Which physicians make home visits and why? A survey

Rénald Bergeron,* MD; Andrée Laberge,† PhD; Lucie Vézina,* MA; Michèle Aubin,* MD, Msc

Abstract

Background: Recent changes in the North American health care system and certain demographic factors have led to increases in home care services. Little information is available to identify the strategies that could facilitate this transformation in medical practice and ensure that such changes respond adequately to patients' needs. As a first step, the authors attempted to identify the major factors influencing physicians' home care practices in the Quebec City area.

Methods: A self-administered questionnaire was sent by mail to all 696 general practitioners working in the Quebec City area. The questionnaire was intended to gather information on physicians' personal and professional characteristics, as well as their home care practice (practice volume, characteristics of both clients and home visits, and methods of patient assessment and follow-up).

Results: A total of 487 physicians (70.0%) responded to the questionnaire, 283 (58.1%) of whom reported making home visits. Of these, 119 (42.0%) made fewer than 5 home visits per week, and 88 (31.1%) dedicated 3 hours or less each week to this activity. Physicians in private practice made more home visits than their counterparts in family medicine units and CLSCs (centres locaux des services communautaires [community centres for social and health services]) (mean 11.5 v. 5.8 visits per week), although the 2 groups reported spending about the same amount of time on this type of work (mean 5.6 v. 5.0 hours per week). The proportion of visits to patients in residential facilities or other private residences was greater for private practitioners than for physicians from family medicine units and CLSCs (29.7% v. 18.9% of visits), as were the proportions of visits made at the patient's request (28.0% v. 14.2% of visits) and resulting from an acute condition (21.4% v. 16.0% of visits). The proportion of physicians making home visits at the request of a CLSC was greater for those in family medicine units and CLSCs than for those in private practice (44.0% v. 11.3% of physicians), as was the proportion of physicians making home visits at the request of a colleague (18.0% v. 4.5%) or at the request of hospitals (30.0% v. 6.8%). Physicians in family medicine units and CLSCs did more follow-ups at a frequency of less than once per month than private practitioners (50.9% v. 37.1% of patients), and they treated a greater proportion of patients with cognitive disorders (17.2% v. 12.6% of patients) and palliative care needs (13.7% v. 8.6% of patients). Private practitioners made less use of CLSC resources to assess home patients or follow them. Male private practitioners made more home visits than their female counterparts (mean 12.8 v. 8.3 per week), although they spent an almost equal amount of time on this activity (mean 5.7 v. 5.2 hours per week).

Interpretation: These results suggest that practice patterns for home care vary according to the physician's practice setting and sex. Because of foreseeable increases in the numbers of patients needing home care, further research is required to evaluate how physicians' practices can be adapted to patients' needs in this area.

In recent years changes in various demographic and organizational factors have led to an increase in home care services to meet the needs of people who are becoming less self-sufficient or who are affected by increasingly serious health conditions.[1–5] Furthermore, the changes now occurring in the health care system, which are intended to make the use of hospital resources more efficient, will proba-

Evidence

tudes

From the *Family Medicine Unit, H pital Laval, Sainte-Foy, Que., and the †Centre de Sant publique de la r gion de Qu bec, Beauport, Que.

This article has been peer reviewed. It was submitted in French and subsequently translated by the publisher.

CMAJ 1999;161:369-73

bly promote a steady increase in the provision of ambulatory and home care.[5] In this context, it is essential to ensure that enough general practitioners are available and that medical resources are organized efficiently enough to provide adequate home care services.

There is little information on the home care practices of Quebec physicians. According to data from the R gie de l'assurance-maladie du Qu bec (the Quebec health insurance board), 55% of general practitioners in private practice provide home care.[6] However, these data underestimate the number of home visits because they ignore visits made by salaried physicians and those paid on an hourly basis. Some studies of the factors influencing medical practice in general and of the strategies to change such practices have shed light on the role of personal characteristics such as age,[2] sex[7–9] and training.[10–12] Other factors more closely related to the practice setting itself, for instance, the location and type of practice,[3,13,14] the mode of remuneration[9,15,16] and the clientele,[3,17] also seem to play a role in determining practice patterns. Aside from a few studies conducted in the United States[2,3] and overseas,[9,18] information on patient characteristics, the nature and method of procedures performed in the home, and the factors affecting this type of practice is scarce. Consequently, it is difficult to estimate the scope, quality and conditions of medical services provided in the home. Yet such information is crucial in identifying the strategies that might foster the transformation of practices to meet patients' needs. The objective of this exploratory survey was to describe the characteristics and determinants of the home care practices of primary care physicians in the Quebec City area.

Methods

In fall 1994 a self-administered survey was sent by mail to all 696 general practitioners practising in the Quebec City region, mostly in urban residential areas and a few semiurban areas. The questionnaire was accompanied by a covering letter signed by both the director of professional training of the F d ration des m decins omnipraticiens du Qu bec (the provincial association of general practitioners) and the president of the Association des m decins omnipraticiens de la r gion de Qu bec (the Quebec City regional association of general practitioners). The questionnaire was pre-tested on 15 physicians from the region working in various practice settings: private practice, family medicine units and CLSCs (centres locaux des services communautaires; community-based centres providing social and health care services). To increase the rate of response, 2 reminders were sent by mail to those who had not responded by 3 and 6 weeks after the initial mailing. Physicians who did not respond to any of the mailings were contacted by telephone to obtain information on their personal and professional characteristics.

For the purposes of the questionnaire, home care medical practice was defined as any visit made to a patient's home (house or apartment), a foster home or a residence for elderly people (if the patient is seen in his or her own unit within the residence). It did not include patients seen in an extended care facility, a public residential facility or the infirmary of a religious order.

The questionnaire was designed to gather information on the personal and professional characteristics of physicians, as well as the characteristics of their home care practices. The data collected included the volume of home care provided (number of hours spent and number of visits made in the most recent week of work), the characteristics of patients seen in their homes and of the home care visits themselves, the origin of the requests for home visits, the methods used to assess new patients, and the relationship between the physicians and the CLSC home care follow-up teams. Univariate and bivariate analyses were conducted using the χ^2 test and Student's t-test (by means of the SAS software package). Results were considered significant at a p level of 0.05.

The results of our analysis of practice patterns in home care influenced the presentation of those results. Specifically, we found that mode of remuneration and practice setting were closely related: almost all physicians in private practice (219 of 223 such physicians [98.2%]) were compensated on a fee-for-service basis, whereas 90.6% of those practising in family medicine units or CLSCs received a fixed salary or sessional fee (116 of 128 such physicians). Stratified analyses for each of these variables confirmed this close relation. In light of these data and the distinctive organization of medical practice in each of these settings, the results are presented according to practice setting, because this variable describes relatively homogenous groups of general practitioners. Hence, physicians in private practice are compared with those working in family medicine units or CLSCs. Sex also affected practice patterns in home care. However, because the number of respondents from family medicine units and CLSCs was small, it was impossible to stratify the analysis for this variable. Therefore, differences in practice pattern according to physician's sex are presented only for private practitioners.

Results

In all, 487 (70.0%) of the 696 eligible general practitioners returned questionnaires. Telephone follow-up with those who did not respond to the mailings allowed us to obtain some additional personal and professional information and to conclude that most of the physicians with a home care practice in the Quebec City area (78.2%) had contributed to the survey. More than half of the respondents (283/487 [58.1%]) made home visits and had been doing so for on average 16.8 years. The mean age of these general practitioners was 44.6 years, and they had been practising for on average 19.5 years. Home care was most often provided by male physicians, in solo or group private practice and remunerated on a fee-for-service basis (Table 1). Respondents involved in home practice reported that they had visited an average of 28 patients at home over the past year. In their most recent week of work, home visits represented a mean of 11.5% of all their medical appointments. Specifically, 118 (41.7%) of the physicians surveyed had made 5 or fewer home visits in the most recent week of work, 65 (23.0%) had made 6 to 10 home visits, and 100 (35.3%) had made 11 or more visits. In terms of time allocated to this activity, 88 (31.5%) of the physicians had spent less than 3 hours on home care during the most recent week of work, 108 (38.7%) had spent 3 to 6 hours, and 83 (29.8%) had spent more than 6 hours.

The number of home visits in the most recent week of work was higher for private practitioners than for their family medicine unit and CLSC counterparts (mean 11.5 v. 5.8 visits; $p = 0.006$) (Table 2). However, the amount of time spent providing this type of service was not affected by respondents' practice setting (mean 5.6 v. 5.0 hours/week; $p = 0.71$). Moreover, the characteristics of patients receiving home care were similar for physicians from the 2 practice settings (data not shown). In contrast, significant differences were observed between the 2 practice settings with respect to the proportion of patients who had cognitive disorders (17.2% of patients seen by family medicine unit and CLSC physicians v. 12.6% of patients seen by private practitioners; $p = 0.05$), the location in which the visits took place, the frequency of visits to patients seen at home, the period over which these patients had been followed by the physician, and the reasons for and duration of the home visits (Table 3). The requests for home visits were made by patients or their family members more frequently for private practitioners than for physicians in family medicine units and CLSCs (66.2% v. 34.0% of physicians), whereas the reverse was true for the proportions of requests made by CLSCs (44.0% of physicians in family medicine units and CLSCs v. 11.3% of private practitioners), hospitals (30.0% v. 6.8% of physicians) and colleagues (18.0% v. 4.5% of physicians) ($p = 0.002$). Data on general methods of assessing a new patient at home were not significantly affected by practice setting, except in terms of information collected relating to the environmental and financial aspects of the patient's situation; private practitioners asked questions about environmental and financial aspects of the patient's situation less frequently (58.5% and 22.0% respectively) than their family medicine unit and CLSC counterparts (73.5% and 49.0% respectively) ($p < 0.001$). The private practitioners had a smaller proportion of patients receiving follow-up care from both the physician and the CLSC home support teams than did the family medicine unit and CLSC physicians (19.2% v. 46.7% of patients) ($p = 0.001$). Finally, only 27 (12%) of the 223 private practitioners said that they had worked on a multidisciplinary team with CLSC staff, whereas 25 (50%) of the 50 family medicine unit and CLSC physicians had done so ($p < 0.001$).

Among the physicians in private practice, a greater proportion of men than women had made 11 or more visits in the most recent week of work (76/171 [44.4%] v. 13/52 [25.0%]), and a greater proportion of women than men had made 5 or fewer visits (28/52 [53.8%] v. 59/171 [34.5%]) ($p = 0.02$). Even though men made more home visits than women overall (12.8 v. 8.3 in the most recent week of work), the time spent on home visits over the same period was almost equal for men and women (5.7 v. 5.2 hours in the most recent week of work; $p = 0.10$). The characteristics of home care patients were the same for male and female physicians, except with regard to the proportion of patients with cognitive disorders, which was greater for male than female physicians (13.3% v. 9.4% of patients) ($p = 0.04$). On the other hand, there were many differences between the sexes in the characteristics of medical follow-up provided in the home, especially in terms of the reason for, the frequency of and the duration of visits, as well as the type of procedure carried out (Table 3).

There were no differences between male and female physicians in terms of the sources of requests for home visits or the methods of assessing new patients, except that female physicians questioned patients about the environmental aspects of their situation more frequently than male

Table 1: Personal and professional characteristics of Quebec City physicians making home visits

Characteristic	No. (and %) of physicians *n = 283*
Sex	
Female	79/177 (44.6)
Male	204/310 (65.8)
Training*	
Multidisciplinary internship	172/292 (58.9)
Family medicine residency	90/168 (53.6)
Practice setting	
Private, solo	65/90 (72.2)
Private, group	158/215 (73.5)
CLSC	16/36 (44.4)
Family medicine unit	34/51 (66.7)
Hospital	10/95 (10.5)
Mode of remuneration	
Fee-for-service	213/329 (64.7)
Salary	30/79 (38.0)
Sessional fee	21/48 (43.7)
Mixed	19/31 (61.3)

Note: CLSC = centre local des services communautaires.
*Twenty-one physicians did not provide this information.

Table 2: Home care workload for most recent week of work according to practice setting*

Workload characteristic	Practice setting; no. (and %) of physicians: Private practice *n = 223*	FMU or CLSC *n = 50*
No. of home visits †		
≤ 5	87 (39.0)	27 (54)
6–10	47 (21.1)	15 (30)
≥ 11	89 (39.9)	8 (16)
Time spent providing home care, h		
< 3	72 (32.3)	16 (32)
3–6	86 (38.6)	22 (44)
> 6	65 (29.1)	12 (24)

FMU = family medicine unit.
*The 10 physicians who practise in hospitals were not included in these analyses.
†The distribution of physicians between the categories was significantly different between private practice and family medicine units or CLSCs ($p \leq 0.001$).

physicians (75.5% v. 53.2% of physicians) (p = 0.02). The female physicians also had a greater proportion of patients whose follow-up care was provided jointly with home support teams (26.7% v. 17.8% of patients) (p = 0.0003), yet they did not appear to attend multidisciplinary team meetings more often than their male counterparts.

Interpretation

Given the scarcity of information available on home medical practice, this exploratory survey was beneficial because it yielded at least some specific data on patient and visit characteristics as well as methods used in home care follow-up. It has also enabled us to describe differences (according to practice setting and sex of physicians) in the practice patterns of home care, in terms of patients' characteristics, volume of visits and the use made of CLSC resources.

Although this type of care seems widespread in the Quebec City region, our results confirm those of Keenan and associates,[3] who found that the frequency of home medical visits differed considerably from one physician to the next. The organization of primary medical services in the Quebec City region and, more specifically, the number of private practitioners, as well as the presence of limited medical teams in the CLSCs, are factors that probably affect the number of physicians interested in providing home care. Moreover, as some studies from the United States have suggested,[9,15] fee-for-service billing, the most common type of compensation for private practitioners, can be an incentive to increase the frequency and reduce the duration of home visits. The strong relation that we found between mode of remuneration and practice setting supports the role of this financial variable in differences in home care practice. However, as suggested by Keenan and associates,[3] the decision to provide home care is not simply an economic one; those authors found that only 50% of general practitioners would make more home visits if they were more appropriately compensated. Other organizational factors, such as the availability of on-call physicians for emergencies, peer support from colleagues and organization of work time, could also influence willingness to provide home care. Moreover, differences in the use of CLSC resources, whereby private practitioners make less use of these resources, coincide with the results of other studies[9,10] and suggest that these physicians prefer an individual approach. In terms of variations related to the sex of physi-

Table 3: Characteristics of home care performed in the most recent week of work according to practice setting* and sex†

	Practice setting; no. (and %) of visits		Sex; no. (and %) of visits	
Visit or patient characteristic	Private practice	FMU or CLSC	Female	Male
Location of visits‡				
Private home	1995 (70.3)	274 (81.1)	320 (68.5)	1675 (70.7)
Residential facility	841 (29.6)	64 (18.9)	147 (31.5)	694 (29.3)
Frequency of visits‡				
On demand	738 (28.0)	52 (14.2)	85 (17.7)	653 (30.3)
Regularly, < once/mo	977 (37.1)	187 (51.0)	156 (32.5)	821 (38.1)
Regularly, > once/mo	921 (34.9)	128 (34.9)	239 (49.8)	682 (31.6)
Follow-up period to date, mo§				
< 6	329 (12.2)	56 (17.7)	50 (11.3)	279 (12.4)
6–12	356 (13.2)	44 (13.9)	45 (10.2)	311 (13.8)
> 12	2003 (74.5)	217 (68.4)	347 (78.5)	1656 (73.7)
Reason for visits¶				
Acute condition	533 (21.4)	43 (16.0)	49 (12.3)	484 (23.1)
Chronic condition	1744 (70.0)	189 (70.3)	321 (80.8)	1423 (67.9)
Palliative care or other	215 (8.6)	37 (13.8)	27 (6.8)	188 (9.0)
Type of procedure‡				
Assessment, diagnosis	499 (19.1)	50 (15.4)	50 (10.5)	449 (20.9)
Treatment, prescription	602 (23.1)	69 (21.3)	75 (15.8)	527 (24.5)
Monitoring, follow-up	1506 (57.8)	205 (63.3)	351 (73.7)	1175 (54.6)
Duration of visits, min‡				
< 15	650 (25.4)	16 (5.1)	70 (15.9)	580 (27.3)
15–30	1652 (64.5)	191 (60.4)	324 (73.8)	1328 (62.6)
> 30	258 (10.1)	109 (34.5)	45 (10.2)	213 (10.0)
Emergency visits	302 (10.6)	31 (9.2)	39 (8.4)	263 (11.1)

*The 10 physicians who practise in hospitals were not included in these analyses.
†Because of a lack of data, comparisons between sexes relate only to physicians in private practice, not those in FMUs or CLSCs.
‡$p \leq 0.001$.
§$p \leq 0.05$.
¶$p \leq 0.01$.

cians, some studies have shown that men tend to have more diversified practices than women and that they are more involved in hospital care, emergency medicine and home care.[7,8] Other authors point to the fact that women are less available for duties outside regular work hours as a result of the choices they must make to accommodate their professional and family obligations.[19,20]

There may be some bias affecting the accuracy of our results, given that data were collected only for the most recent week of work and are based on the physicians' memories. However, just over 80% of the physicians surveyed said that the information for this period reflected their overall home care practice, and the others indicated that it underestimated the volume of home care they usually provide. Finally, because the survey focused specifically on the organization of home care practice in the Quebec City region, our results cannot necessarily be taken to represent the practice of physicians in general. However, many of the organizational and professional characteristics of medical practice that we identified concur with results obtained in other studies.[2,3,9,13,14,18]

In light of the changes that have taken place in the health care system and considering the foreseeable increase in the number of patients needing home care, further research is required to accurately determine the influence of certain organizational factors on home care and thereby to identify strategies likely to promote the development of this type of practice.

This survey was funded by the Fonds de recherche en santé du Québec.

Competing interests: None declared.

References

1. Swann H, Benjamin AE. Medicare home health utilization as a function of nursing home market factors. *Health Serv Res* 1990;25(3):479-500.
2. Keenan MJ, Bland CJ, Webster L, Shepherd M. The home care practice and attitude of Minnesota family physicians. *J Am Geriatr Soc* 1991;39:1100-4.
3. Keenan JM, Boling PE, Schwartzberg JG, Olson L, Schneiderman M, McCaffrey DJ, et al. A national survey of the home visiting practice and attitudes of family physicians and internists. *Arch Intern Med* 1992;152:2025-32.
4. Kenny GM, Dubay LC. Explaining area variation in the use of Medicare home health services. *Med Care* 1992;30(1):43-57.
5. Minist re de la Sant et des Services Sociaux. *La politique de la sant et du bien-tre*. Quebec City: Government of Quebec; 1992.
6. *Statistiques annuelles de 1994*. Quebec: R gie de l'assurance-maladie du Qu bec; 1996.
7. Maheux B, Dufort F, Lambert J, Berthiaume M. Do female general practitioners have a distinctive type of medical practice? *CMAJ* 1988;139:737-40.
8. Cohen M, Ferrier BM, Woodward CA, Goldsmith CH. Gender differences in practice patterns of Ontario family physicians (McMaster medical graduates). *J Am Med Wom Assoc* 1991;46:49-54.
9. Groenewegen PP, Hutten JB. The influence of supply-related characteristics on general practitioners' workload. *Soc Sci Med* 1995;40(3):349-58.
10. Maheux B, Lambert J, Beaudoin C, Pineault R, Legault C. Les m decins form s en m decine de famille pratiquent-ils une m decine diff rente des autres g n ralistes? *Union Med Can* 1987;116:243-9.
11. Woodward CA, Cohen M, Ferrier BM, Goldsmith CH, Keane D. Correlates of certification in family medicine in the billing patterns of Ontario general practitioners [published erratum appears in *CMAJ* 1989;141:1225]. *CMAJ* 1989;141:897-904.
12. Tamblyn R, Battista R. Changing clinical practice: Which interventions work? *J Contin Educ Health Prof* 1993;13:273-88.
13. Maheux B, Pineault R, Lambert J, B land F, L vesque A. Les soins de premi re ligne au Qu bec : profil des m decins omnipraticiens pratiquant en cabinet priv et en CLSC. *Can J Public Health* 1990;81(1):27-31.
14. Pineault R, Maheux B, Lambert J, B land F, L vesque A. Characteristics of physicians practicing in alternative primary care setting: a Quebec study of local community service center physicians. *Int J Health Serv* 1991;21(1):49-58.
15. Becker ER, Sloan FA. Utilization of hospital services: the role of teaching, case mix, and reimbursement. *Inquiry* 1983;20(3):248-57.
16. Eisenberg JM. *Doctors' decisions and the cost of medical care*. Ann Arbor (MI): Health Administration Press; 1986.
17. Clark JA, Potter DA, McKinlay JB. Bringing social structure back into clinical decision making. *Soc Sci Med* 1991;32(8):853-66.
18. Kristiansen IS, Koltedahl K. Effect of the remuneration system on the general practitioner's choice between surgery consultations and home visits. *J Epidemiol Community Health* 1993;47(6):481-4.
19. Lorber J, Ecker M. Career development of female and male physicians. *J Med Educ* 1983;58:447-56.
20. Bonar JW, Walson JA, Standford Koester L. Sex difference in career and

family plans of medical students. *J Am Med Wom Assoc* 1982;37:300-4.

Reprint requests to: *Dr Michèle Aubin, Unité de Médecine familiale, Hôpital Laval, 2725, chemin Sainte-Foy, Sainte-Foy QC G1V 4G5; fax 418 656-4503; michele.aubin@mfa.ulaval.ca*