Department of Clinical Epidemiology and
Community Studies

Short Report

PRIMARY CARE AND EMERGENCY DEPARTMENT VISITS AMONG QUEBEC ADULTS: RESULTS FROM THE CANADIAN COMMUNITY HEALTH SURVEY

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SUMMARY

Background: An emergency department (ED) visit may be a marker for inadequate primary medical care, particularly among those with ambulatory care-sensitive chronic conditions (ACSCC). International comparative studies have found that the Quebec population has a relatively low proportion with a family doctor, high rates of ED visits that substitute for primary care, and some of the longest waiting times to receive care in an ED.

Objectives: Among Quebec adults, to examine the relationships between self-reported healthcare experience and location of last general physician [1] contact (in an ED versus elsewhere) among those with and without chronic conditions.

Methods: We conducted a cross-sectional study of the Quebec adult population using a combined sample from two waves of the Canadian Community Health Survey (2003 and 2005). The study sample comprised Quebec residents aged 18 or over who reported at least one contact with any GP during the previous 12 months, and were not hospitalized during the same period (n=33,491). The primary outcome was place of last contact with any GP: in an ED vs elsewhere. This measure is an indicator of the proportion of GP contacts that are made in an ED. Measures of health care experience included: having a regular doctor, perceived unmet healthcare needs, perceived availability of healthcare, and number of contacts with doctors and nurses. Participants also reported on doctor-diagnosed chronic conditions. Due to the complexity of the survey sampling, weights were used on the observations, to obtain population estimates.

Results: Overall, an estimated 69.4% of the non-hospitalized Quebec population aged 18 or over report any GP contact during the previous 12 months. Among those with any GP contact, an estimated 4.4% of these contacts were reported to be in an ED. Lack of a regular doctor and perceived unmet needs were associated with GP contact in an ED, even after adjustment for sociodemographic, health status, and health services variables. The main health care characteristic associated with GP contact in an ED was lack of a regular doctor: those without a regular doctor were more than 4 times as likely to have contacted a GP in an ED. Perceived unmet needs were more weakly associated but perceived geographic availability was not associated with GP contact in an ED.

Conclusions: Lack of a regular doctor is strongly associated with GP contact in an ED, among adults with and without chronic conditions. Perceived unmet needs (an indicator of poor accessibility to care), also contributes to explaining the place of doctor contact, whereas perceived geographic availability does not. Primary care reform efforts in Quebec should focus on increasing the affiliation of the population with a regular doctor.

EXECUTIVE SUMMARY

INTRODUCTION

The emergency department (ED) provides a source of care in medical, surgical, and traumatic emergencies, but also functions as an alternative source for primary medical care.[2] Indicators of inadequate primary care (e.g., lack of a regular doctor, unmet needs for healthcare, poor continuity of care, perceived lack of rapid access to care) are associated with an increased likelihood of making an ED visit.[3-8]

This study was conducted in the province of Quebec, Canada. International comparative studies have found that the Quebec population has a relatively low proportion with a family doctor, high rates of ED visits that substitute for primary care, and some of the longest waiting times to receive care in an ED.[9] In this study, we focused on ambulatory ED visits (without hospital admission) and we expected that ambulatory ED visits would be more likely to substitute for primary care.

OBJECTIVES

Among Quebec adults who reported any general physician [1] contact during the previous 12 months:

1. to examine the relationships between selected self-reported healthcare measures (affiliation with a regular doctor, unmet healthcare needs, and geographic availability of healthcare) and the proportion of GP contacts in an ED.
2. to compare these relationships in rural versus urban populations and among those with and without chronic conditions.

METHODS

Data were derived from the combined Canadian Community Health Survey cycles 2.1 and 3.1, carried out in 2003 and 2005 respectively.[10] The combined sample comprised Quebec adults aged 18+ (53,456), of whom 10.5% were excluded because they had been hospitalized during the previous 12 months (to ensure that only ambulatory ED visits were analyzed). A further 30.0 % were excluded either because they reported no GP contact or did not know the location of the last GP contact, for a final sample of 33,491.

The primary outcome was defined as place of last contact with any GP: in an ED versus all other locations (please see text box for details). This measure is an indicator of the proportion of GP contacts in an ED. Comparison of this indicator with the same proportion obtained from the provincial doctor billing database (12.3%) indicates underreporting, probably due to errors of recall and also because the CCHS data include GP contacts that may not have been billed. The amount of underreporting is greater in the older (65+) versus younger population, probably due to the greater frequency of doctor contact in the older population and greater errors in recall. Nevertheless, this indicator is highly correlated with the database measure (Pearson's $r = 0.89$).

Key measures from the CCHS

Outcome: Place of last GP contact was measured from 2 questions:

1. "How many times have you seen or talked on the telephone about your physical, emotional or mental health with: a family doctor, [pediatrician] or general practitioner?"
2. If at least one such contact: "Where did the most recent contact take place? (Hospital emergency room versus all others: hospital outpatient clinic, walk-in clinic, appointment clinic, community health centre/CLSC, at work, at school, at home, telephone consultation only, other.)"

Health Services Measures:

1) Lack of a regular doctor: "Do you have a regular medical doctor?" * Yes/**no**
2) Unmet needs: "During the past 12 months, was there ever a time when you felt that you needed health care but you didn't receive it?" **Yes**/no
3) Geographic availability: "Overall, how would you rate the availability of health care services in your community?" **Poor** vs fair, good, or excellent

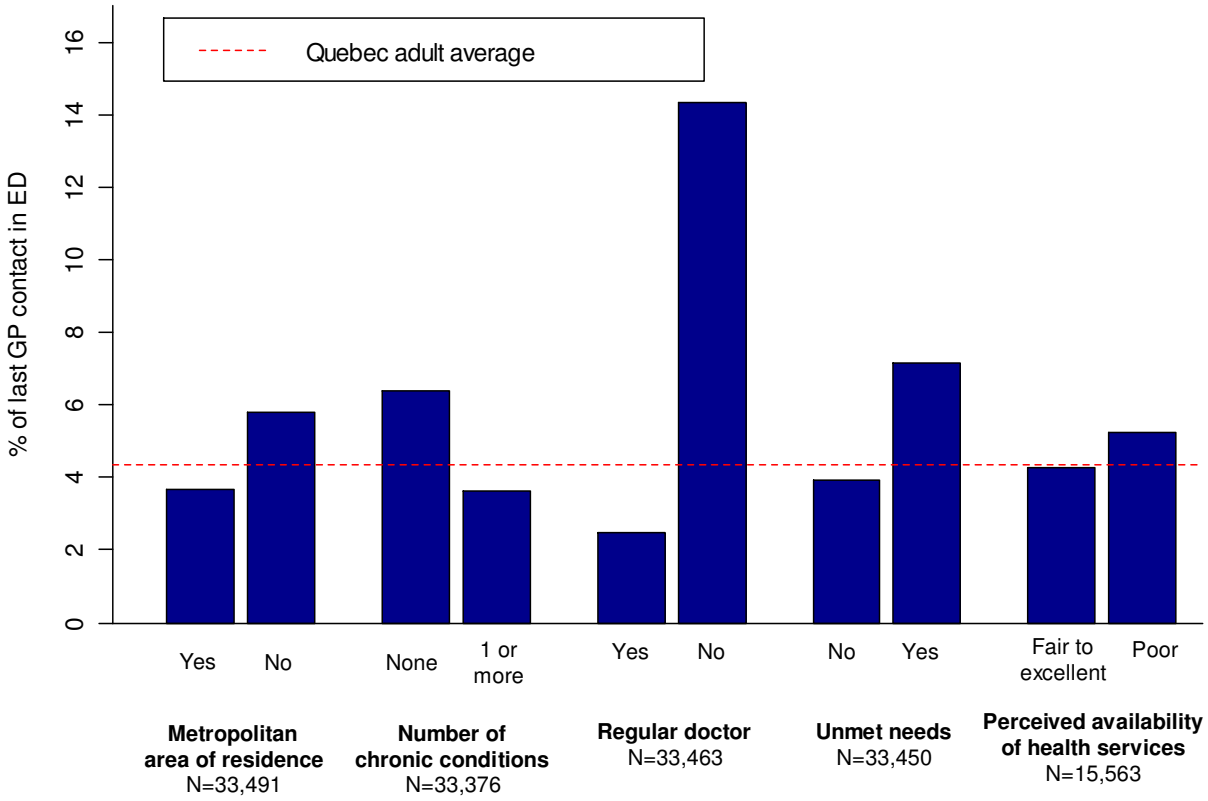
* In the French questionnaire, this question refers only to a family doctor. Sensitivity analyses indicate that language of questionnaire does not affect the results reported.

Three groups of measures were investigated: *sociodemographic* (age, marital status, length of residence in Canada, education, income, geographic area of residence); *health status* (chronic conditions, perceived general health, health change during the past 12 months, activity limitation, dependence in activities of daily living, psychological distress, alcohol consumption); and *health services* (having a regular doctor, unmet healthcare needs, geographic availability of healthcare, receipt of homecare services, and numbers of contacts during the past 12 months with GPs, specialist physicians, and nurses). Statistical methods included multiple logistic regression using bootstrap weights. Further methodological details are reported elsewhere. [11]

RESULTS

In the Quebec population aged 18 or over, reporting any contact with a GP, an estimated 4.4% of any GP contacts were reported in an ED. Figure 1 shows this proportion grouped by the main study measures. Non-metropolitan populations and those without any chronic conditions were more likely to report any GP contact in an ED. Lack of a regular doctor was strongly associated with the outcome: individuals without a regular doctor were over 4 times more likely to report any GP contact in an ED. Those with unmet healthcare needs were also more likely to report any GP contact in an ED, although the relationship was less strong than that for lack of a regular doctor. However, rates of GP contact in an ED were similar among those with poor versus good perceived geographic availability of health care. These relationships persisted even after statistical adjustment for other characteristics of the population (sociodemographic, health status, numbers of doctor contacts, etc).

Figure 1. Population estimated percentages of last GP contact in ED



The relationships with a regular doctor and any GP contact in an ED were similarly strong among individuals with and without chronic conditions, and in metropolitan and other urban areas. In the most rural population, the relationship disappeared. The relationship between unmet needs and any GP contact in an ED did not differ in urban compared to rural areas, but was restricted to those with chronic conditions.

DISCUSSION

In this cross-sectional study of a representative sample of Quebec adults, the proportion of any GP contacts in an ED was strongly correlated with lack of a regular doctor, and more weakly correlated with unmet needs for health care. However, a direct question on perceived geographic availability of health care was not associated with the location of GP contact. Although multiple factors contribute to perceptions of unmet healthcare needs, in Quebec, this measure reflects mainly a perceived lack of accessibility of health care other than geographic availability (e.g., long waiting times).[12] Thus, geographic availability of healthcare appears to be less important than affiliation with a regular doctor or other aspects of accessibility of care in determining whether individuals use the ED as a place of care.

GP contact in an ED was more frequent in rural versus urban areas of the province. The ED more often functions as a primary care site in rural areas. [8]However, the association with a regular doctor was not explained by population demographic or health factors, or by the frequency of doctor contact. This association was equally strong among individuals in all except the most rural areas, and among those with and without chronic conditions.

Several important limitations of this study should be noted. First, the study was cross-sectional, so that causal relationships between the study variables cannot be inferred. For example, we cannot determine where an ED visit increases perceptions of unmet needs or whether those with unmet needs are more likely to seek care in an ED. Second, our primary measure of ED visits was limited to those who reported GP contacts, 62.7% of the survey population. Third, survey participants probably underreported GP contacts in an ED, as they may not have been aware of the speciality of the ED doctor they saw. Despite this under-reporting, cross-validation with administrative data suggests that this measure is a valid indicator of the proportion of GP visits in an ED.

There are several implications of this study for health policy. First, the proportion of GP contacts in the ED may be a useful indicator of primary health care services.[13] Use of this indicator should take into account the location of the population, as rural populations are more likely than those in urban areas to seek care in the ED. Second, affiliation with a regular doctor appears to be a major determinant of place of GP contact. Prior research on Quebec seniors has found that the continuity of care with a usual provider predicts ED visits whereas the geographic availability of doctors does not.[3] Therefore, primary care reform should aim to increase the proportion of the population with a regular doctor. Efforts to increase the accessibility to primary care services should be balanced with the need for provider continuity. This recommendation is of particular significance given the comparatively low proportion of the Quebec population with a primary physician.[9]

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