

Characteristics of medical students who choose primary care as a career: the McMaster experience

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We examined the relation between demographic characteristics and the career choices of medical students who entered McMaster University medical school between 1969 and 1975. In contrast to earlier work, this study found no significant differences in sex, age, marital status at the time of entry into medical school, undergraduate major, whether prerequisite premedical courses had been taken, undergraduate grade point average and academic performance between the graduates who chose primary care and those who chose a specialty. This suggests that many medical school graduates in the 1970s entered primary care by choice rather than by default.

Nous avons étudié les rapports existant entre les caractéristiques démographiques et le choix de carrière des étudiants en médecine qui sont entrés à la faculté de l'université McMaster entre 1969 et 1975. Contrairement à des études précédentes, celle-ci n'a révélé aucune différence significative entre les diplômés qui ont choisi les soins de première ligne et ceux qui ont opté pour une spécialité quant au sexe, à l'âge, à la situation de famille au moment de leur entrée à l'école de médecine, à la matière principale de leurs études pré-universitaires, au fait qu'ils aient ou non pris des cours

préparatoires à l'école de médecine ainsi qu'à la moyenne et à la performance académique aux études pré-universitaires. Ceci indique qu'au cours des années 70 plusieurs diplômés en médecine ont opté pour la médecine de première ligne par choix plutôt que par obligation.

Studies of physicians who graduated from medical school during the 1950s suggested that the less able, older medical students who were married before their medical training were more likely to enter general practice.¹⁻³ Clute,⁴ in his classic study of general practitioners in two Canadian provinces, found a relation between the physicians' academic records while they were in medical school and the quality of their medical practice. Further, he noted that over 40% of his randomly selected sample of general practitioners had had to take supplementary examinations or repeat a year of training or both. While no comparison was made with their classmates, the impression was that many of these students had entered general practice by default. Lyden and colleagues¹ also reported that the medical students who ranked low in their class were usually the ones who entered general practice.

The proportion of graduates entering general practice has declined markedly during the past 25 years in the United States but not in Canada.^{5,6} Yet, until the late 1960s, when family practice departments and residency programs were established in Canadian medical schools, fewer Canadian medical graduates were choosing to enter general practice each year.⁷ Currently, about half of Canadian medical graduates enter general practice, either as graduates

of family medicine training programs or through other routes. Of interest is whether this resurgence is related to greater attractiveness of the new programs in family medicine.

We attempted to determine the differences, if any, between the graduates of McMaster University medical school who entered primary care (i.e., general practice, family practice, emergency room practice or a combination of these) and those who chose specialties recognized by the Royal College of Physicians and Surgeons of Canada. We studied their attributes at the time of admission to medical school and their performance during medical training and on their licensing examination with a view to answering the following questions:

- Are medical students who choose primary care more likely to come from backgrounds in the arts, humanities and social sciences?
- Are older medical students more likely to enter primary care?
- Are married medical students more likely to enter primary care?
- Do medical students with lower undergraduate grade point averages choose primary care?
- Are women medical students more likely than men to enter primary care?
- Are graduates who had unsatisfactory evaluations during their medical education or difficulty passing their licensing examination more likely to be attracted by primary care?

Methods

Subjects

Our study sample included the

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466 medical students who had entered McMaster University medical school during its first 7 years (1969-75).

Career choice

McMaster medical school graduates are surveyed yearly to ascertain their current location, function and field of practice. Information on field of practice was available for 448 (96%) of the graduates from either the 1981 or the 1982 survey (only 72% of the graduates responded in 1982). We used the most recent self-reports. In most instances the data on career choices were obtained 5 to 10 years after graduation. Included in the primary care group (47.3%) were the graduates in family medicine (28.6%), general practice (13.6%) or emergency medicine (5.1%), the last group because the data were collected before emergency medicine was formally recognized as a separate specialty by the College of Family Physicians of Canada. Those in specialties (52.7%) were included in the nonprimary care group (Table I).

Demographic characteristics

We obtained the following information from the admission profiles: sex, age, marital status at the time of entry into medical school, undergraduate major, whether the prerequisite premedical courses (those re-

quired by other Ontario medical schools) had been taken and undergraduate grade point average (converted to a standardized four-point scale). Undergraduate majors were divided into two categories, one containing biology, chemistry, engineering, mathematics and paramedical training (i.e., physiotherapy, nursing or occupational therapy), and the other containing social sciences, arts and the humanities. Students were considered to have taken the prerequisite premedical courses if they had studied biology, chemistry, organic chemistry and physics at university.

McMaster University medical school has a pass/fail grading system. The graduates' performance ratings (satisfactory/unsatisfactory) in the 12 required phases and units were obtained from the student data bank. We also noted whether they had passed or failed the licensing examination on the first attempt.

Analysis

We used nonparametric tests to determine the significance of the relations between career choice and background characteristics, and analysis of variance to examine the relations between career choice and continuous variables (i.e., age and grade point average). A one-sided test of significance was used in keeping with the directional hypotheses.

Results

Most of the graduates who chose primary care were in practice

(94%), whereas 43% of those who chose a specialty were still in training. Nearly equal proportions of men (47%) and women (49%) had chosen primary care practice. There were no significant differences in any of the variables studied between the graduates who chose primary care and those who chose a specialty (Table II).

Discussion

Contrary to the results of studies of physicians who had graduated 20 years or more previously,^{1,4,8} we found no differences in demographic characteristics or in performance during medical school between the graduates who chose primary care and those who chose a specialty.

Given the broader admission policies of McMaster University medical school,⁹ our findings are even more interesting. McMaster University does not require the usual premedical courses for admission and thus attracts students with a wide variety of academic backgrounds. Also, the minimum required undergraduate grade point average, 2.5, is less restrictive. The wider range of students admitted and the higher proportion of them who are over 30 years of age results in greater diversity in the medical student body than at most other North American medical schools.

Woods¹⁰ has suggested that with the growth of general medicine as a distinct discipline in Canadian medical schools, it has become an area of medicine that graduates *choose* to

Table I—Distribution of McMaster University medical school graduates according to field of practice

Field of practice	No. (and %) of graduates
Primary care	
Family medicine	128 (28)
General practice	61 (14)
Emergency medicine	23 (5)
Total	212 (47)
Specialty	
Internal medicine	85 (19)
Surgery	37 (8)
Psychiatry	31 (7)
Pediatrics	24 (5)
Obstetrics/gynecology	11 (3)
Other*	48 (11)
Total	236 (53)

*Includes anesthesia, radiology, nuclear medicine, pathology, public health, occupational medicine, epidemiology and basic medical sciences.

Table II—Characteristics of graduates who chose primary care or a specialty

Characteristic	Field	
	Primary care (n = 212)	Specialty (n = 236)
	No. (and %) of graduates	
Male	136 (64)	156 (66)
Married at time of entry into medical school	68 (32)	64 (27)
Undergraduate major in social sciences, arts or the humanities	72 (34)	76 (32)
Had taken prerequisite premedical courses	103 (49)	123 (52)
Received unsatisfactory evaluation while in medical school	21 (10)	17 (7)
Passed licensing exam on the first attempt	192 (91)	211 (89)
	Mean ± standard deviation	
Undergraduate grade point average	3.21 ± 0.46	3.10 ± 0.62
Age at entry into medical school	23.82 ± 3.5	23.92 ± 4.4

enter. He believes that the image of the family doctor in the universities and the community has never been better. Our study supports these contentions and suggests that medical school graduates in the 1970s, at least those from McMaster University, entered primary care by choice rather than by default. If this is a national trend, this new generation of primary care physicians includes some of the best of our medical graduates.

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