

Unmet needs for health care

Jiajian Chen and Feng Hou

Abstract

Objectives

This analysis examines the prevalence of self-reported unmet needs for health care and the extent to which they were attributable to perceived problems with service availability or accessibility or acceptability.

Data source

Most data are from the 1998/99 cross-sectional household component of Statistics Canada's National Population Health Survey; 1994/95 and 1996/97 cross-sectional data are used to present trends from 1994/95 to 1998/99. The primary analysis is based on 14,143 respondents aged 18 or older.

Analytical techniques

Multivariate logistic regression was used to estimate the association of risk factors with the three types of unmet health care need.

Main results

In 1998/99, about 7% of Canadian adults, an estimated 1.5 million, reported having had unmet health care needs in the previous year. Around half of these episodes were attributable to acceptability problems such as being too busy. In 39% of cases, service availability problems, such as long waiting times, were mentioned. Just under 13% of episodes were related to accessibility problems (cost or transportation). Unmet needs attributable to service availability problems were not significantly associated with socio-economic status. By contrast, unmet needs due to accessibility problems were inversely associated with household income.

Key words

health care services accessibility, patient acceptance of health care, delivery of health care, socio-economic status

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Canada's universal health care system was established to ensure reasonable access to health services for all Canadians, regardless of their ability to pay.¹ Recent budget cuts have raised concern about how well the system is fulfilling that mandate.²⁻⁷ Many studies have addressed the issue by examining the association between socio-economic status and health care use.^{6,8-15} However, another way of approaching the issue has been less thoroughly explored: socio-economic differences in unmet health care needs.

Unmet needs have been identified as a critical indicator of access problems,¹⁶⁻¹⁸ as they may result from limited availability or unavailability of health care services when and where they are required.¹⁹ But unmet needs can also arise from individual accessibility problems, such as cost and transportation, or from acceptability problems, such as attitudes toward and knowledge about health care.¹⁹⁻²¹ Therefore, to assess unmet health care needs, it is important to understand the barriers associated with them.

With data from Statistics Canada's National Population Health Survey (NPHS), this article examines the prevalence of self-reported unmet health care needs (see *Methods* and

Methods

Data source

The data in this article are from the National Population Health Survey (NPHS), conducted by Statistics Canada. The NPHS, which began in 1994/95, collects information about the health of the Canadian population every two years. It covers household and institutional residents in all provinces and territories, except persons living on Indian reserves, on Canadian Forces bases, and in some remote areas. The NPHS has both a cross-sectional and a longitudinal component.

Socio-demographic and some health information was obtained for each member of participating households and is found in the General file. In-depth health information, which was collected for one randomly selected household member, as well as the information in the General file pertaining to that person, is in the Health file.

The primary analysis in this article is based on the 1998/99 (cycle 3) cross-sectional household component, which is made up mostly of longitudinal respondents and their cohabitants. To keep the 1998/99 sample representative, infants born in 1995 or later and immigrants who entered Canada after 1994 were randomly selected. To replace sample lost to attrition, individuals in dwellings that were part of the original sampling frame, but whose household members did not respond in 1995/95, were contacted and asked to participate. The overall response rate for 1998/99 was 88.2%. The data were weighted to represent the household population in the 10 provinces. The sub-sample for this analysis consisted of 14,143 randomly selected respondents aged 18 or older who were asked if they had required health care in the previous year, but had not received it (Appendix Table A). The analysis is restricted to respondents aged 18 or older, because several explanatory variables, such as attitudes toward physicians, were not available for younger respondents.

Limitations). It also examines factors associated with unmet needs stemming from perceived unavailability of services, from accessibility problems, and from acceptability. Based on existing literature,^{16,19,22} the factors examined in relation to the three types of unmet needs are: age, sex, marital status, household income, education, employment, urban/rural residence, Aboriginal status, country of birth, health status, chronic conditions, chronic pain, distress, physician consultations, and attitudes towards physicians' authority and self-care (see *Definitions*).

To analyze trends in the prevalence of unmet needs at the national level, cross-sectional data from the first two cycles (1994/95 and 1996/97) were also used. The samples consist of 16,286 and 68,208 randomly selected respondents aged 18 or older, respectively.

Analytical techniques

Unmet health care needs were classified into one of three groups according to the type of problem reflected: service availability; accessibility; or acceptability. Because respondents could give more than one reason for unmet needs, the proportions assigned to each category total more than 100%.

For convenience of presentation, unadjusted prevalence estimates are shown alongside adjusted odds ratios for unmet needs due to the three types of problems.

Multivariate logistic regression was used to estimate the association between potential risk factors and each type of reported unmet need. Factor selection was guided by the research literature. Factors selected to predict unmet health care needs were: age, sex, marital status, household income, education, employment status, urban/rural residence, Aboriginal status, country of birth, self-reported health, any chronic condition, chronic pain, distress, consultations with general practitioners and specialists, and attitudes toward doctors' authority and self-care (see *Definitions*).

The NPHS was based on a complex sample design. In addition, the cross-sectional NPHS Health files from cycles 1, 2, and 3 contain all longitudinal respondents who were in-scope for cross-sectional purposes. Therefore, the NPHS cross-sectional samples at any two time points are not independent. To take into account both sample weights and survey design, this analysis used bootstrap procedures to estimate the variance and covariances.^{23,24}

Three types of unmet need

The most commonly reported reason for an unmet health care need, cited by 23% of people who reported having had one, was that waiting time was too long (Table 1). The second most frequent was that the service had not been available when it was required (15%). Between 13% and 14% of people with unmet needs reported that they had been too busy, that they did not get around to it, or that they felt the care would be inadequate. Around one in ten (11%) cited cost. Smaller proportions gave reasons such as unavailability of service in their area,

Table 1
Frequency of reasons for unmet health care needs, household population aged 18 or older with unmet needs, Canada excluding territories, 1998/99

	%
Availability†	39.3
Waiting time too long	22.9
Not available when required	14.7
Not available in area	7.0
Accessibility†	12.9
Cost	11.4
Transportation	1.6
Acceptability†	53.1
Too busy	13.6
Didn't get around to it/Didn't bother	13.5
Felt it would be inadequate	13.2
Decided not to seek care	5.4
Didn't know where to go	3.9
Dislike doctors/Afraid	1.8
Personal/Family responsibilities	0.7
Language problems	--
Other	6.8
Availability only	35.6
Accessibility only	10.5
Acceptability only	48.7
Availability and accessibility	0.6
Availability and acceptability	2.7
Availability, accessibility, and acceptability	0.3
Accessibility and acceptability	1.3

Data source: 1998/99 National Population Health Survey, cross-sectional sample, Health file

† Because respondents could report more than one reason, detail adds to more than total.

-- Sample size too small to provide reliable estimate

not knowing where to go, or dislike or fear of doctors. Because respondents could give more than one reason, the total adds to more than 100%. However, most people with unmet needs gave only one reason (87%); 11% reported two; and less than 3%, three or more (data not shown).

Unmet health care needs can be divided into three groups, depending on whether they related to problems with availability of services, accessibility or acceptability. Unmet needs are considered to be related to availability if the reason was long waiting time, service unavailable when required, or service not available in the area. Accessibility refers to unmet needs due to cost or transportation concerns. All the other reasons (too busy, ignored problem, doubts about efficacy of treatment, fear of doctors) are considered to be related to acceptability.

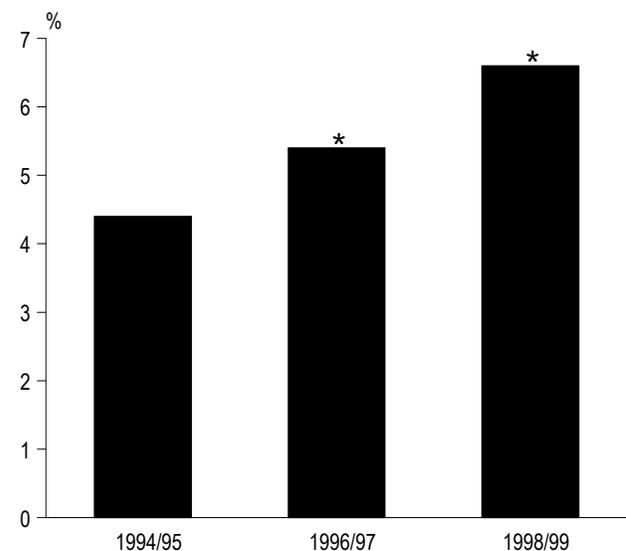
Service availability problems accounted for 39% of unmet needs. Just 13% of unmet needs were attributed to accessibility problems. In most instances (9 out of 10), accessibility problems were due to cost (data not shown). The largest group, accounting for 53% of unmet needs, was acceptability problems stemming from personal circumstances and attitudes.

Although respondents could give more than one reason for unmet health care needs, there was relatively little overlap between the three groups. Such cases accounted for only 5% of responses (Table 1).

Unmet need increasing

In 1998/99, 6.6% of Canadians aged 18 or older, an estimated 1.5 million people, reported having had an unmet health care need in the previous year (Chart 1). This was a small but significant increase over 1994/95 and 1996/97, when the figures were 4.4% and 5.4%, respectively.

Chart 1
Prevalence of unmet health care needs, household population aged 18 or older, Canada excluding territories, 1994/95, 1996/97 and 1998/99



Data source: 1994/95, 1996/97 and 1998/99 National Population Health Survey, cross-sectional sample, Health file

* Significantly different from previous year ($p \leq 0.05$)

Definitions

Unmet health care need was based on the following question: "During the past 12 months, was there ever a time when you needed health care but you didn't receive it?" Respondents who answered "yes" were asked the reasons for the most recent episode. The reasons were classified as follows: (1) not available in the area; (2) not available at time required; (3) waiting time too long; (4) cost; (5) transportation problems; (6) felt it would be inadequate; (7) too busy; (8) didn't get around to it/didn't bother; (9) didn't know where to go; (10) language problems; (11) personal or family responsibilities; (12) dislike doctors/afraid; (13) decided not to seek care; and (14) other.

These reasons were classified into three groups, depending on whether they were due to: service availability (service not available where or when required or waiting time too long); accessibility (cost or transportation), or acceptability (the remaining reasons, which concern attitudes and competing responsibilities). Only 5% of respondents cited reasons that fell in more than one group.

For this analysis, *age* was classified into four groups: 18 to 34, 35 to 44, 45 to 64, and 65 or older.

Three *marital status* categories were identified: married/common-law; never married; and widowed/divorced/separated.

Household income was based on total annual income and number of household members. The following income groups were derived:

Household income group	People in household	Total household income
Lowest	1 or 2	Less than \$15,000
	3 or 4	Less than \$20,000
	5 or more	Less than \$30,000
Lower-middle	1 or 2	\$15,000 to \$29,999
	3 or 4	\$20,000 to \$39,999
	5 or more	\$30,000 to \$59,999
Upper-middle/High	1 or 2	\$30,000 or more
	3 or 4	\$40,000 or more
	5 or more	\$60,000 or more

Education was grouped into two levels: less than high school graduation and high school graduation or more.

Employment status was defined as currently working or other.

Residence was defined as urban or rural.

Aboriginal status was based on responses to questions on race (or colour) and the ethnic (or cultural) groups with which respondents identified. Those who indicated Native or Aboriginal peoples of North America, such as North American Indian, Métis, Inuit or Eskimo, were considered to be Aboriginal persons.

Immigrant status was defined as immigrant or Canadian-born.

Four variables were selected to measure health status: self-reported health, chronic conditions, chronic pain, and distress. *Self-reported health* was grouped into two categories: poor/fair and

good/very good/excellent. The presence of a *chronic condition* was determined by asking respondents if they had any long-term health condition that had lasted or was expected to last six months or more and that had been diagnosed by a health professional. A list of conditions was read to respondents who answered "yes" or "no" to each one. Those replying affirmatively to one or more of the conditions were considered to have a chronic condition. *Chronic pain* was based on the question: "Are you usually free of pain or discomfort?" Respondents who answered "no" were defined as having chronic pain.

Distress was derived based on responses to six questions: "During the past month, how often did you feel: so sad that nothing could cheer you up? nervous? restless or fidgety? hopeless? worthless? that everything is an effort?" The response options—all of the time, most of the time, some of the time, a little of the time, and none of the time—were given weights of 4, 3, 2, 1 and 0, respectively. The score could range from 0 to 24, with higher scores indicating more distress.²⁵ The Cronbach's alpha was 0.76. Respondents scoring 7 or more (11% of the total) were classified as having distress. Respondents scoring less than 7 or with missing information (408 cases) were considered as not having distress.

General practitioner consultations and *specialist consultations* were determined from responses to the question: "In the past 12 months, how many times have you seen or talked with: a family doctor or general practitioner? other medical doctor (such as a surgeon, allergist, orthopaedist, gynaecologist or psychiatrist)?"

Attitude toward *doctors' authority* was based on three statements: "I prefer doctors who give me choices or options and let me decide for myself what to do"; "Patients should never challenge the authority of the doctor" and "I prefer that the doctor assume all of the responsibility for my medical care." Attitude toward *self-care* was based on responses to two statements: "Except for serious illness, it is generally better to take care of your own health than to go to a doctor" and "It is better to go to a doctor than to try to treat yourself." For each statement, respondents were asked if they strongly agreed, agreed, neither agreed nor disagreed, disagreed, or strongly disagreed. The respective scores were 4, 3, 2, 1, and 0. The values for the first doctor authority statement and the second self-care statement were reversed. The two variables were constructed by taking the mean score of the answers to the questions. Missing values were imputed with a value equivalent to "neither agree nor disagree." The scores for attitude toward doctors' authority could range from 0 to 4, with higher scores representing a greater tendency to trust doctors; the Cronbach's alpha was 0.62. The scores for attitude toward self-care could range from 0 to 4, with a higher score representing a greater tendency to rely on self-care; the Cronbach's alpha was 0.56. The scores were classified into three levels: high for a score one standard deviation above the mean, low for a score one standard deviation below the mean, and middle for a score in between.

Service availability

Less than 3% of the population reported an unmet health care need due to service availability (see *Provincial patterns*). Unmet needs of this kind reflect perceived deficiencies in health care delivery, a situation that may have been exacerbated in recent years as health budgets were cut. One concern is that cost-cutting places an unequal burden on less

advantaged groups. However, based on the NPHS, the prevalence of unmet health care needs resulting from service availability did not vary significantly by household income, education, employment, Aboriginal status or immigrant status (Table 2). Nor was there any significant relationship with age, marital status or urban/rural residence.

Table 2
Prevalence of and adjusted odds ratios for unmet health care needs related to availability, by selected characteristics, household population aged 18 or older, Canada excluding territories, 1998/99

	Number	Prevalence	Adjusted odds ratio	95% confidence interval		Number	Prevalence	Adjusted odds ratio	95% confidence interval
	'000	%				'000	%		
Total	588	2.6					
Sex					Immigrant status				
Men†	229	2.1	1.00	...	Immigrant	95	2.0	0.74	0.47, 1.16
Women	358	3.1*	1.17	0.87, 1.58	Canadian-born†	492	2.8	1.00	...
Age group					Self-reported health				
18-34	145	2.1	0.99	0.58, 1.67	Poor/Fair	149	6.6*	1.84*	1.26, 2.70
35-44	132	2.4	0.99	0.59, 1.68	Good/Very good/Excellent†	439	2.2	1.00	...
45-64	226	3.4	1.30	0.79, 2.14	Chronic condition				
65+†	85	2.4	1.00	...	Yes	470	3.4*	1.46*	1.02, 2.07
Marital status					No†	117	1.4	1.00	...
Married/Common-law†	376	2.7	1.00	...	Chronic pain				
Never married	109	2.2	1.01	0.66, 1.54	Yes	187	5.6*	1.45	0.92, 2.30
Widowed/Divorced/ Separated	102	3.1	0.89	0.48, 1.65	No†	400	2.1	1.00	...
Household income					Distress				
Lowest	91	3.2	1.16	0.70, 1.91	Yes	146	5.7*	1.71*	1.15, 2.54
Lower-middle	143	2.6	1.02	0.72, 1.44	No†	441	2.2	1.00	...
Upper-middle/High†	322	2.6	1.00	...	GP consultation in past year				
Missing	32	2.0	0.88	0.46, 1.69	Yes	545	3.1*	2.24*	1.35, 3.72
Education					No†	43	0.9	1.00	...
Less than high school graduation†	140	2.7	1.00	...	Specialist consultation in past year				
High school graduation or more	448	2.6	0.98	0.67, 1.43	Yes	316	5.3*	2.33*	1.73, 3.14
Employment status					No†	272	1.6	1.00	...
Currently working	357	2.5	1.31	0.90, 1.92	Doctors' authority score				
Other†	231	2.8	1.00	...	High	72	1.6*	0.42*	0.22, 0.80
Residence					Middle	413	2.6*	0.70	0.48, 1.03
Urban	443	2.4	0.67	0.43, 1.03	Low†	103	4.2	1.00	...
Rural†	145	3.5	1.00	...	Self-care score				
Aboriginal status					High	142	2.4	1.07	0.75, 1.53
Yes	16	3.2	1.08	0.50, 2.36	Middle	273	2.8	1.20	0.84, 1.73
No†	572	2.6	1.00	...	Low†	173	2.5	1.00	...

Data source: 1998/99 National Population Health Survey, cross-sectional sample, Health file

Note: Respondents with missing values on distress were assigned to the "no" group. Respondents with missing values on items measuring doctors' authority and self-care were given a neither agree nor disagree response.

† Reference group

... Not applicable

* Significantly different from reference group ($p \leq 0.05$)

Unmet needs due to service availability were strongly associated with an individual's health. For example, 6.6% of people in poor or fair health reported this type of unmet need, compared with just 2.2% of people in good, very good or excellent health. Similarly, people with chronic conditions, chronic pain or distress were more likely than those who were not afflicted to report unmet needs related to service availability. Even when the effects of other factors were taken into account, poor/fair health, chronic conditions, and distress were independently associated with reporting this type of unmet need; the relationship with chronic pain was no longer significant.

Somewhat paradoxically, people who had consulted a general practitioner or a specialist in the

previous year were more likely than those who had not to report unmet needs related to service availability. Of course, physician consultations are linked to many other factors that might affect unmet needs, notably health status. Yet when these other variables were considered, consultation with a general practitioner or specialist significantly increased the odds of reporting unmet needs related to service availability problems.

It is quite likely that people with medical problems are those most in need of health care services. They are therefore also more likely than people in better health to recognize deficiencies in the delivery of those services, particularly if their medical problems remained unsolved. The associations may also reflect unmet needs at different stages of treatment.

Provincial patterns

The prevalence of each type of unmet health care needs of all types was close to the national figure in most provinces. In 1998/99, the percentage of people reporting unmet needs related to service availability significantly exceeded the national level only in Nova Scotia (4.6%), and was significantly lower only in New Brunswick (1.5%) and Ontario (1.9%). The number of physicians per 100,000 population cannot explain these disparities, since Nova Scotia was one of the three provinces (the others were Québec and British Columbia) where the ratio surpassed the national level in 1998.²⁶

The prevalence of accessibility-related unmet health care needs

(cost and transportation) was significantly higher only in British Columbia (1.5%) and significantly lower only in Ontario (0.6%). The percentage of the population in low-income households cannot account for these differences: according to the 1998/99 National Population Health Survey, the proportion was about the same in both provinces (data not shown).

In each province except Nova Scotia, acceptability-related unmet health care were the most common. The prevalence of such unmet needs was not significantly different from the national level in any province except Newfoundland, where it was significantly lower (2.2%).

Prevalence of unmet health care needs, by reason and province, household population aged 18 or older, Canada, 1998/99

	Availability		Accessibility		Acceptability	
	Number	Prevalence	Number	Prevalence	Number	Prevalence
	'000	%	'000	%	'000	%
Canada	588[†]	2.6	192	0.9	794[†]	3.5
Newfoundland	8	2.1	--	--	9	2.2*
Prince Edward Island	2	2.3	--	--	3	3.0
Nova Scotia	32	4.6*	6	0.9	29	4.2
New Brunswick	9	1.5*	--	--	22	3.9
Québec	176	3.2	34	0.6	194	3.5
Ontario	161	1.9*	54	0.6*	271	3.2
Manitoba	29	3.7	--	--	37	4.6
Saskatchewan	18	2.5	--	--	29	4.0
Alberta	48	2.3	29	1.4	80	3.8
British Columbia	103	3.4	44	1.5*	120	3.9

Data source: 1998/99 National Population Health Survey, cross-sectional sample, Health file

[†] Because of rounding, detail may not add to totals.

* Significantly different from national figure ($p \leq 0.05$)

-- Sample size too small to provide reliable estimate

A related factor is attitudes toward physicians. People with a high level of trust in doctors were less likely than those with a low level of trust to report unmet health care needs stemming from service availability. Even when other factors including health status and physician consultations were considered, the tendency to trust doctors was associated with low odds of reporting unmet needs of this kind.

Table 3
Prevalence of and adjusted odds ratios for unmet health care needs related to accessibility, by selected characteristics, household population aged 18 or older, Canada excluding territories, 1998/99

	Number	Prevalence	Adjusted odds ratio	95% confidence interval		Number	Prevalence	Adjusted odds ratio	95% confidence interval
	'000	%				'000	%		
Total	192	0.9					
Sex									
Men†	81	0.7	1.00	...					
Women	111	1.0	0.79	0.48, 1.28					
Age group									
18-34	64	0.9	4.01*	1.59, 10.08					
35-44	70	1.3*	4.53*	1.81, 11.34					
45-64	40	0.6	1.77	0.77, 4.06					
65+†	18	0.5	1.00	...					
Marital status									
Married/Common-law†	79	0.6	1.00	...					
Never married	47	0.9	0.89	0.51, 1.58					
Widowed/Divorced/ Separated	66	2.0*	1.74	0.96, 3.14					
Household income									
Lowest	87	3.1*	9.71*	4.32, 21.79					
Lower-middle	55	1.0*	3.88*	1.84, 8.16					
Upper-middle/High†	34	0.3	1.00	...					
Missing	--	--	5.43*	1.70, 17.40					
Education									
Less than high school graduation†	37	0.7	1.00	...					
High school graduation or more	155	0.9	1.36	0.77, 2.40					
Employment status									
Currently working	99	0.7*	1.09	0.61, 1.97					
Other†	93	1.1	1.00	...					
Residence									
Urban	170	0.9*	1.79	0.99, 3.23					
Rural†	22	0.5	1.00	...					
Aboriginal status									
Yes	--	--	2.41	0.73, 7.91					
No†	175	0.8	1.00	...					
					Immigrant status				
					Immigrant	29	0.6	0.70	0.35, 1.43
					Canadian-born†	163	0.9	1.00	...
					Self-reported health				
					Poor/Fair	65	2.9*	1.68	0.87, 3.26
					Good/Very good/Excellent†	127	0.6	1.00	...
					Chronic condition				
					Yes	168	1.2*	2.87*	1.37, 6.01
					No†	25	0.3	1.00	...
					Chronic pain				
					Yes	81	2.4*	2.00*	1.17, 3.43
					No†	111	0.6	1.00	...
					Distress				
					Yes	74	2.9*	2.17*	1.23, 3.82
					No†	118	0.6	1.00	...
					GP consultation in past year				
					Yes	164	0.9	1.00	0.48, 2.08
					No†	28	0.6	1.00	...
					Specialist consultation in past year				
					Yes	85	1.4*	1.30	0.76, 2.21
					No†	108	0.7	1.00	...
					Doctors' authority score				
					High	36	0.8*	0.44	0.18, 1.07
					Middle	107	0.7*	0.37*	0.21, 0.67
					Low†	49	2.0	1.00	...
					Self-care score				
					High	80	1.4	1.77	0.97, 3.23
					Middle	59	0.6	0.78	0.42, 1.45
					Low†	53	0.8	1.00	...

Data source: 1998/99 National Population Health Survey, cross-sectional sample, Health file

Note: Respondents with missing values on distress were assigned to the "no" group. Respondents with missing values on items measuring doctors' authority and self-care were given a neither agree nor disagree response.

† Reference group

-- Coefficient of variation greater than 33.3%

... Not applicable

* Significantly different from reference group ($p \leq 0.05$)

unmet health care needs due to cost or transportation concerns, compared with less than half of one percent of people in upper-middle-/high-income households. Even when the effects of the other selected factors, the odds that people in low-income households would report such needs were about 10 times those for residents of upper-middle-/high-income households. Even residents of lower-middle-income households had significantly higher odds of reporting accessibility-related unmet needs, compared with those in more affluent households.

These results are consistent with a recent Canadian study, in which the main reason that low-income people, especially the working poor, gave for not obtaining physician services was the belief that they would be unable to afford prescribed medications.²⁷ The same study also showed that transportation was one of the main reasons given by social assistance recipients for not seeing a physician.²⁷

Limitations

National Population Health Survey (NPHS) data are subject to the problems inherent in self-reporting. For instance, while the measure of unmet need for health care in the NPHS is often used in community surveys, there is a possibility of recognition error and recall error. Respondents may have difficulty recognizing the existence of health care needs and recalling the specific situation in which care was needed but not received.¹⁶ Self-reports of unmet health care needs also reflect the perception of an individual. For example, the interpretation of "waiting time too long" may vary from one person to another. As well, there is no indication of what the respondent was waiting for: an appointment, a diagnostic test, or surgery.

More objective determinations of whether necessary care was foregone might be made by health professionals through clinical examination.^{16,28} Clinical assessment, however, is often complex and costly,^{17,29} and such information is not available from the NPHS.

The data in this study do not include people on Indian reserves and in some remote areas of Québec and Ontario. Therefore, the prevalence of unmet needs for health care may be underestimated. Furthermore, since the survey was conducted in English or French, unmet needs due to language difficulties or lack of information about the health delivery system may also be underestimated.

When the other selected factors were controlled, the odds of having unmet health care needs stemming from cost or transportation concerns were high for people reporting chronic conditions, chronic pain, or distress. Also, the odds that people younger than 45 would have an accessibility-related unmet need were at least four times the odds for seniors.

Acceptability

Most people with unmet health care needs attributed them to personal circumstances and attitudes such as being too busy, deciding not to bother, believing that care would be inadequate, not knowing where to go, or disliking or fearing doctors. In 1998/99, about 4% of Canadians aged 18 or older reported that in the previous year they had an unmet need for health care because of such problems with acceptability (Table 4).

Unmet health care needs due to acceptability problems were more common among young people than older people. Even when other factors were taken into account, 18- to 34-year-olds still had significantly higher odds of reporting acceptability-related unmet health care needs than did people aged 65 or older. The higher odds among younger people may reflect their busier schedules, and attitudes toward and knowledge about health care.

Attitudes toward health care were, in fact, important. The more respondents trusted doctors' authority, the lower the prevalence of unmet health care needs related to acceptability. Even when other factors were taken into account, high regard for physician authority lowered the odds of having acceptability-related unmet health care needs. Conversely, a tendency to rely on self-care raised the odds of reporting unmet needs growing out of these reasons.

Many of the factors associated with unmet needs due to service availability were also associated with unmet needs resulting from acceptability problems: self-reported health, chronic conditions, chronic pain and distress. Almost 9% of people in poor or fair health had unmet needs due to acceptability problems, compared with 3% whose health was good to excellent. When the other potentially

influential factors were taken into account, the odds of reporting acceptability-related unmet needs were significantly high for people in poor or fair health. As well, individuals suffering from a chronic condition, chronic pain or distress had higher odds of reporting unmet needs due to acceptability problems, compared with those who did not.

Relatively large percentages of people who had consulted a general practitioner or specialist in the past year reported acceptability-related unmet health care needs. When the effects of the other factors were controlled, the association with specialist consultations was still significant, but the relationship with GP consultations was not.

Table 4
Prevalence of and adjusted odds ratios for unmet health care needs related to acceptability, by selected characteristics, household population aged 18 or older, Canada excluding territories, 1998/99

	Number	Prevalence	Adjusted odds ratio	95% confidence interval		Number	Prevalence	Adjusted odds ratio	95% confidence interval
	'000	%				'000	%		
Total	794	3.5	Immigrant status				
Sex					Immigrant	122	2.5*	0.78	0.53, 1.13
Men†	324	2.9	1.00	...	Canadian-born†	672	3.8	1.00	...
Women	470	4.1*	1.03	0.80, 1.33	Self-reported health				
Age group					Poor/Fair	196	8.7*	1.93*	1.34, 2.77
18-34	358	5.1*	3.26*	1.93, 5.50	Good/Very good/Excellent†	598	3.0	1.00	...
35-44	178	3.3	1.51	0.90, 2.52	Chronic condition				
45-64	177	2.7	1.09	0.70, 1.71	Yes	623	4.5*	1.76*	1.29, 2.39
65+†	82	2.4	1.00	...	No†	171	2.0	1.00	...
Marital status					Chronic pain				
Married/Common-law†	391	2.8	1.00	...	Yes	262	7.8*	1.99*	1.45, 2.75
Never married	208	4.1*	0.96	0.67, 1.37	No†	532	2.8	1.00	...
Widowed/Divorced/ Separated	195	5.9*	2.01*	1.48, 2.71	Distress				
Household income					Yes	254	9.9*	2.44*	1.84, 3.24
Lowest	149	5.2*	1.11	0.77, 1.58	No†	540	2.7	1.00	...
Lower-middle	171	3.1	0.86	0.64, 1.16	GP consultation in past year				
Upper-middle/High†	426	3.4	1.00	...	Yes	678	3.8*	1.09	0.78, 1.53
Missing	48	3.1	0.99	0.54, 1.81	No†	116	2.4	1.00	...
Education					Specialist consultation in past year				
Less than high school graduation†	138	2.7	1.00	...	Yes	359	6.0*	1.70*	1.30, 2.24
High school graduation or more	654	3.8*	1.21	0.84, 1.75	No†	435	2.6	1.00	...
Employment status					Doctors' authority score				
Currently working	526	3.7	1.47*	1.07, 2.02	High	113	2.5*	0.60*	0.39, 0.93
Other†	267	3.2	1.00	...	Middle	537	3.4*	0.72*	0.52, 1.00
Residence					Low†	144	5.9	1.00	...
Urban	684	3.7*	1.25	0.92, 1.70	Self-care score				
Rural†	109	2.6	1.00	...	High	271	4.7*	1.72*	1.26, 2.36
Aboriginal status					Middle	326	3.3	1.19	0.88, 1.61
Yes	41	8.3*	1.76*	1.00, 3.11	Low†	197	2.8	1.00	...
No†	753	3.4	1.00	...					

Data source: 1998/99 National Population Health Survey, cross-sectional sample, Health file

Note: Because of rounding, some confidence intervals with 1.00 as the upper/lower limit were significant. Respondents with missing values on distress were assigned to the "no" group. Respondents with missing values on items measuring doctors' authority and self-care were given a neither agree nor disagree response.

† Reference group

... Not applicable

* Significantly different from reference group ($p \leq 0.05$)

Aboriginal people (off-reserve) had a higher prevalence of acceptability-related unmet needs than did non-Aboriginal people: 8% versus 3%. The relationship still held when the effects of factors such as household income and health status were considered.

Residents of low-income households had a higher prevalence of unmet health care needs due to acceptability problems, compared with people in upper-middle-/high-income households. However, when the other factors were taken into account, the income difference was not statistically significant. Similarly, relationships between education, residence (rural or urban) or immigrant status and acceptability-related unmet needs were no longer statistically significant when the other variables were considered.

Gender difference

Women were more likely than men to report unmet health care needs due to service availability and acceptability problems, but not to accessibility (cost and transportation).

The gender gap in availability-related unmet needs persisted when demographic and socio-economic characteristics were controlled (data not shown). However, when health status was taken into account, the difference was not statistically significant (data not shown). Health status, it appears, was a key factor linking gender with availability-related unmet needs, since women's health tended to be poorer than men's.

The gender difference in acceptability-related unmet health care needs was still statistically significant when the selected demographic and socio-economic factors were controlled (data not shown). But when attitudes toward doctors' authority and self-care were taken into account, the difference disappeared. Such attitudes may act as mediators linking gender with acceptability-related unmet health care needs.

Concluding remarks

In 1998/99, close to 7% of Canadian adults reported that they had had an unmet need for health care in the previous year. About half of these instances

arose from acceptability problems such as competing demands on the individual's time, and attitudes toward and knowledge about illness. Unmet needs related to service availability problems, such as lengthy waiting times, were mentioned by around a third of people who reported an episode. Problems related to accessibility (in the majority of cases, cost) were cited by 13% of people with unmet needs.

The factors associated with these three different types of unmet need tended to be different. Just two factors—chronic conditions and distress—were significantly related to all three types. Other measures of health status and physician consultations were associated with unmet needs related to service availability and acceptability. This is not surprising, as people in good health would have fewer occasions to encounter difficulty securing services. And it may be that greater use of services makes people aware of shortcomings in the delivery of those services.

People who trusted doctors had relatively low odds of reporting unmet needs due to service availability or to acceptability problems. It is not clear if this was because such people were less skeptical about health care services³⁰ or because of positive experiences receiving health care in the past.³¹

A tendency to rely on self-care was associated only with unmet needs related to acceptability problems. This was not unexpected, as the acceptability category includes items such as feeling that the care would be inadequate and disliking or fearing doctors.

Unmet health care needs attributable to perceived service availability were not associated with household income, education, rural or urban residence, country of birth, or Aboriginal status. It appears, then, that health care cutbacks do not place a disproportionate burden on socio-economically disadvantaged groups.

This analysis has not presented evidence of income inequality in unmet needs due to the perceived availability of health care services. Nevertheless, there was a notable income gradient in accessibility-related unmet health care needs. ●

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Appendix

Table A

Distribution of selected characteristics, household population aged 18 or older, Canada excluding territories, 1998/99

	Sample size	Estimated population			Sample size	Estimated population	
		'000	%			'000	%
Total	14,143	22,548	100				
Sex				Immigrant status			
Men	6,444	11,024	48.9	Immigrant	2,278	4,877	21.6
Women	7,699	11,524	51.1	Canadian-born	11,855	17,647	78.3
				Missing	10	23	0.1
Age group				Self-perceived health			
18-34	4,081	6,969	30.9	Poor/Fair	1,613	2,255	10.0
35-44	3,117	5,422	24.0	Good/Very good/Excellent	12,530	20,293	90.0
45-64	4,096	6,673	29.6	Chronic condition			
65+	2,849	3,484	15.5	Yes	9,045	13,899	61.6
				No	5,098	8,649	38.4
Marital status				Chronic pain			
Married/Common-law	8,208	14,130	62.7	Yes	2,249	3,350	14.9
Never married	3,080	5,098	22.6	No	11,888	19,189	85.1
Widowed/Divorced/Separated	2,855	3,320	14.7	Missing	6	9	0.0
Household income				Distress			
Lowest	2,289	2,848	12.6	Yes	1,586	2,572	11.4
Lower-middle	3,777	5,564	24.7	No	12,557	19,976	88.6
Upper-middle/High	7,201	12,587	55.8	GP consultation in past year			
Missing	876	1,549	6.9	Yes	11,396	17,805	79.0
Education				No	2,747	4,743	21.0
Less than high school graduation	3,612	5,094	22.6	Specialist consultation in past year			
High school graduation or more	10,520	17,434	77.3	Yes	3,690	5,950	26.4
Missing	11	19	0.1	No	10,453	16,598	73.6
Employment status				Doctors' authority score			
Currently working	8,354	14,296	63.4	High	2,772	4,478	19.9
Other	5,789	8,251	36.6	Middle	9,831	15,642	69.4
Residence				Low	1,540	2,428	10.8
Urban	10,880	18,396	81.6	Self-care score			
Rural	3,263	4,152	18.4	High	3,770	5,817	25.8
Aboriginal status				Middle	5,925	9,789	43.4
Yes	382	498	2.2	Low	4,448	6,942	30.8
No	13,761	22,050	97.8				

Data source: 1998/99 National Population Health Survey, cross-sectional sample, Health file

Note: Because of rounding, detail may not add to totals.