

Weekly work hours and clinical activities of Canadian family physicians: results of the 1997/98 National Family Physician Survey of the College of Family Physicians of Canada

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Abstract

Background: Health systems planning is a challenging task, exacerbated by a lack of detailed information on the role played by family physicians, as indicated by practice variations across regions and demographic characteristics. Outcome measures used in past studies of family physician practice patterns were not uniform. Furthermore, past research has generally been limited to narrowly defined geographic regions. A national study of family physician practice patterns was undertaken to allow regional-level comparisons of clinical workload and range of medical services offered.

Methods: The 1997/98 National Family Physician Survey was mailed to a sample of 5198 Canadian family physicians and general practitioners (FP/GPs); the overall response rate was 58.4% (3036 questionnaires returned, of which 3004 were analyzable). Sampling strata were based on College of Family Physicians of Canada (CFPC) membership status and regions of Canada.

Results: Clinical workload varied considerably across the demographic categories studied. Male physicians reported 8.9 more total weekly work hours than female physicians, but the mean number of medical and clinical services offered did not differ between the sexes. Solo practitioners reported 53.8 (95% confidence interval [CI] 52.7–55.0) total weekly work hours, whereas those practising in multidisciplinary clinics reported 45.0 (95% CI 43.2–46.8) hours. FP/GPs in the Atlantic and Prairie provinces reported 5.6 and 5.1 more weekly work hours, respectively, than the national average of 51.4 (95% CI 50.8–52.0) hours. Finally, FP/GPs who served inner-city populations reported 48.6 (95% CI 46.8–50.5) total weekly work hours, whereas those serving rural populations reported 57.0 (95% CI 54.7–59.2) hours. Mean weekly work hours were similar for all age cohorts less than 65 years. FP/GPs practising in less populated provinces and in rural areas reported the highest numbers of work hours, medical services offered and clinical procedures performed.

Interpretation: These data suggest significant variations in FP/GP clinical workload in relation to key demographic variables.

Physician resource planning in Canada is a challenging and inexact science. Past attempts have resulted in variable estimates of the ultimate need for physician services. There is a clear recognition that we need more information than simple head counts of physicians. We need to know, for example, what physicians do and how they work with other physicians, and we need to identify regional variations and differences in practice patterns.

Past studies of family physician practice patterns have measured workload in terms of hours worked,¹⁻³ number of patient visits,^{2,3} billings to health insurance plans^{4,5} and range of clinical procedures performed.⁵⁻⁷ These outcomes have been analyzed in relation to practice setting,^{1,2,6,7} geographic physician density,^{4,5} sex,¹⁻⁷

Research

Recherche

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age,^{1,2,4,5,7} years in practice^{3,6} and type of practice.^{1-3,6,7}

Although past studies have proven useful in describing the significant relations that exist between physician workloads and demographic characteristics, they have not addressed the broader issue of access to family physicians' services throughout Canada. By gathering uniform information from family doctors across the country, the College of Family Physicians of Canada (CFPC) National Family Physician Survey (NFPS) addresses this information gap. In this report we present the results of the 1997/98 NFPS, describing physician workload measures in relation to a comprehensive set of demographic variables.

Methods

A stratified random sample of 5198 family physicians and general practitioners (FP/GPs) was used for the 1997/98 NFPS. Sampling strata were based on CFPC membership status and regional setting. The Southam Medical Database and the CFPC membership database were used to select only FP/GPs engaged in active practice in Canada.

Records within the final data set were weighted to reflect known FP/GP distributions, with respect to the sampling strata, at the time of the survey. Ninety-five percent confidence intervals (95% CIs) are given for all point estimates. Complete methodological details of the 1997/98 NFPS appear elsewhere in the medical literature⁸ and are also available on the CFPC Web site.⁹

The demographic characteristics studied were age, sex, medical practice setting, primary population served and regional setting. Respondents who indicated more than one type of medical practice were assigned exclusively to their primary category for analysis of this variable. Also, 9.1% of respondents indicated that they served more than one geographic population (e.g., inner city and urban). These respondents were excluded for analysis of this variable.

Results

The overall survey response rate was 58.4% (3036 questionnaires returned, of which 3004 were analyzable). The precision of regional estimates ranged from ± 12.8 percentage points in the Northwest Territories and Yukon to ± 4.8 percentage points in Ontario, not including Metro Toronto.

Analysis of basic demographic characteristics suggested no significant difference between the 3004 survey respondents and the randomly selected total sample of 5198: 34.0% of the respondents were female, compared with only 32.4% of the total sample ($p = 0.129$); 16.6% of respondents and 15.2% of the original sample were classified as rural (i.e., second digit of postal code was 0) ($p = 0.09$); and exactly the same proportion of both groups were less than 45 years of age, with only minor differences in 10-year age cohorts among those older than 44 years ($p = 0.09$).

From a list of 22 items, respondents identified which

Table 1: Medical services offered by family physicians and general practitioners in Canada 1997/98

Medical service	No. of FP/GPs	% of FP/GPs (and 95% CI)
Adult health care	2562	85.3 (83.97–86.54)
Geriatric health care	2473	82.3 (80.91–83.67)
Pediatric health care	2403	80.0 (78.52–81.41)
Adolescent health care	2275	75.7 (74.16–77.26)
Mental health and psychotherapy	2258	75.2 (73.58–76.70)
Preventive medicine and lifestyle counselling	2075	69.1 (67.39–70.72)
Chronic disease management	2058	68.5 (66.81–70.17)
Minor surgery	1927	64.1 (62.40–65.86)
Palliative care	1796	59.8 (58.01–61.55)
Addiction medicine	1621	54.0 (52.16–55.76)
Obstetric care	1587	52.8 (51.03–54.63)
Emergency medicine	1585	52.8 (50.96–54.56)
Sports medicine	1439	47.9 (46.10–49.71)
Aboriginal health care	1423	47.4 (45.57–49.17)
Surgery, assisting	1366	45.5 (43.68–47.27)
Occupational and industrial medicine	1285	42.8 (41.00–44.57)
HIV/AIDS health care	1158	38.5 (36.80–40.32)
Immigrant health care	1104	36.8 (35.02–38.50)
Alternative or complementary medicine	1059	35.2 (33.54–36.99)
Anesthesia	915	30.4 (28.82–32.14)
Major surgery (e.g., appendectomy, cesarean section, hysterectomy)	815	27.1 (25.55–28.76)
Other medical services	214	7.1 (6.23–8.10)

Note: CI = confidence interval.

medical services were part of their practice (Table 1). More than half of the respondents reported that they offered specific medical services such as mental health or psychotherapy counselling, minor surgery, palliative care and obstetric care. On average, respondents offered 11.9 (95% CI 11.7–12.2) of the 22 medical services listed.

Respondents also identified clinical procedures performed as part of their practice (Table 2). Papanicolaou smears, suturing, and musculoskeletal injection or aspiration were key clinical procedures performed by more than half of the respondents. On average, FP/GPs performed 5.5 (95% CI 5.4–5.6) of the 14 listed clinical procedures.

The respondents indicated the number of hours spent weekly in clinical, academic, administrative and other professional activities. Total weekly work hours were calculated as the sum of the hours spent weekly on all work activities, excluding on-call work hours. On average, FP/GPs worked 51.4 (95% CI 50.8–52.0) hours per week. This total was divided between clinical (83.3%), academic (7.8%), administrative (6.5%) and other professional (2.5%) activities. Only clinical and total hours are shown in Table 3.

Table 3 presents summary statistics for the main outcome variables in relation to key demographic variables. Male respondents reported working, on average, 54.4 (95% CI 53.7–55.1) total hours per week, whereas female respondents reported working 45.5 (95% CI 44.6–46.5) total hours per week. No differences were found between male and female physicians in terms of mean number of medical services offered and clinical procedures performed.

Mean weekly work hours, both clinical and total, were fairly constant for all age groups up to 65 years of age; for older physicians, mean weekly work hours decreased. There was, however, a steady decrease in the mean number of medical services offered and clinical procedures performed by successively older age cohorts (Table 3).

An obvious gradient appeared for all study outcomes in relation to the primary populations served by respondents (Table 3). All outcome measures were greater for those who served populations further away from urban centres. For instance, relative to their inner city counterparts, FP/GPs who served primarily rural populations worked 10.1 (95% CI 7.5–12.8) more clinical hours per week and performed 2.3 (95% CI 1.9–2.8) more clinical procedures.

Table 3 also suggests demographic variations according to region and type of medical practice. FP/GPs in multidisciplinary and specialized clinics tended to report fewer weekly work hours, fewer medical services offered and fewer clinical procedures performed. The regional analysis showed that these same outcome measures were generally highest in the least populated regions, the Atlantic and Prairie provinces.

Interpretation

FP/GPs in less populated provinces and regions tended to work longer hours, offer more medical services and perform more clinical procedures than those in other regions. Also, physicians who served populations further away from the inner city had longer work hours and performed more clinical procedures than those serving populations closer to urban centres. These findings are certainly related to the issues of physician resources, migration, and recruitment and retention in underserved areas.

Although physicians' age did not surface as a key factor in this study, a number of interesting observations can be made with regard to this variable. In particular, we found that mean total weekly work hours appeared constant across age cohorts. Perhaps younger family doctors choose to work fewer hours and, in so doing, bolster the demand for services provided by aging family doctors. Future surveys of family physicians should help to clarify these data.

The 58.4% response rate may limit the generalizability of the NFPS study results. Demographic characteristics of the survey respondents and the randomly selected sample were similar. Nevertheless, those who did not respond to the survey may be notably different from the respondent group on the basis of other factors that were not measured, a possibility that must be taken into account in attempting to generalize these study results to the entire Canadian FP/GP population.

We have endeavoured to describe family physician workloads, the variety of medical services they offer and the amount of time they spend offering those services. Certain FP/GP subpopulations worked more than an extra

Table 2: Clinical procedures performed by family physicians and general practitioners in Canada 1997/98

Clinical procedure	No. of FP/GPs	% of FP/GPs (and 95% CI)
Papanicolaou smears	2465	82.0 (80.64–83.41)
Suturing	2374	79.0 (77.53–80.47)
Musculoskeletal (including joint) injection or aspiration	2075	69.1 (67.39–70.72)
Minor surgery	1757	58.5 (56.70–60.26)
Biopsy	1504	50.1 (48.26–51.87)
Casting and splinting	1349	44.9 (43.12–46.71)
ECG interpretation	1249	41.6 (39.81–43.36)
Needle aspiration	1168	38.9 (37.13–40.65)
Lumbar puncture	581	19.3 (17.94–20.80)
Pulmonary function testing	569	18.9 (17.55–20.39)
Audiometry	270	9.0 (7.99–10.07)
Dilatation and curettage aspiration	259	8.6 (7.64–9.68)
Endoscopy	223	7.4 (6.51–8.42)
Refraction	127	4.2 (3.54–5.01)
Other procedures	601	20.0 (18.59–21.48)

Note: ECG = electrocardiography.

day per week delivering twice as many medical services and clinical procedures than other groups. The salient factors were sex, geographic or regional setting, and type of medical practice.

The NFPS provides new information about the contri-

bution of family doctors to Canada's health care system. Because this was a national survey, we have been able to identify important regional variations in FP/GP practice patterns, thus addressing the broader issue of access to family physicians' services in Canada. Family doctors were

Table 3: Weekly work hours, medical services offered and clinical procedures performed by family physicians and general practitioners in Canada 1997/98

Physician characteristic	No. of respondents	Mean no. of hours worked*† (and 95% CI)		Mean no. of medical services offered (and 95% CI)	Mean no. of clinical procedures performed (and 95% CI)
		Clinical‡	Total§		
Sex					
Men	2003	45.5 (44.8–46.1)	54.4 (53.7–55.1)	11.9 (11.6–12.2)	5.9 (5.8–6.0)
Women	959	37.7 (36.8–38.7)	45.5 (44.6–46.5)	12.1 (11.6–12.5)	4.7 (4.6–4.9)
Age, yr					
≤ 30	142	44.5 (42.1–46.8)	51.8 (49.2–54.3)	13.1 (12.0–14.1)	6.6 (6.2–7.0)
31–40	844	41.7 (40.6–42.8)	50.2 (49.0–51.4)	13.1 (12.6–13.6)	5.9 (5.7–6.1)
41–50	1115	43.2 (42.4–44.0)	52.1 (51.3–53.0)	12.0 (11.6–12.4)	5.5 (5.4–5.7)
51–64	742	44.1 (42.9–45.2)	52.6 (51.5–53.8)	10.6 (10.1–11.1)	5.0 (4.8–5.3)
≥ 65	127	40.1 (37.2–43.1)	47.8 (44.5–51.2)	9.4 (8.3–10.5)	4.4 (3.9–5.0)
Primary population served¶					
Inner city	280	38.9 (37.2–40.5)	48.6 (46.8–50.5)	10.7 (9.9–11.5)	4.7 (4.4–5.0)
Urban	994	40.4 (39.5–41.2)	49.7 (48.8–50.6)	11.3 (10.8–11.7)	4.8 (4.6–4.9)
Suburban	536	42.2 (41.1–43.3)	49.9 (48.6–51.1)	12.6 (12.0–13.2)	5.4 (5.2–5.6)
Small town	507	45.5 (44.2–46.8)	52.7 (51.3–54.1)	11.8 (11.2–12.4)	6.2 (5.9–6.5)
Rural	288	49.0 (47.0–51.0)	57.0 (54.7–59.2)	13.7 (13.1–14.4)	7.0 (6.7–7.4)
Isolated or remote	90	44.5 (40.8–48.2)	56.3 (52.5–60.2)	14.4 (13.0–15.7)	7.2 (6.5–8.0)
Primary medical practice type**					
Solo	819	45.6 (44.5–46.6)	53.8 (52.7–55.0)	11.3 (10.8–11.7)	5.0 (4.9–5.2)
FP group	1151	44.5 (43.7–45.4)	52.6 (51.6–53.5)	13.5 (13.2–13.9)	6.2 (6.1–6.4)
FP/specialist	158	41.9 (40.2–43.6)	48.9 (46.9–50.8)	10.6 (9.5–11.6)	5.1 (4.6–5.6)
Multidisciplinary clinic	172	37.3 (35.8–38.8)	45.0 (43.2–46.8)	10.4 (9.4–11.4)	5.0 (4.6–5.5)
Locum tenens	53	46.2 (42.1–50.5)	52.4 (47.8–57.0)	15.0 (13.3–16.8)	6.5 (5.9–7.1)
Specialized clinic	102	29.3 (26.4–32.1)	45.5 (42.3–48.7)	8.5 (7.0–10.0)	3.5 (2.9–4.1)
Region					
Montreal	262	37.2 (35.9–38.5)	46.2 (44.8–47.6)	7.6 (6.9–8.3)	3.8 (3.5–4.1)
Rest of Quebec	549	39.1 (38.0–40.2)	46.0 (44.9–47.0)	8.6 (8.1–9.1)	4.3 (4.1–4.5)
British Columbia	449	42.6 (41.2–44.1)	50.8 (49.3–52.3)	15.2 (14.7–15.8)	6.6 (6.3–6.8)
Metro Toronto	582	43.0 (41.7–44.2)	52.2 (50.9–53.6)	11.9 (11.3–12.5)	5.1 (4.9–5.3)
Rest of Ontario	432	43.1 (41.7–44.5)	52.3 (50.8–53.9)	12.9 (12.3–13.5)	6.0 (5.7–6.2)
Alberta	257	47.3 (45.2–49.4)	56.5 (54.2–58.7)	13.3 (12.5–14.1)	6.2 (5.8–6.5)
Saskatchewan and Manitoba	203	47.6 (45.2–50.0)	56.5 (53.9–59.1)	14.0 (13.2–14.9)	7.0 (6.6–7.4)
Atlantic provinces	248	48.2 (46.1–50.3)	57.0 (54.8–59.2)	12.9 (12.1–13.7)	6.2 (5.9–6.5)
Northwest Territories or Yukon	9	50.1 (40.3–59.8)	58.7 (47.1–70.2)	16.1 (12.5–19.6)	9.2 (7.5–11.0)

*Respondents who reported more than 133 total work hours per week were excluded from analyses of work hours.

†On-call hours are not included in this analysis.

‡Includes time spent in private office, hospital, health care institutions and other clinical practice settings.

§Includes clinical hours plus time spent on teaching, research, continuing medical education, and other administrative or professional activities.

¶Respondents who indicated that they served more than one primary population were not included in this analysis.

**The survey instrument allowed for multiple responses to this question. Respondents were assigned exclusively to their primary practice type for this analysis.

surveyed again in January 2001 as part of the second NFPS. The new data should serve health information needs by revealing shifts in family physician practice patterns over time.

Competing interests: None declared.

Contributors: Steve Slade helped to formulate the basic concept for the paper, conducted the statistical analysis, and drafted and revised the manuscript. Nick Busing helped to formulate the basic concept and content for the paper, made contributions to the writing of the paper, and reviewed the original manuscript and all subsequent revisions.

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