HOSPITAL EMERGENCY DEPARTMENTS: SUBSTITUTES FOR PRIMARY CARE?

RESULTS OF A SURVEY OF THE POPULATION OF MONTRÉAL AND MONTÉRÉGIE

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Hospital emergency departments play a central role in the health care system. They have become the main entry point for hospitalised patients and the resource of choice when primary care services are not available. As a result, emergency department utilisation is a good barometer of how the health system is working. However, the dominant portrait of emergency department utilisation has been constructed from administrative or clinical patient data. Less common are studies that document emergency services utilisation based on survey data. Yet, the latter are unique sources of information on morbidity experienced and on utilisation behaviours of the general population.

The data presented in this thematic report are from a survey of the primary care experiences of individuals in Montréal and Montérégie. The survey is part of a larger study whose aim is to better understand the organisation models of primary care services in Québec and their influence on accessibility and continuity of care. The goal of this report is to provide up-to-date information on hospital emergency department utilisation from the population's perspective. The following questions are examined: How widespread is the use of emergency departments by the population and what are the influencing factors? Why do individuals choose to go to the emergency when they have a health problem?

PART ONE
MAGNITUDE OF EMERGENCY DEPARTMENT UTILISATION AND FACTORS

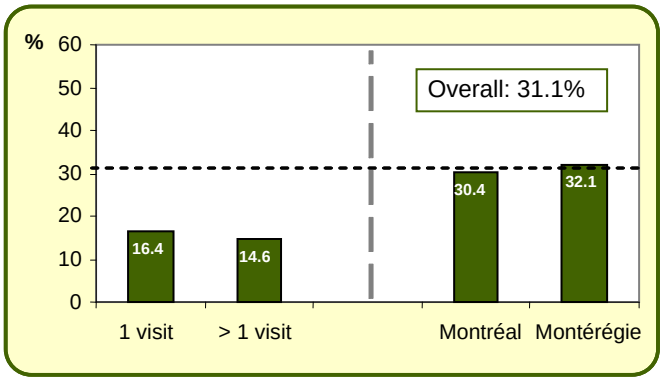
In a survey of primary care experiences conducted in Montréal and Montérégie, participants were asked to answer questions to document whether they had been to the emergency in the past two years and the number of times they had done so. Data on utilisation were cross-tabulated with information individuals gave about their affiliation to a regular source of primary health care, with their perceptions of access to primary care services, and with their individual characteristics. These results are presented in the first part of the thematic report.

The data presented in this report are from a 2005 survey of 9 206 adults (4 789 in Montréal and 4 417 in Montérégie) living in the community

Utilisation of emergency departments by the population

Almost one-third (31%) of the adult population in Montréal and in Montérégie reported having gone to the emergency at least once in the two years preceding the survey (Figure 1). Emergency department utilisation rates are relatively similar in Montérégie (32%) and Montréal (30%).

Figure 1: Rate of emergency department utilisation in the two years preceding the survey



As shown in Table 1, utilisation rates observed in the survey are similar to those reported in other recent studies conducted in Canada and Québec. However, these comparisons should be interpreted with caution, given the differences in reference periods and populations studied.

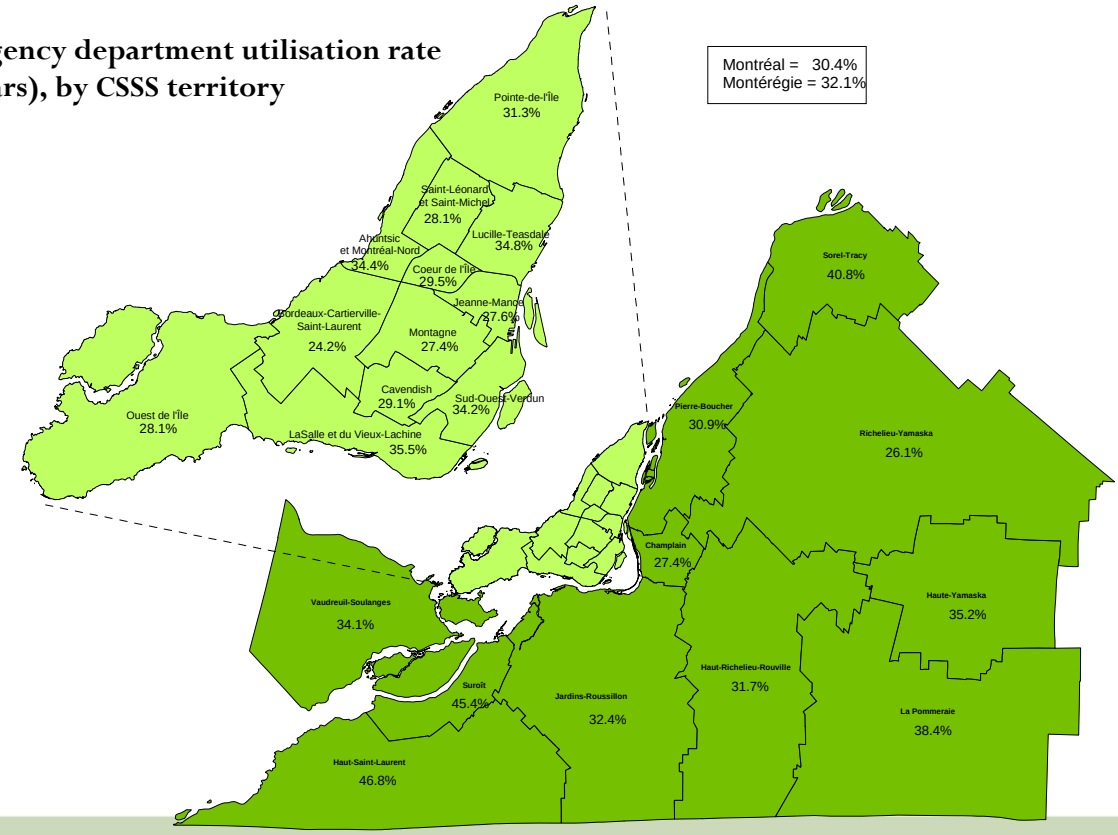
Table 1: Emergency department utilisation rates in recent studies

Source	Reference period (years)	Population	Emergency department utilisation rate (%)
Our survey, 2005[1]	2	Montréal – Montérégie ≥ 18 years	31
Commonwealth Fund, 2004[2]	2	Canada ≥ 18 years	38
Community health survey, 2003[3]	1	Canada ≥ 15 years	13
	1	Québec ≥ 15 years	14
Physician billing at the RAMQ, 2004-2005[4]	1	Montérégie ≥ 20 years	18

It is important to emphasize that in our survey, over half of emergency department users went to emergency only once over the last two years (Figure 1). However, a sub-group of the population reported having gone to the emergency four times or more during this period (12%), and almost 3% identified the emergency department as their regular source of care (data not shown). For a comparison of the individual characteristics of emergency users and of the general population, readers can look up Table 2 in the Appendix.

Our results show significant intraregional variations based on the territories of health and social services centres (CSSS – Centre de santé et de services sociaux). Rates vary between 26% and 47% in Montérégie, and 24% and 36% in Montréal (Map 1). Although differences did not reach statistical significance level because of small sample sizes, some territories stand out. The highest rates tend to be centred around Montérégie, in rural and semi rural CSSS territories.

Map 1: Emergency department utilisation rate (over two years), by CSSS territory



Other studies conducted in Québec and Canada have observed greater use of emergency rooms in rural environments.[5,6] Empirical studies attribute this occurrence to different primary care service organisation in rural areas.[7,8,9] Notably, physicians in rural environments have multiple affiliations and tend to practice in clinics, emergency departments and hospitals.[8,9,10] The probability that a patient be seen in emergency is higher when his or her primary care physician also practices in the hospital.[11] Observations to the effect that users of emergency departments in rural areas are less severely ill than those in urban areas also suggest a close relationship between primary care service organisation and emergency department utilisation in rural territories.[6,12]

Factors influencing emergency department utilisation

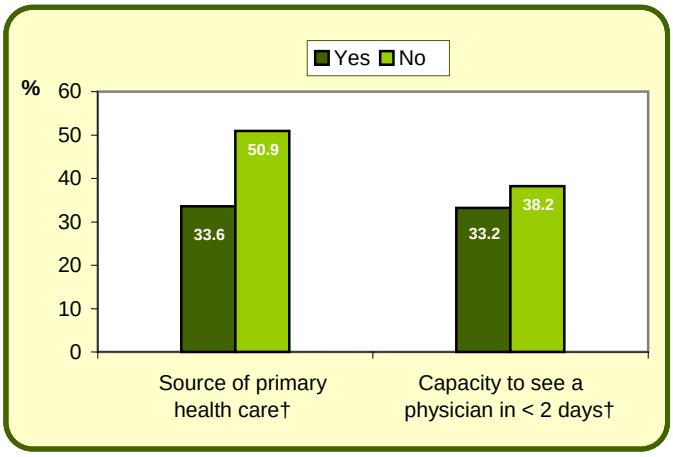
A number of factors can explain the use of emergency departments. A closer look at each one of them provides a first indication of the factors associated with this phenomenon (see Table 3 in the Appendix). A more thorough assessment of their specific roles requires that their interrelations be considered, which is beyond the scope of this report.

Factors related to the health system

In this section, we examine two factors related to the health system: having a regular source of primary health care and perceived access.

In our survey, almost 85% of individuals reported having a regular source of primary health care (Table 2 in the Appendix). Figure 2 shows that fewer people who have a regular source of primary health care (CLSC, medical clinic or physician practice, family medicine groups, or family medicine units) go to emergency departments. Indeed, having a regular source of primary health care is considered a prerequisite to continuity of care. Our results support previous findings which noted that a lack of continuity of care contributes to emergency department use[2,13,14,15,16]. Moreover, the protective effect of having a regular source of care indicates, at least in part, the possibility for individuals to have rapid access to primary care services for immediate care needs. In our survey and in other studies, individuals' perception that they can see a physician quickly (in less than two days) considerably reduces their use of emergency departments (Figure 2).[11,17]

Figure 2: Emergency use utilisation rate (over two years), based on having a regular source of primary health care and access to primary care services



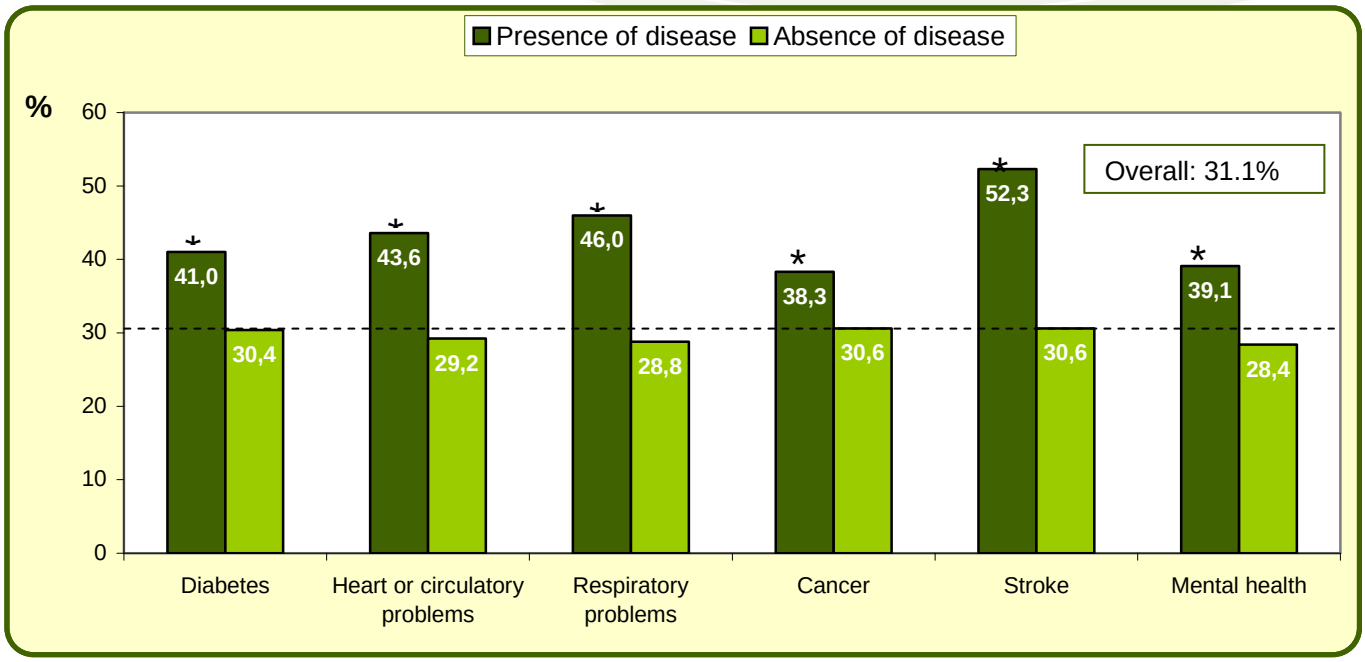
***** *Value significantly different from the estimate for the "No" reference category ($p < 0.05$)*

† *Among individuals who used health care services in the past two years*

Factors related to health status

Health status is generally reported to be a factor influencing use of emergency departments.[3,13] Our survey reveals that emergency department utilisation rates are clearly higher among individuals who perceive themselves to be in poorer health (Table 3 in the Appendix) and among people who reported suffering from a chronic disease or who experienced a serious health problem (Figure 3). It is clear that people who are less healthy are more likely to use emergency departments. However, factors related to the health system might also contribute to the findings observed. There is a need for further analysis of the influence of these factors on emergency department utilisation.

Figure 3: Emergency department utilisation rate (over two years), based on presence of report of current or previous disease



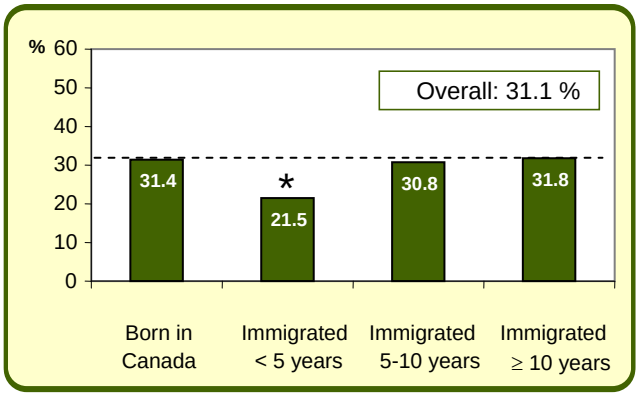
***** *Value significantly different from the estimate for the reference category "Absence of disease" ($p < 0.05$)*

Demographic and socioeconomic factors

Utilisation of emergency departments during the two years preceding the survey by men and women is similar. However, young adults, individuals with lower levels of education, people who are unemployed or with lower income are more likely to use emergency departments (Table 3 in the Appendix). These results concur with those of previous studies that have looked at the influence of demographic factors on utilisation of emergency department services.[2,3,18]

People who immigrated to Canada less than five years ago clearly do not consult at the emergency department as much as the population as a whole. Over time, immigrants come to adopt behaviours that are similar to Canadian-born individuals regarding emergency department utilisation (Figure 4). Our results also show that recent immigrants are in better health and clearly younger than the population as a whole, which could explain these results (data not shown). It is also possible that they are underrepresented in our survey, notably due to language barriers. However, surveys of immigrant populations have underlined the difficulties recent immigrants have accessing immediate primary care, particularly because of language barriers and their lack of knowledge about the health services available.[19,20] Nonetheless, people who have recently immigrated to Canada report having more unmet health care needs.[21] Emergency department utilisation by recent immigrants is a complex phenomenon that should be further examined.

Figure 4: Rate of utilisation of emergency rooms (over two years), by immigrant status



***** *Value significantly different from the estimate for the reference category "Born in Canada" ($p < 0.05$)*

In summary

A sizeable proportion of the population uses hospital emergency departments. Our survey results concur with observations of other studies, that is, in addition to individual characteristics, factors linked to the health system also affect the population's use of emergency departments. Indeed, we observe that having a regular source of primary health care and the perception of having rapid access to a primary care physician reduce emergency room utilisation.

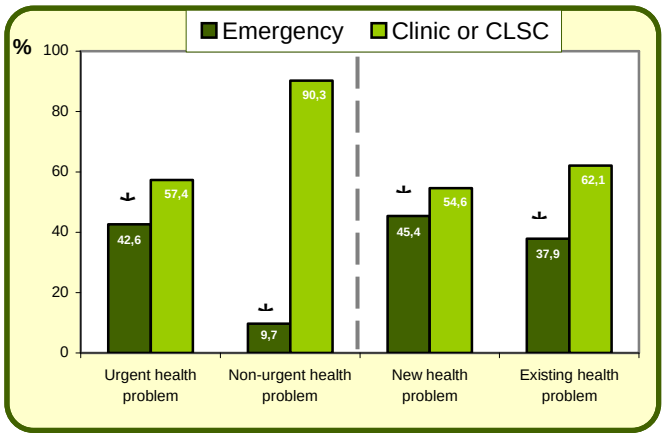
PART TWO
CHOOSING THE EMERGENCY DEPARTMENT FOR A HEALTH PROBLEM

In our survey, participants were asked to describe their health care experiences over the past **six months**. More specifically, they were invited to describe the nature and seriousness of the principal health problem for which they consulted during this time period. Individuals were also asked where they went for consultation concerning this health problem and why they chose that type of setting.

Main consultation type of setting and nature of the health problem

Among individuals who reported having had a health problem in the past six months, one out of three named the emergency department as the main consultation type of setting for their principal health problem. This seemingly high proportion can be attributed to the fact that the recent health care experience documented during the survey concerns the health problem participants identified as the most important, and not all health problems that may have occurred during the period. Nonetheless, their description of these care experiences provide unique information on emergency utilisation behaviours. Figure 5 presents the distribution of participants by main consultation type of setting in the past six months (emergency, medical clinic or CLSC) and nature of the health problem.

Figure 5: Main consultation type of setting in the six months preceding the survey, by perception of the nature of the health problem

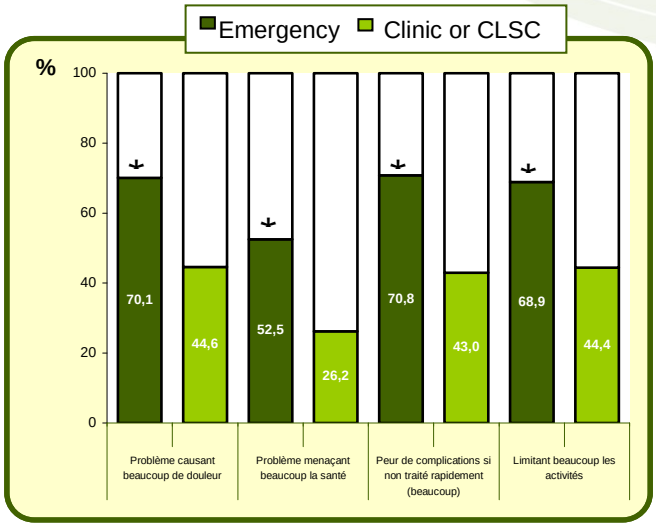


* *Value is significantly different from the estimate for the reference category "Clinic or CLSC" ($p < 0.05$)*

These results show that medical clinics and CLSCs are the main consultation type of setting, regardless of the urgency or newness of a health problem. The difference is particularly apparent in people who felt their health problem was not urgent; among them, only one out of ten reported going to the emergency (Figure 5).

Data in figure 5 show that a greater proportion of people who reported having had urgent health problems went to the emergency than did individuals who had non-urgent problems. Moreover, proportionately more participants who said their health problem was new tended to choose emergency departments than people who said they had had this type of health problem before. Finally, as shown in Figure 6, perception of the health problem's seriousness and related worries were significant factors in choosing an emergency department as the consultation type of setting. Compared with users of medical clinics or CLSCs, more people who chose emergency departments reported consulting for a health problem that caused pain, threatened their health, limited their activities, and risked causing complications. Other studies have obtained similar results.[22,23,24,25]

Figure 6: Seriousness of the health problem (six months) and main consultation sites



** Value significantly different from the estimate for the reference category "Clinic or CLSC" ($p < 0.05$)*

Reasons why individuals went to emergency departments

At the time of the interview, participants were asked if they had consulted with health professionals before going to the emergency department and if so, what recommendations they had made.

Over a quarter (27%) of individuals reported consulting with a physician or Info Santé before going to the emergency (data not shown). These results are similar to those from other recent studies,[25,26,27] including two conducted in Québec.[22,28] A very large majority of people (88%) who undertook these steps were advised to go to emergency. Indeed, overall, almost one out of four who choose to go to emergency departments for their most serious health problem do so on the advice of a health professional.

Participants were also questioned on the reasons behind their decision to go to a hospital emergency department instead of consulting their regular source of primary health care. Reasons given relate mainly to their perception of access to primary care services. Inadequacy of office hours during which they could consult a physician and the impossibility of seeing a doctor rapidly were reported by 22% and 19% of individuals respectively (Figure 7). A significant proportion (29%) of respondents said that the services they needed were not available from their regular source of care. These results are supported by the high proportion of people who stated they went to the emergency to have access to all services, diagnostic tests or medical specialists (Figure 8). A number of similar conclusions are identified in the literature concerning the importance of barriers to access the decision to go to the emergency.[22,28,29,30,31] However unlike the findings of several researchers, in our study, close proximity of the emergency department did not seem to be a strong factor in the decision of a consultation type of setting.[22,28,30,32]

Figure 7: Reasons for choosing the emergency over the regular source of primary health care as main consultation type of setting (six months)

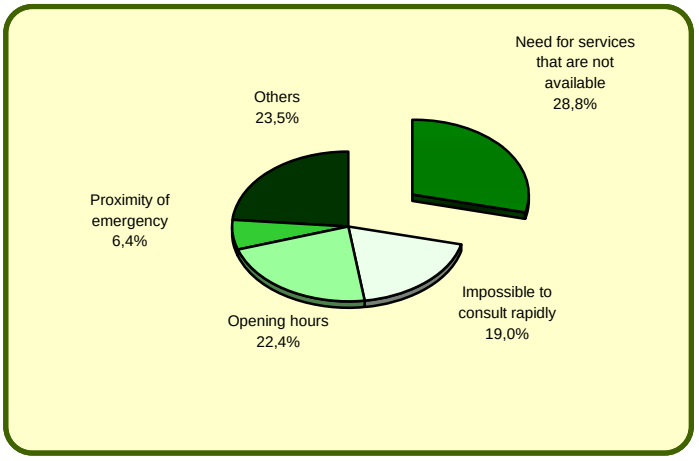
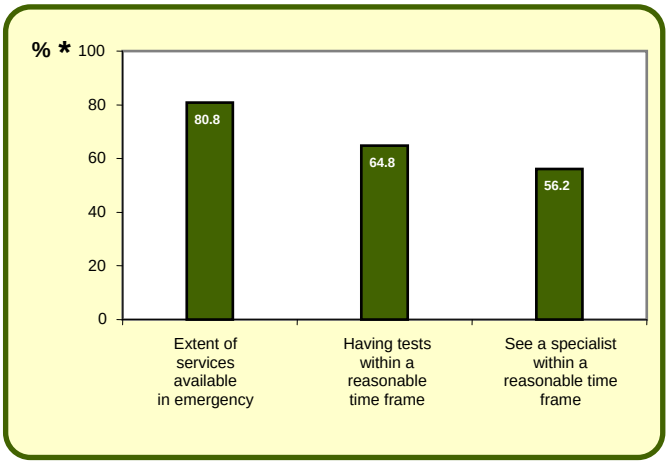


Figure 8: Available resources contributing to choosing emergency departments as main consultation type of setting (six months)



** Percentage of individuals who said they agreed very strongly with the statement*

In summary

An analysis of recent care experiences demonstrates that users of emergency departments are responsible consumers. Several elements influence their decision to go to the emergency when a health problem arises. Some of the significant factors include perception of the urgency and of the seriousness of the problem, as well as recommendation from the health professional consulted. It is clear that an individual's choice to go to the emergency is affected by the perception that access to primary care services is limited. Going to the emergency also seems to be a way of gaining quicker access to specialised services and resources that are perceived as meeting all health care needs.

KEY MESSAGES

In the current context, hospital emergency departments are an important safety net to meet the immediate health care needs of individuals who do not have a regular source of care or who are unable to gain rapid access to primary care services.

Any intervention designed to deter people from turning to emergency departments cannot be developed, as is often the case, without taking into account users' perspectives and elements that play a part in their choice of a consultation type of setting. Otherwise, remedial actions do not have the desired effects, as a number of experiences have shown.

Young adults, individuals with lower levels of education or with lower income levels, and people with chronic diseases use emergency departments more often. Policies designed to improve the supply of primary care services while reducing the use of emergency departments should be directed at these sub-groups of the population.

Hospital emergency departments are not optimal settings from which to manage common health problems nor for follow-up of patients with multiple comorbidities. Reducing the use of emergency departments is conditional upon restructuring primary care services which emphasises measures that aims not only to improve rapid access but also continuity and coordination with other levels of care. In addition to implementation of family medicine groups and network clinics, other measures or resources should be drawn upon to improve the supply of primary care services. This entails, for example, introducing time slots for same-day access and on-call systems outside regular hours, and developing access corridors to diagnostic and specialised services.

Everyone agrees that emergency departments are reliable barometers of how health services are functioning and performing. Indicators for emergency department utilisation should, however, be interpreted with caution. For example, it would be incorrect to conclude that higher emergency utilisation rates in rural areas suggest an inefficient primary care network. On the contrary, medical practice organisation in rural areas, notably characterised by physicians' multiple affiliations and by greater integration of services, can encourage people to use emergency departments but from a perspective of continuity of care. When monitoring measures to improve supply of primary care services and their effects on using emergency departments, it is important to consider the characteristics of the contexts in which hospitals operate.

APPENDIX

Table 2: Distribution (%) of emergency room users and population under study, by sociodemographic and health characteristics, and source of primary care

		Emergency department utilisation (%) [95% Confidence interval]	Population (%) [95% Confidence interval]
Sex	*Men*	49.5 [47.3 – 51.7]	48.5 [47.3 – 49.7]
	Women	50.5 [48.3 – 52.7]	51.5 [50.3 – 52.7]
Age group	*18-44 years*	52.7 [50.5 – 54.9]	49.0 [47.9 – 50.3]
	45-64 years	30.8 [28.7 – 32.9]	33.5 [32.3 – 34.7]
	≥65 years	16.5 [14.9 – 18.2]	17.5 [16.6 – 18.4]
		45.2 years (± 17.3)	**46.3 years (± 17.4**)
Level of education	*Primary or less*	16.7 [15.1 – 18.4]	15.6 [14.7 – 16.5]
	Secondary	35.3 [33.2 – 37.4]	32.6 [31.4 – 33.8]
	College	24.6 [22.7 – 26.5]	24.3 [23.2 – 25.3]
	University	23.4 [21.5 – 25.3]	27.5 [26.4 – 28.6]
Immigrant status	*Born in Canada*	81.3 [79.6 – 83.0]	80.5 [79.5 – 81.5]
	Immigrated <5 years	2.4 [1.7 – 3.1]	3.5 [3.1 – 4.0]
	Immigrated 5 to10 years	2.3 [1.6 – 3.0]	2.3 [1.9 – 2.7]
	Immigrated >10 years	14.0 [12.5 – 15.6]	13.7 [12.9 – 14.6]
Occupation	*Work/School*	61.6 [59.4 – 63.8]	62.8 [61.6 – 64.0]
	Unemployed	5.4 [4.4 – 6.4]	3.9 [3.4 – 4.4]
	Retired, volunteer	24.3 [22.4 – 26.2]	25.0 [23.9 – 26.0]
	Other: Unstable employment	8.7 [7.4 – 9.9]	8.3 [7.6 – 9.0]
Income	*<$15 000*	15.3 [13.7 – 17.0]	13.1 [12.3 – 13.9]
	$15 000-$34 999	33.0 [30.9 – 35.1]	32.0 [30.8 – 33.2]
	$35 000-$74 999	32.5 [30.4 – 34.6]	33.6 [32.4 – 34.8]
	≥$75 000	19.2 [17.4 – 20.9]	21.3 [20.3 – 22.3]
Perception of economic status			
	Affluent	24.6 [22.7 – 26.5]	25.7 [24.6 – 26.8]
	Comfortable	55.7 [53.5 – 57.9]	58.7 [57.5 – 59.9]
	Poor or very poor	19.7 [17.9 – 21.5]	15.6 [14.7 – 16.5]
Perceived health status	*Excellent*	14.1 [12.5 – 15.7]	20.5 [19.5 – 21.5]
	Very good	31.7 [29.6 – 33.8]	34.7 [33.5 – 35.9]
	Good	29.4 [27.4 – 31.4]	28.4 [27.3 – 29.5]
	Medium	18.9 [17.2 – 20.6]	13.6 [12.7 – 14.5]
	Poor	5.8 [4.8 – 6.8]	2.8 [2.4 – 3.2]
Regular source of primary care*	*Yes*	78.4 [76.6 – 80.2]	84.6 [83.6 – 85.6]
	No	21.6 [19.8 – 23.4]	15.4 [14.4 – 16.4]
Perceived possibility of seeing a physician in < 2 days*	*Yes*	35.8 [33.7 – 37.9]	39.1 [37.8 – 40.4]
	No	64.2 [62.1 – 66.3]	60.9 [59.6 – 62.2]

** Among individuals who used health services in the past two years*

Table 3: Utilisation of emergency departments (%) by sociodemographic, health and source of primary care characteristics

		Utilisation rate (%)	χ^2 (p)
Sex	*Men*	31.7	1.1 (0.304)
	Women	30.5	
Age group	*18-44 years*	33.4	15.3 (< 0.001)
	45-64 years	28.6	
	≥65 years	29.4	
Level of education	*Primary or less*	33.3	26.1 (< 0.001)
	Secondary	33.7	
	College	31.5	
	University	26.5	
Immigrant status	*Born in Canada*	31.4	9.9 (0.019)
	Immigrated <5 years	21.5	
	Immigrated 5 to10 years	30.8	
	Immigrated >10 years	31.8	
Occupation	*Work/School*	30.5	19.1 (< 0.001)
	Unemployed	43.6	
	Retired, volunteer	30.3	
	Other: Unstable employment	32.4	
Income	*<$15 000*	37.4	21.0 (< 0.001)
	$15 000-$34 999	32.7	
	$35 000-$74 999	29.9	
	≥$75 000	28.3	
Perception of economic status	*Affluent*	29.7	36.6 (< 0.001)
	Comfortable	29.5	
	Poor or very poor	39.4	
Perceived health status	*Excellent*	21.3	220.3 (<0.001)
	Very good	28.4	
	Good	32.2	
	Medium	43.3	
	Poor	65.7	
Regular source of primary care*	*Yes*	33.6	90.0 (< 0.001)
	No	50.9	
Perceived possibility of seeing a physician in < 2 days*	*Yes*	33.2	13.9 (< 0.001)
	No	38.2	

** Among individuals who used health services in the past two years*

METHODOLOGICAL NOTES

This thematic report falls within the scope of the project entitled "Accessibilité et continuité des services de santé – Une étude sur la 1re ligne au Québec (Health services: accessibility and continuity – A study of primary care in Québec).. The goal of this study is to establish the influence of primary care services organisational models on the health care experience of the population in different contexts (www.santepub-mtl.qc.ca/ESPSS/activites.html#2)

The data presented in this report stem from a telephone survey conducted from February to June 2005 among a sample of the population aged 18 and over living in Montréal and Montérégie. To participate, respondents had to be able to speak French or English. The overall response rate was 64.3% – 63.0% in Montréal and 65.9% in Montérégie. The total sample included 9 206 respondents (4 789 in Montréal and 4 417 in Montérégie).

The questionnaire gathers information about health service utilisation in the two years preceding the survey, the characteristics, utilisation, appreciation and results of services obtained from the regular source of care, as well as participants' care experiences and unmet needs in the preceding six months.

Data are weighted to correct for age and sex distribution and to take into account the complex sampling design of the survey (stratified non-proportional sampling by CSSS territory and random selection of one individual per household).

Utilisation rate is defined by the percentage of individuals in the population who reported going to emergency departments at least once in the two years preceding the survey. The Tables present percentages and confidence intervals, as estimates of their precision. Comparisons are made based on chi square tests (χ^2), which assess whether the gap between observed and expected frequencies is large enough to be statistically significant. The p value is also given and indicates the probability that the observed difference is not real. The degree of statistical significance is set at $p<0.05$.

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