

Profile of Canadian physicians: results of the 1990 Physician Resource Questionnaire

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Objective: To determine the supply, mix and distribution of physicians in Canada and to compare data with those of the 1982 and 1986 physician surveys.

Design: National census mail survey.

Setting: Canada.

Participants: All physicians licensed to practise medicine in Canada, excluding interns and residents. A total of 52 422 questionnaires were mailed, of which 771 were ineligible. There were 38 313 valid responses (response rate 74.2%).

Main outcome measures: Activity status, workload, specialty certification, practice setting and demographic profiles.

Main results: A total of 88.7% of the respondents were active physicians; 19.4% were women, compared with 16.8% in 1986. Physicians reported working on average 4.1 fewer hours per week in total activities than in 1986 and 5.7 fewer hours per week than in 1982. As was found in 1982, about 50% of active physicians were certified specialists; 30% of specialists and 21% of general/family practitioners were 55 years of age or more. Approximately 11% of active physicians were in rural practice, as was reported in 1986. Similar proportions of foreign graduates and Canadian graduates were located in rural areas (10.9% and 11.4% respectively).

Conclusions: Factors such as aging and retirement will affect specific specialty groups (e.g., general surgery and obstetrics/gynecology) in the near future. Specialty groups must address the issue of the future supply of physicians and the demand for their services when developing targeted needs within their specialties. The increasing proportion of women in medicine is changing the specialty mix and practice profiles of physicians as a whole. The issues associated with the recruitment and retention of physicians in rural areas remain complex.

Objectif : Déterminer l'offre, la composition et la répartition des effectifs médicaux au Canada et comparer les données à celles des sondages de 1982 et de 1986 sur les médecins.

Conception : Enquête postale de recensement national.

Contexte : Canada.

Participants : Tous les médecins détenteurs d'un permis d'exercice de la médecine au Canada, à l'exclusion des internes et des résidents. On a posté 52 422 questionnaires au total dont 771 étaient inadmissibles. Nous avons reçu 38 313 réponses valides (taux de réponse de 74,2 %).

Principales mesures des résultats : Situation professionnelle, volume de travail, certificat de spécialité, contexte de pratique et profils démographiques.

Principaux résultats : Au total, 88,7 % des répondants étaient des médecins actifs; 19,4 % étaient des femmes, par comparaison avec 16,8 % en 1986. Les médecins ont signalé qu'ils travaillent en moyenne 4,1 heures de moins par semaine en tenant compte de l'ensemble de

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leurs activités qu'en 1986 et 5,7 heures de moins par semaine qu'en 1982. Comme on l'a constaté en 1982, environ 50 % des médecins actifs sont des spécialistes agréés; 30 % des spécialistes et 21 % des omnipraticiens/médecins de famille étaient âgés de 55 ans ou plus. Environ 11 % des médecins actifs exercent en milieu rural, comme on l'a signalé en 1986. Des proportions semblables de diplômés de facultés de médecine étrangères et de diplômés canadiens sont établis en région rurale (10,9 % et 11,4 % respectivement).

Conclusions : Des facteurs comme le vieillissement et la retraite influenceront sur des groupes de spécialité donnés (p. ex., la chirurgie générale et l'obstétrique/gynécologie) dans un proche avenir. Les groupes de spécialité doivent tenir compte de la question de l'avenir de l'offre en médecins et de la demande pour leurs services au moment de déterminer les besoins cibles dans leurs spécialités. La proportion croissante des femmes médecins est en train de modifier la composition des spécialités et les profils d'exercice des médecins dans l'ensemble. Les questions liées au recrutement et à la conservation des médecins en région rurale demeurent complexes.

Physician resource management is at the forefront of the health policy agenda for the medical profession and governments. The wide-ranging issues and complex nature of physician resources were outlined in detail in the Barer-Stoddart report.¹ Our report was based on the findings of the 1990 Physician Resource Questionnaire (PRQ), the third national quadrennial survey conducted by the CMA. Since 1981 the CMA has continued to build and maintain a national physician database. The data bank was originally established to compile information to gain a comprehensive profile of Canadian physicians and their professional activities. The information has been used for research and planning.^{2,3}

To address the policy issues surrounding physician resource planning, accurate and up-to-date data are essential. This paper is the first in a series examining not only data for 1990 but also trends over the past 10 years. In this paper we focus on the supply, mix and distribution of physicians and the interrelationship of these components.

Methods

The 1990 PRQ was designed and administered according to the techniques of Dillman's total design method.⁴ As in previous years, the questionnaire comprised four main sections: activity status, professional activity workload, practice setting and demographic characteristics. Information provided on activity status and hours of work is self-reported.

The demographic information was preprinted on the survey form for respondent verification or corrections from data contained in the CMA masterfile. The masterfile contains the names, addresses and demographic data (such as school and year of graduation, specialty certification, age and sex) for all physicians licensed to practise medicine in Canada. It is maintained on a daily basis by the CMA through information provided by a variety of sources, including the CMA divisions, provincial licensing authorities, the Royal College of Physicians and Surgeons of Canada, the Corporation professionnelle des médecins du Québec (CPMQ) and

individual physician address changes. It is therefore considered an "active" file. Data reproduced included name, address, date of birth, medical school and year of graduation, specialty certification, sex and preferred language of correspondence.

The questionnaire was mailed in October 1990 to 52 422 practising physicians as identified in the CMA database. Interns and residents were not part of the survey. Two follow-up letters were mailed, in April and June 1991. The closing date for return of the questionnaire was October 1991.

Results

Eligible respondents were defined as those who had completed their medical education and were in active practice, working in any medical or medically related field, retired or on a leave of absence. Of the 52 422 physicians who received the questionnaire 771 were ineligible since they were identified as students, interns or residents. Of the 51 651 remaining doctors 38 313 responded, for a response rate of 74.2% (Table 1). The response rates for the 1982 and 1986 surveys were 87.4% and 78.0% respectively. The highest response rates were for physicians in Prince Edward Island (81.6%) and the Yukon/Northwest territories (80.0%), the lowest for those in Newfoundland (65.5%) and Quebec (66.5%).

Nonrespondents were similar to respondents with respect to specialty and sex distribution.

Supply

Physicians were asked to indicate the activity level that best reflected their current professional activities (Table 2). "Active" physicians (e.g., full-time, part-time or semiretired) constituted 88.7% of the respondents. Female physicians accounted for 19.4% of all active physicians, compared with 16.8% in 1986. One in two active physicians was less than 45 years of age; the average age of active physicians was 46.8 (standard deviation [SD] 11.9) years.

A total of 9857 (29.2%) of the active physicians were practising in western Canada (British Columbia,

Alberta, Saskatchewan or Manitoba), 13 132 (39.0%) in Ontario, 7834 (23.2%) in Quebec, 2833 (8.4%) in Atlantic Canada (New Brunswick, Nova Scotia, Prince Edward Island or Newfoundland) and 52 (0.2%) in the Yukon/Northwest territories.

Most active physicians (88.0%) reported that they were in full-time practice. The proportion of full-time physicians in each province ranged from a high of 94.0%, in Newfoundland, to a low of 82.7%, in the territories. Over 50% of full-time active physicians were less

than 45 years of age, a continuing trend from 1986; 25.4% were between 45 and 54 years, 17.9% were between 55 and 64 years, and 4.8% were 65 years of age or more. The average age of full-time physicians was 45.7 (SD 10.7) years. Male physicians were more likely to be working full-time than their female colleagues (80.5% v. 67.8%). Female physicians accounted for 16.6% of all full-time physicians, compared with 14.0% in 1986. Female physicians in full-time practice tended to be younger than their male colleagues; their average age

Table 1: Provincial distribution of respondents to the 1990 Physician Resource Questionnaire

Province or territory of practice	No. of questionnaires		Response rate, %
	Mailed	Returned	
British Columbia	7 138	5 637	79.0
Alberta	4 188	3 242	77.4
Saskatchewan	1 514	1 181	78.0
Manitoba	2 105	1 555	73.9
Ontario	19 508	14 885	76.3
Quebec	12 873	8 561	66.5
New Brunswick	1 100	871	79.2
Nova Scotia	1 919	1 484	77.3
Prince Edward Island	196	160	81.6
Newfoundland	1 040	681	65.5
Yukon/Northwest territories	70	56	80.0
Canada	51 651	38 313	74.2

Table 2: Activity level of physicians by sex and age

Activity level	Age, yr; no. of respondents*					Unknown	Total
	< 35	35-44	45-54	55-64	≥ 65		
Full-time							
Male	3 853	7 829	6 651	4 883	1 354	175	24 745
Female	1 704	1 785	876	431	65	57	4 918
Subtotal	5 557	9 614	7 527	5 314	1 419	232	29 663
Part-time							
Male	93	121	113	213	297	8	845
Female	568	596	176	108	44	21	1 513
Subtotal	661	717	289	321	341	29	2 358
Semiretired							
Male	0	NA	19	306	1 233	NA	1 558
Female	0	0	7	45	73	0	125
Subtotal	0	NA	26	351	1 306	NA	1 683
Retired							
Male	NA	8	23	340	2 863	16	3 250
Female	0	NA	17	101	322	NA	440
Subtotal	NA	8	40	441	3 185	16	3 690
Temporarily not practising							
Male	27	59	67	97	79	10	339
Female	122	85	31	13	10	NA	261
Subtotal	149	144	98	110	89	10	600
All							
Male	3 973	8 017	6 873	5 839	5 826	209	30 737
Female	2 394	2 466	1 107	698	514	78	7 257
Total	6 367	10 483	7 980	6 537	6 340	287	37 994

*NA = cell size of less than 5.

was 40.5 (SD 9.3) years, 6 years less than the average for men. Most full-time female physicians (71.8%) were less than 45 years of age.

Part-time physicians accounted for 7.0% of all active respondents, compared with 5.6% in 1982 and 6.3% in 1986. The Yukon/Northwest territories had the highest proportion of part-time physicians (17.3%), Prince Edward Island the lowest (2.9%). A total of 64.2% of part-time physicians were women, compared with 61.6% in 1986. Overall, 20.8% of all female physicians but only 2.7% of male physicians reported working part-time. The average age of part-time physicians was 45.8 (SD 14.0) years; the average for men was 56.4 (SD 14.4) years and for women 39.9 (SD 9.5) years. Most female physicians (76.9%) working part-time were less than 45 years of age; most part-time male physicians (60.4%) were over 54 years of age.

Semiretired physicians constituted 5.0% of all active physicians, compared with 4.2% in 1986. The province with the highest proportion of semiretired doctors was Prince Edward Island (12.2%, compared with 8.2% in 1986). The average age of semiretired physicians was 68.6 (SD 6.5) years. Over 75% of semiretired physicians were 65 years of age or more. Given that the average age of retired physicians was 72.1 years, most of the semiretired physicians are likely to leave medical practice over the next 5 to 7 years.

A total of 600 respondents (1.6%) indicated that they were temporarily out of practice. The age and sex distribution of this group is similar to that of part-time physicians: over 50% of male physicians in this category were over 54 years of age, and 79.3% of female practitioners were less than 45 years of age. About 70% of the respondents who indicated that they were temporarily out of practice provided an explanation. In the 1986 survey illness was the most common explanation provided by male physicians and maternity/family leave the most common for female physicians. In 1990 the most com-

mon reasons cited by the male physicians were illness (by over 40%), sabbatical or other academic or government work (by 28.0%), and leave of absence, travel or work abroad (by 17.0%). Among the female respondents the most common reasons were family matters or maternity leave (cited by 50.0%), sabbatical or academic or government work (by 16.6%), illness (by 14.0%) and leave of absence, travel or work abroad (by 10.0%).

Physicians reported working fewer total average hours per week than they did in 1982 (46.7 v. 52.4). Specialists (defined as all physicians with specialty certification by the Royal College or the CPMQ or both) reported working 48.5 hours per week, a decrease of 4.6 hours since 1982. For general/family practitioners the figures were 44.8 hours in 1990, 46.9 hours in 1986 and 51.6 hours in 1982. In 1990 general/family practitioners reported working 38.9 hours per week in direct patient care, 1.5 hours per week more than specialists.

Part-time physicians reported working 27.7 hours per week, a decrease of 3.3 hours since 1982. Among this group specialists reported a longer work week than general/family practitioners (29.8 v. 26.6 hours). The mean number of hours per week reported by all physicians in direct patient care was 23. Semiretired specialists and general/family practitioners reported working about 20 hours per week in direct patient care.

Mix

Physician mix is defined in part in terms of the ratio of specialists to general/family practitioners. In 1990, 49.7% of the respondents were certified specialists, compared with 52.6% in 1982 (Table 3). Manitoba, Ontario and Quebec had a higher proportion of specialists than the national average, Quebec having the highest proportion (53%). The smallest proportions of specialists were reported in the territories (14.0%) and Newfoundland (37.6%).

Table 3: Provincial distribution of active physicians by certification status and sex

Province or territory of practice	Certification status; no. of respondents					
	Specialist			General/family practitioner		
	Male	Female	Total	Male	Female	Total
British Columbia	1 875	289	2 164	1 889	541	2 430
Alberta	1 159	179	1 338	1 143	373	1 516
Saskatchewan	405	53	458	480	129	609
Manitoba	585	104	689	505	148	653
Ontario	5 648	1 036	6 684	4 910	1 538	6 448
Quebec	3 574	577	4 151	2 667	1 016	3 683
New Brunswick	308	29	337	351	92	443
Nova Scotia	535	90	625	478	187	665
Prince Edward Island	52	9	61	62	13	75
Newfoundland	196	40	236	295	96	391
Yukon/Northwest territories	7	NA	7	28	15	43
Canada	14 344	2 406	16 750	12 808	4 148	16 956

Overall, 52.8% of male physicians in active practice reported being certified specialists, compared with 36.7% of their female colleagues. Female physicians constituted 14.4% of certified specialists and 24.5% of general/family practitioners. Female specialists tended to be in medical rather than surgical specialties. Female physicians accounted for 30.0% of pediatricians, 21.0% of psychiatrists and laboratory medicine specialists, 18.7% of anesthesiologists, 13.3% of obstetrician/gynecologists, 3.8% of general surgeons and 2.3% of orthopedic surgeons.

As might be expected, there was a substantial difference in mean age between specialists and nonspecialists (49.2 [SD 11.3] v. 44.5 [SD 12.0] years). Specialists were more highly represented than general/family practitioners in older groups (Fig. 1). Over 70% of active physicians under the age of 35 were general/family practitioners. However, some of these younger physicians may decide to become certified specialists at some point in their medical career.

About 30% of specialists and 21% of general/family practitioners were over 54 years of age. Given that a high proportion of physicians are over the age of 54 and a low proportion are less than 35 years of age, several specialties face potential shortages in the next 10 to 15 years (Table 4). This is evident in general surgery (49.2% v. 7.6%), obstetrics/gynecology (38.5% v. 9.6%), laboratory medicine (36.4% v. 8.5%) and general internal medicine (35.7% v. 8.8%). Specialties such as pediatrics, psychiatry and diagnostic radiology have almost equal proportions of physicians less than 35 years and over 54 years.

Distribution

Rural physicians are defined as those living in communities with a population of 10 000 or less, as indicated by a "0" as the second digit in the postal code. A total of 11.3% of active physicians were located in rural Canada. The regional distribution of rural physicians varied from

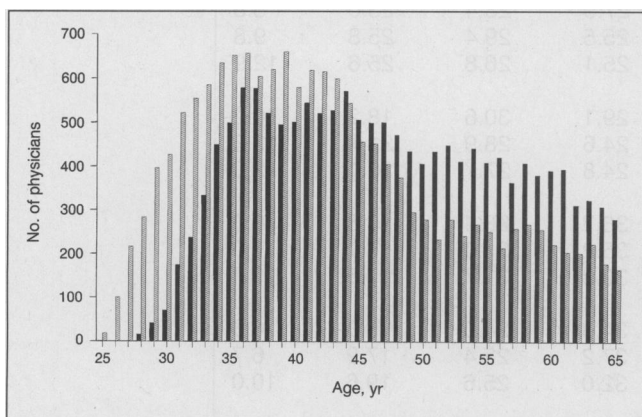


Fig. 1: Distribution of active physicians by certification status and age. Lined bars represent general/family practitioners; black bars represent specialists.

a high of 23.4%, in the Atlantic provinces, to a low of 8.0%, in Ontario. This is reflected in the population distribution in the various provinces. Statistics Canada reports 1991 census counts that show that Atlantic Canada has the highest proportion of population in rural areas (49.1%), and the Prairie provinces have the next highest proportion (25.6%); Ontario has the lowest proportion (18.2%).⁵

A higher proportion of general/family practitioners (18.6%) than specialists (3.8%) were located in rural settings, a continuing trend from 1986. Newfoundland (45.6%) and Prince Edward Island (38.7%) had the highest proportions of general/family practitioners in rural practice. The proportion of specialists located in rural settings in Quebec, New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland was higher than the national average, ranging from 4.1% (in Quebec) to 10.8% (in New Brunswick). The urban/rural distribution of physicians varied among specialties; for example, there were above-average proportions of specialists in anesthesia, community medicine, diagnostic radiology, emergency medicine, general surgery and internal medicine located in rural settings, varying from 4.0% to 8.6%.

Physicians in rural practice tended to be younger than their urban colleagues (mean age 45.2 [SD 12.4] v. 47.0 [SD 11.8] years). Over 25% of rural physicians and 17.7% of urban physicians were less than 35 years of age. There was a higher proportion of semiretired physicians in rural practice (14.2%) than full-time or part-time physicians (11%). Overall, 6.3% of rural physicians and 4.8% of urban physicians were semiretired.

Location of medical school

Graduates of foreign medical schools constituted 26.7% of the respondents (Table 5). In 1982 and 1986 Saskatchewan and Newfoundland had higher proportions (about 50%) of foreign graduates than the other provinces, a trend that continued in 1990. The lowest proportions of foreign graduates in 1982 and 1986 were in Prince Edward Island (22%) and Quebec (14%); this trend has also continued.

The proportion of foreign graduates has decreased in all provinces since 1982, the largest decrease occurring in New Brunswick (29.9% in 1982 v. 23.3% in 1990). Foreign graduates outnumbered graduates from other provinces two-to-one in all provinces with medical schools except British Columbia.

Overall, 54% of foreign graduates had specialty certification, compared with 48% of Canadian graduates. The proportion of foreign graduates was higher than average among specialists in laboratory medicine (43.3%), pediatrics (38.0%), psychiatry (36.0%), anesthesia (31.6%) and obstetrics/gynecology (30.0%).

Among active physicians, graduates of foreign medical schools accounted for 29% of specialists and

25% of general/family practitioners. The proportion of foreign graduates in active practice varied across the country. Among both specialists and general/family practitioners Newfoundland (49.2% and 46.0% respectively) and Saskatchewan (48.5% and 47.5% respectively) had the highest proportions of foreign graduates

in active practice. Prince Edward Island (15.4%) and Quebec (14.4%) had the lowest proportions of foreign graduates in active practice.

Overall, there were about equal proportions of foreign and Canadian graduates actively practising in rural settings (Table 6). Foreign graduates constituted 26% of

Table 4: Distribution of active certified specialists by age in 1982,² 1986³ and 1990

Specialty; survey year	Age, yr; % of respondents				
	< 35	35-44	45-54	55-64	≥ 65
Anesthesia					
1982 (n = 1561)	13.2	24.8	31.3	24.7	6.0
1986 (n = 1540)	15.0	29.2	24.8	25.5	5.5
1990 (n = 1475)	13.6	32.1	22.9	23.5	7.9
Community medicine					
1982 (n = 328)	9.1	18.3	23.2	38.1	11.3
1986 (n = 306)	9.5	25.2	22.2	31.7	11.4
1990 (n = 260)	8.5	30.0	25.4	22.3	13.8
Diagnostic radiology					
1982 (n = 1206)	13.3	31.1	29.4	21.0	5.2
1986 (n = 1209)	10.9	30.4	27.2	24.6	6.9
1990 (n = 1157)	10.4	25.8	28.5	26.0	9.3
Emergency medicine					
1982	NA	NA	NA	NA	NA
1986 (n = 194)	47.9	46.9	4.6	0.5	0.0
1990 (n = 290)	22.8	60.0	15.5	1.0	0.7
General internal medicine					
1982 (n = 1501)	24.0	35.0	19.2	14.7	7.2
1986 (n = 1214)	13.3	36.3	23.1	17.7	9.6
1990 (n = 1175)	8.8	27.4	28.2	21.3	14.4
General surgery					
1982 (n = 1644)	8.8	23.0	29.3	26.5	12.3
1986 (n = 1435)	5.6	23.9	26.3	30.5	13.7
1990 (n = 1377)	7.6	18.7	24.5	29.5	19.7
Laboratory medicine					
1982 (n = 965)	11.2	26.2	35.1	23.2	4.2
1986 (n = 945)	9.1	27.0	31.3	26.2	6.3
1990 (n = 889)	8.5	25.9	29.1	29.7	6.7
Neurosurgery					
1982 (n = 152)	9.9	32.2	30.9	22.4	4.6
1986 (n = 141)	7.8	31.2	32.6	19.9	8.5
1990 (n = 147)	9.5	26.5	32.7	19.7	11.6
Obstetrics/gynecology					
1982 (n = 1341)	11.9	27.9	28.4	23.0	8.8
1986 (n = 1194)	9.5	25.5	29.4	25.8	9.8
1990 (n = 1084)	9.6	25.1	26.8	25.6	12.9
Ophthalmology					
1982 (n = 709)	12.0	29.1	30.6	18.2	10.2
1986 (n = 724)	14.8	24.6	28.9	21.3	10.5
1990 (n = 711)	12.5	24.8	27.7	23.1	12.0
Orthopedic surgery					
1982 (n = 659)	11.5	36.7	28.4	15.3	8.0
1986 (n = 645)	9.8	35.2	31.0	17.1	7.0
1990 (n = 647)	10.2	30.3	31.7	17.5	10.4
Pediatrics					
1982 (n = 1182)	18.5	34.3	24.0	16.8	6.3
1986 (n = 1127)	12.8	37.2	25.4	17.9	6.7
1990 (n = 1135)	12.8	32.0	25.6	19.6	10.0
Psychiatry					
1982 (n = 2033)	14.4	31.5	30.4	18.1	5.6
1986 (n = 2118)	10.1	31.8	29.8	21.4	6.9
1990 (n = 2201)	10.4	27.4	28.4	23.3	10.7

active physicians in rural practice and 27% of active physicians in urban practice.

Discussion

Physician resource management is a complex set of intricately related issues affecting the supply, mix and distribution of physicians.⁶ Data from surveys such as the PRQ can assist in understanding some of the trends and changes in physician supply and behaviour and, therefore, lead to more effective resource planning.

It is important to recognize the limitations of the PRQ data. First, notwithstanding the data checks, the information provided by the respondents (i.e., level of activity and workload) is self-reported and is not evaluated through comparative analysis with administrative data or other means. Second, it is not guaranteed that physicians are actually practising in their specialty. The preprinted

specialty information on the questionnaire is provided by the Royal College, the CPMQ, various specialty associations and individual physicians. This information is not validated through a peer-review process on a continual basis; however, in 1986 the CMA conducted a peer-review validation of the physician data bank.⁷

As in the past, physician supply and mix will continue to be affected by various factors, including aging, attrition and the career choices of newly trained physicians, particularly women. These factors will have differential effects on particular physician groups, depending on demographic characteristics and practice patterns. Watanabe and Tholl⁸ suggest that over the next 20 years 60% to 65% of retiring physicians will be specialists and 35% to 40% will be general/family practitioners. According to the findings of the 1990 PRQ, over 25% of active physicians are over 54 years of age, and 10% are 65 years of age or more. Attrition through retirement

Table 5: Provincial distribution of all physicians by location of medical school

Province or territory of practice	Location of medical school; no. (and %) of respondents		
	Canada		
	In province of practice	In other province	Elsewhere
British Columbia	1 180 (21.1)	2 649 (47.3)	1 775 (31.7)
Alberta	1 477 (45.9)	678 (21.1)	1 060 (33.0)
Saskatchewan	377 (32.2)	240 (20.5)	553 (47.3)
Manitoba	828 (53.7)	192 (12.4)	523 (33.9)
Ontario	8 688 (58.9)	1 996 (13.5)	4 072 (27.6)
Quebec	6 822 (80.3)	480 (5.7)	1 189 (14.0)
New Brunswick	0 (0.0)	663 (76.7)	201 (23.3)
Nova Scotia	803 (54.4)	259 (17.6)	413 (28.0)
Prince Edward Island	0 (0.0)	128 (81.5)	29 (18.5)
Newfoundland	196 (28.9)	152 (22.4)	330 (48.7)
Yukon/Northwest territories	0 (0.0)	41 (73.2)	15 (26.8)
Canada	20 371 (53.4)	7 478 (19.7)	10 160 (26.7)

Table 6: Proportion of active physicians in rural practice by location of medical school

Province or territory of practice	Location of medical school; no. (and %) of respondents	
	Canada	Elsewhere
British Columbia	8.6	9.4
Alberta	11.4	18.7
Saskatchewan	14.7	21.5
Manitoba	9.0	17.9
Ontario	8.8	6.0
Quebec	13.0	4.1
New Brunswick	24.7	21.0
Nova Scotia	20.6	16.6
Prince Edward Island	23.5	23.8
Newfoundland	26.6	36.3
Yukon/Northwest territories	13.6	25.0
Canada	11.4	10.9

will be a particular concern for provinces such as Prince Edward Island and British Columbia, which have a high proportion of semiretired physicians in active practice. For specialty groups aging physicians will affect, in particular, the future supply of general surgeons, obstetricians and gynecologists, laboratory medicine specialists and internists.

Furthermore, female physicians appear to demonstrate specific career choices and practice patterns. During the academic year 1990–91, 45.5% of first-year medical students and 44.4% of medical school graduates were women.⁹ Other Canadian studies^{10,11} confirm the findings of the PRQ: women tend to choose general/family practice more often than a specialty practice, female physicians outnumber male physicians in part-time practices, and female physicians are more likely than their male colleagues to take a leave of absence during their early years of practice for maternity or family matters. Since female physicians often have the added responsibility of family, it is important to consider women in medicine in a broader social context.

The urban/rural distribution of physicians and its effect on access to health care services continue to be a concern for the medical profession and governments. The findings of the 1990 survey reaffirm the trends observed in the 1986 survey and other studies on underserved geographic areas.¹² Recruitment to rural areas continues to be a challenge in several regions in Canada; for example, one in two physicians in Saskatchewan and Newfoundland are graduates of foreign medical schools. Retaining physicians in rural areas remains a complex issue. There is also a need for further specification of rural versus urban areas; for example, we need to be able to distinguish between physicians in rural practice whose patients have access to secondary and tertiary care versus those in remote areas where services are inaccessible. Furthermore, although progress has been made with respect to provision of primary care in rural areas, many argue that the need for specialty services persists. It is important to determine specifically the type of services needed and the types of services that can be effectively provided in a rural setting. There are specialties, such as surgical specialties, that require a tertiary care setting equipped with the necessary technology to provide services. For these situations efforts should perhaps be focused on improving the methods of transporting patients to these centres.

The PRQ provides valuable data on physician demographics and work activities that can be used to inform policy development regarding the issue of physician resources. In developing health policy it must be emphasized that information on physician resources is just one part of the equation. It is also essential to have information on other health care resources and, just as important, on population health status and population health care needs.

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