replies to these questions is reassuring. Only about one-half (49%) of those who had graduated three to four years before the 1966 survey had

definitely decided on their future career, while among members of the senior class, who had graduated seven to eight years before this inquiry, 73% had already definitely decided.

In all three surveys the groups completely undecided about the future were very small. Altogether 911 (67%) of the respondents preferred the same career in 1969 as they had in 1966 (Table IV). Most of those who had changed their mind in the interval between the two surveys moved out of what could be called "oversubscribed" specialties (in terms of the availability of senior posts) into fields of work which had earlier been less popular choices. Thus anaesthetics, general practice, psychiatry, radiology, and "other" specialties had gained; internal medicine, obstetrics, paediatrics, and surgery had lost some of their former followers; and the remaining specialties retained about the same degree of popularity. Furthermore, preferences had shifted considerably among those who were apparently undecided at the time of the earlier survey—for example, from general practice, internal medicine, and surgery into almost all other possible types of career (Table IV); though the numbers who had changed their minds were highest in the junior class there were many even in the senior class.

When career choice is related to academic record the "losses" from internal medicine seem to be predominantly of people who had failed undergraduate examinations, but no relation seems to exist between changing career preference and difficulty in passing undergraduate examinations in the case of other hospital-based specialties. Of those who chose internal medicine in 1969 31.6% had failed one or more

TABLE V.—*Preferred Career and Priority between Specialty and Locality*

Preferred Career	Priority							
	Choice of Specialty		Choice of Locality		No Opinion		No Response	
	No.	%	No.	%	No.	%	No.	%
General practice	163	37.8	114	26.4	144	33.4	10	2.4
All others	547	59.9	107	11.7	243	26.6	15	1.6
No response	1				9			

TABLE VI.—*Examinations and Responsibility for Inpatients (Hospital-based Doctors Only)*

Record	No. of Inpatients for Whom Responsible						Total
	< 20		20—49		≥ 50		
	No.	%	No.	%	No.	%	
Never failed	117	30.2	160	41.2	111	28.6	388
Failed once or more . .	88	25.8	147	43.1	106	31.0	341

TABLE IV.—*Relation between Career of Preference in 1966 and that in 1969*

Career Preference 1969	Career Preference 1966																	Total
	Anaesthetics	Dermatology	E.N.T.	General Practice	Internal Medicine	Obstetrics	Ophthalmology	Paediatrics	Pathology	Public Health	Psychiatry	Radiology	Surgery	Services	Other	Non-medical	No Response	
Anaesthetics	79			11	3	6		3	1				7	1				112
Dermatology		11		3	2								1	1				18
E.N.T.			13	1									2	1				17
General Practice			2	297	22	21	3	14	5	8	5	1	21	9	4		8	431
Internal medicine				5	86			2	8		2	1	2	3				114
Obstetrics				8	2	55	2	2		3			5	1				79
Ophthalmology				2		1	21						1				1	26
Paediatrics				12	8	1		52			2		3	1				80
Pathology				2	7	1		4	50				2	2				75
Public Health				7	1	1		2		14								29
Psychiatry				1	3	2	1	3	2		45		2	2			1	71
Radiology				1	3		1	2		1		20	5					40
Surgery				6	2	7		1	2	1			131	1	3			157
Services				2	1				1					10				16
Other				4	9	3		5	4	6					21	2	2	65
Non-medical				3				1							3	6		13
No response				3	1		1	1	1	1					1			10
Total	94	17	20	377	153	98	29	90	76	35	59	22	184	35	39	12	13	1,353

TABLE VII.—*Examinations and Weekly Hours at Work with Patients*

Record	Hours per Week														Total
	< 40		40—59		60—79		80—99		100—119		≥ 120		No response		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Never failed . . .	115	16.3	261	37.1	132	18.7	68	9.6	52	7.3	16	2.2	59	8.3	703
Failed once or more . .	75	11.2	247	37.0	143	21.4	69	10.3	64	9.6	29	4.3	39	5.8	666

undergraduate examinations compared with 38.5% in 1966. The number of aspiring surgeons who had failed undergraduate examinations fell from 50% in 1966 to 47.1%—that is, had changed hardly at all. The number of doctors who had changed their minds not at all, once, twice, or more than twice were about the same in each of the three classes studied.

In all specialties together, when changes of preference were related to academic record those who had never failed examinations were somewhat less likely to change their mind about future careers than those who had (34.6% compared with 37.5%); this difference is not statistically significant. It would not be surprising to find that young doctors who had had difficulty in passing undergraduate examinations would also have difficulty in obtaining the necessary additional qualifications for pursuing specialist careers which they may have favoured in the first instance. Some of these may therefore be obliged to have second thoughts and enter a field of work in which less store is set on additional qualifications.

Consolidation of Career Preference

The expected consolidation of career preference with increasing seniority is further confirmed by the closer relation which develops with seniority between current work and future career plans. In the junior class—those who had graduated three to four years before this inquiry—62% were working in the specialty which they indicated as their first preference or in a closely related field. In the intermediate class the proportion was 76% and in the senior class 82%. Most of the latter were established in their careers, but those who were still in more junior hospital posts experienced some uncertainty about their careers, particularly the possibility of working in fields other than those of their first preference. For example, several aspiring surgeons were employed in hospital specialties other than general surgery or were in general practice. In the senior class there were 195 doctors in general practice (36.4% of this class), of whom 28 indicated that their first preference was for a career in a hospital-based specialty. It is noteworthy that the proportion of the senior class in or aspiring to enter general practice had been only 30.2% in 1966. The increased percentage suggests that recruitment to general practice may not fall so far short of requirements as was at one time feared (Last, 1967b).

Choice of Specialty and Choice of Locality

The 1966 survey and other work done at that time on the regional distribution of general practitioners and consultants in the National Health Service (Last, 1967c) indicated that sociological factors influence choice of career. General practitioners (and recent medical graduates aspiring to a career in general practice) preferred to settle near their parental homes significantly more often than those in or aspiring to enter

careers in other fields of work. Respondents to the postal survey in 1969 were asked to indicate whether choice of specialty or choice of locality in which to live had the higher priority. The results confirm the 1966 finding. First priority was given significantly less often to choice of specialty by general practitioners and to choice of locality by those preferring all other careers (Table V).

In the pilot study attempts were made to define incentives which might attract doctors into "unpopular" specialties and "unpopular" areas. Unfortunately these questions did not work and were therefore omitted from the postal survey.

Responsibility for Patient Care

In the 1966 survey no direct relation between "ability"—that is, ability to pass examinations—and responsibility for patient care seemed to exist. In this survey attempts were made to define the relationship more precisely. A separate analysis was carried out of those holding hospital posts. A larger proportion of those who had never failed undergraduate examinations were responsible for the care of fewer than 20 inpatients than those who had failed examinations; in turn a larger proportion of these were responsible for the care of more than 50 patients (Table VI). The former group included greater numbers working shorter hours and fewer working longer hours than the latter (Table VII); however, this further analysis included all respondents rather than those in hospital posts alone and could thus influence the

TABLE VIII.—*Examinations and Responsibility for Outpatients (Hospital-based Doctors Only)*

Record	No. of Outpatients for Whom Responsible								Total
	< 20		20—49		50—99		≥ 100		
	No.	%	No.	%	No.	%	No.	%	
Never failed ..	129	37.5	113	32.8	63	18.3	39	11.3	344
Failed once or more ..	97	32.9	100	34.0	62	21.0	35	11.9	294

Non-responses excluded.

TABLE IX.—*Seniority and Responsibility*

Class	Inpatients (No.)								Total
	< 20		20—49		≥ 50				
	No.	%	No.	%	No.	%			
Junior ..	52	27.0	81	42.1	59	30.7			192
Intermediate ..	66	24.2	119	43.7	87	31.9			272
Senior ..	87	32.4	108	40.2	73	27.2			268
	Outpatients (No.)								
	< 20		20—49		50—99		≥ 100		
	No.	%	No.	%	No.	%	No.	%	
Junior ..	63	35.5	55	31.0	36	20.3	23	12.9	177
Intermediate ..	91	38.3	77	32.4	43	18.1	26	10.9	237
Senior ..	72	31.8	82	36.2	47	20.7	25	11.0	226

TABLE X.—*Seniority and Weekly Hours at Work with Patients*

Class	Hours per Week													
	<40		40—59		60—79		80—99		100—119		≥120		No response	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Junior ..	43	12.6	103	30.2	64	18.8	45	13.2	43	12.6	12	3.5	34	9.9
Intermediate ..	64	13.5	178	37.7	95	20.1	43	9.1	43	9.1	17	3.6	33	9.0
Senior ..	81	15.1	206	38.6	114	21.3	49	9.1	30	5.6	15	2.8	41	7.6

distribution, as some doctors at both extremes no doubt worked in venues other than hospitals. A similar relationship existed between record in undergraduate examinations and the number of outpatients for whom the young doctors were responsible (Table VIII).

One would expect to find that with increasing seniority doctors would become responsible for the care of larger numbers of patients; however, the proportion of doctors responsible for a large number of inpatients and outpatients did not increase with seniority (Table IX). On average, junior doctors spent more hours each week at work with patients or in equivalent activity than their more senior colleagues (Table X); the difference was not statistically significant.

On average, junior doctors devoted more time to study than their senior colleagues, and, as was noted in 1966, those who did well in examinations spent longer over continuing education than their colleagues who failed one or more times.

The original questionnaire survey was conducted by Dr. J. H. F. Brotherston and Dr. F. M. Martin at the Usher Institute, Uni-

versity of Edinburgh, under the auspices of the Association for the Study of Medical Education. The follow-up survey in 1966 was financially supported by the Ministry of Health and the Royal Commission on Medical Education, and the follow-up in 1969 was supported by the Ministry of Health. Reprints can be obtained from Dr. J. M. Last.

REFERENCES

- Last, J. M. (1967a). *Social and Economic Administration*, 1, 20.
 Last, J. M. (1967b). *Lancet*, 2, 769.
 Last, J. M. (1967c). *British Medical Journal*, 2, 796.
 Last, J. M., Martin, F. M., and Stanley, G. R. (1967). *Proceedings of the Royal Society of Medicine*, 60, 813.
 Last, J. M., and Stanley, G. R. (1968). *British Journal of Medical Education*, 2, 137.
 Last, J. M., and Stanley, G. R. (1969). *British Journal of Medical Education*, 3, 43.
 Martin, F. M., and Boddy, F. A. (1962). In *Sociology and Medicine*, ed. P. Halmos, p. 21. Keele, University of Keele.
 Martin, F. M., Last, J. M., and Stanley, G. R. (1967). *British Medical Students in 1961*. London, Association for Study of Medical Education.
 Stanley, G. R., and Last, J. M. (1968). *British Journal of Medical Education*, 2, 204.

MEDICAL HISTORY

Albert Cook 1870-1951 : Uganda Pioneer

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Omakwano gulta bingi (Friendship overcomes all difficulties) Luganda proverb.

"It is not the mere preacher that is wanted here. It is the practical Christian tutor, who can teach people how to become Christians, cure their diseases . . . this is the man who is wanted." So wrote Henry Morton Stanley, the explorer (Cook, 1945), from the court of King Mutesa in Uganda; and his letter, published in the *Daily Telegraph* in November 1875, brought an immediate response from Christians in England. But it was another 20 years before the man was found who would devote his lifetime to meeting the double need of which Stanley spoke.

Albert Ruskin Cook, born 2 March, 1870, was the son of W. H. Cook, M.D., a general practitioner in Hampstead. His mother's father, Edward Bickersteth, was a hard-working clergyman, and his uncle, E. H. Bickersteth, was Bishop of Exeter and a well-known hymn writer (Stock, 1899). Albert grew up with a love of books and poetry that was a lifelong satisfaction to him.

Early Years

From St. Paul's School, where he was Foundation Scholar, he went up to Trinity College, Cambridge, to gain a Double First and a Major Scholarship, and then on to St. Bartholomew's Hospital, where he was Shuter Exhibitioner. He took a B.Sc. before qualifying M.B. (London) in 1895. His family must have been an exceptionally clever one. His brother Jack was very well qualified, and another brother, Arthur, was a Double First and Craven Scholar at Cambridge and later professor of classical archaeology in the same university.

While still at Cambridge Albert had become keenly interested in missionary work, and in 1896 he left for Uganda to serve under the Church Missionary Society. Medically he was launching on a largely uncharted sea. The mosquito transmis-

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sion of malaria was not discovered by Ross until two years later; the causes of sleeping sickness, plague, yellow fever, and yaws were not known; and amoebic and bacillary dysentery had not been clearly differentiated.

After landing at Mombasa he waited nearly two months while 500 porters were recruited for the caravan and then marched some 850 miles (1,360 km.) inland in a company which included only the second party of white women to go to Uganda. One of these, Katharine Timpson, later became his wife. He camped on the future site of Nairobi, where "no house broke the monotony of the plains," and after a journey lasting nearly three months reached Kampala. On 22 February 1897, three days after arriving, he began work.

Practice in East Africa

He very quickly found that "Uganda with its little-known diseases was a professional man's paradise." Soon he was seeing 50 to 60 patients a day and using a camp bed as an operating table. The effects of chloroform anaesthesia—the painless operation and the quick recovery—seemed magical, and a patient blind from corneal scarring and made to see again by an optical iridectomy said that Cook must be God. Three months later a grass-roofed reed-walled hospital with 12 beds was opened, being called Mengo Hospital after the name of the royal enclosure near by (Fig. 1).

Uganda in those days was a far larger country than it is now and included much of present-day Kenya, yet there were only three doctors in the whole protectorate, and the one stationed in Kampala, Dr. Anson, left within a month. Cook therefore had the whole medical field to himself. From the first he kept careful records, and the entire series from 1897 is preserved in the library named after him in Makerere University Medical School. Davies *et al.* (1964) described these notes as "one of the medical marvels of Africa." Printed case sheets were used, and when these ran out the ladies of the