HEALTH CARE UTILIZATION
by Canadian Women*

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Background

Although it is known that women are more frequent users of health services than men in Canada, [1] the reasons for the difference in women's and men's health care utilization have not been fully explored. For example, are women seen as frequent users of primary care because of the health care system structure and data that capture fee-for-service transactions but not necessarily episodes of primary and/or acute care that reflect women's experiences of illness? Complex research questions on the interactions between sex, disease, health care utilization and social roles remain largely unanswered.

The literature regarding sex differences in health services utilization is primarily disease specific (e.g. cardiovascular disease, chronic pain) reflecting the biomedical approach to investigating health and illness. "A considerable body of research on sex differences in the use of health care services has focused on differences in the way men and women seek care and, to a lesser extent, on the degree to which the diagnostic and therapeutic steps taken by physicians may vary according to the sex of the patient." [2]

Statistics Canada reports findings from the 2000–2001 Canadian Community Health Survey (CCHS), including indicators on health services utilization. These data show that while 81.3% of the population 12 years and older had contact with medical doctors in the previous 12 months, 87.2% of the female population reported such contact in the same period. [3] Conversely, women and girls were much less likely to have had no contact with medical providers (12.5%) than men and boys (24.5%).

A subsequent national survey specifically examined access to health care services, which is identified as a key issue in current health care debates. [4] The authors argue that while information on health services utilization is a valid measure of access, it does not provide the complete picture pertaining to the choices and experiences of those accessing the system. This survey addresses issues of access in two major areas: first-contact services and specialized services for those aged 15 years and older.

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Difficulties in access to routine care were reported by approximately 11% who accessed such care and by 18% who accessed immediate care. Difficulties were reported by approximately 20% of those who used specialized services. Types of barriers, wait times and patients' opinion regarding acceptability of wait times were also examined. This report did not contain an analysis by sex and gender.

Evidently, the concepts of access and utilization are often used without further delineation, or diverse definitions are used in various studies. It is, therefore, difficult to estimate valid measures of either concept. How much access is desirable remains debatable, and large variation in opinion exists on appropriate levels of utilization for population groups. Acute care is the focal point of the Canadian system, and it favours those who have the power to successfully negotiate the system. Therefore, understanding the effect of sex and gender on health care utilization and access requires an analytic framework that acknowledges the complexities of the issues.

There is a much greater expectation for women than men to present themselves for medical care or consultation. Women are dependent on the health care system to ensure, control or terminate their fertility; healthy women are expected to have a Pap test if sexually active and a mammogram if aged 50 or older; they talk to their doctor about the risk of osteoporosis at age 50 and obtain a bone density test if aged 65 and older. The risk of perpetuating the view that women are not only over-users of the system relative to men but also "sicker" than men is high without a thorough analysis of the "gendered" body for the use of health care resources. Major data limitations hamper the ability to include such analysis here.

In order to provide an overview of health care utilization by women, two health surveillance issues were selected that are important for public policy purposes: access to care and patterns of utilization. The authors' approach to women's health provides a critical lens through which to examine possible system bias that may result in health service inequities. Although the implications for health services utilization of men's and women's social and cultural roles are a key factor in understanding women's health care experiences, the exploration of factors beyond the biological remains a serious challenge for women's health surveillance.

Methods

Literature Review

A literature review of the major computerized bibliographic databases (MEDLINE, HealthStar, EMBASE, CINAHL, PyscInfo, and Contemporary Women's Issues) from 1995 onwards was conducted. Selected Canadian studies that have used previous versions of population surveys or national databases are presented in the Discussion section to provide a contextual backdrop to findings from this study.

Data Sources

Cross-sectional data were examined primarily from the 1998–1999 National Population Health Survey (NPHS). More specifically, the 1998–1999 NPHS data included responses to questions about the number of times the respondent had seen a health care provider in the previous year and where the most recent contact with a medical professional took place. For an analysis of preventive health services utilization, data were examined from the 2000–2001 Canadian Community Health Survey (CCHS) to obtain optimal information about these services (see Appendix A for information on NPHS and CCHS methods).

The data have been organized in such a way as to describe sex differences in health care utilization and, where possible, to further examine these differences by combining one or more variables (such as age and geography). Ideally, a more in-depth exploration of gender would have been conducted, but, because of limitations in sample size, that analysis could not always be done.

Data from the 2001 Health Service Access Survey (HSAS) were also examined. This survey allowed further investigation of sex differences in health care utilization. HSAS variables used in this analysis include having a regular family doctor or the reasons for not having one, use of specialist services and wait times (see Appendix A for information on HSAS data).

Measures

Contact With Primary Care Provider

Respondents who had seen or talked on the telephone with a variety of health care providers about their physical, emotional or mental health in the previous 12 months were included. It was assumed that they had seen a primary care provider if they answered that they had seen a) a family doctor or a general practitioner, or, if aged less than 18, a pediatrician; b) a vision care provider (such as an optometrist or ophthalmologist; unfortunately, separating the two professions was not possible); or c) a nurse for care or advice. Those who answered that they had seen an "other medical doctor" were excluded, because this category included practitioners who provided specialized care. Initially, the number of times a primary care provider was seen was grouped into five categories: 1, 2 to 4, 5 to 9, 10 to 19 and 20+.

Place of Most Recent Contact

Place of contact with the health care provider was constructed from responses to the question, "Where did the most recent contact take place?" The responses from the national survey were grouped into four main categories.

Access to First Contact Services and Specialized Services

Respondents who indicated that they had a regular family physician and those who indicated that they had seen a specialist for a new illness or condition were included.

Statistical Analysis

This secondary analysis is based on data from Statistics Canada cross-sectional surveys. Frequency distributions and cross-tabulations were used to describe overall health services utilization. The data were weighted to reflect the Canadian population. In accordance with Statistics Canada guidelines, estimates that were based on a sample of fewer than 30 were suppressed because of the unreliability of the estimate. Statistical tests were conducted using weighted proportions. The statistical significance of proportions is expressed here as 95% confidence intervals (CI) calculated by the bootstrap method. The statistical significance of means was tested using *t* tests, and values of $p < 0.05$ were considered statistically significant.

Results

Overall Utilization of Health Services

Overall, there was a statistically significant difference between the sexes regarding the frequency of contact with a primary care provider (as defined above) in the previous 12 months. While the most frequently reported category of health care utilization was two to four contacts for both women and men (46.8% and 47.0% respectively), women were far less likely than men to report only one health care contact (17.8%, CI: 16.6, 18.9 versus 26.1%, CI: 24.6, 27.5) and more likely to report five or more health care contacts in the previous year (35.4%, CI: 33.9, 36.7 versus 27.0%, CI: 25.5, 28.4 respectively) (Exhibit 1).

The relation between number of primary care contacts, sex and geographic location (rural/urban) was then examined (Exhibit 2). The table shows similarity between rural and urban frequency of contacts, reflecting higher reported frequency of contact by women regardless of location.

As expected, age was more important than sex or urban/rural location. Of the people who reported having had any contact with a primary care provider in the previous 12 months, the largest proportions of high contact (5+ times) were in the 65+ age group for both rural (52.5%) and urban (53.2%) women as well as for rural (51.5%) and urban (50.7%) men.

With regard to sex differences in the location of primary care services (Exhibit 3), although the doctor's office was the most frequently reported place last visited by men and women (81.7% and 84.5% respectively), women were far less likely than men to have first contact in the emergency unit. The likelihood of women contacting emergency services was about half that of men (2.0%, CI: 1.5, 2.3 versus 3.6%, CI: 2.7, 3.8 respectively).

Access to Family Physicians and Specialists

Regarding issues of access, selected data from the 2001 HSAS showed that most Canadians (88%) reported having a regular family doctor. [5] Men were less likely to have a regular family physician than women—15.8% of the men versus 8.8% of the women reported having no regular doctor. The reasons for not having a family doctor differed between men and women (Exhibit 4). Men reported a single main reason—they did not try to contact a family doctor—in contrast to women, who reported several: they did not try to contact one, family doctors are not taking new patients or their family doctor has either left or retired.

Utilization of Specialists by Sex, Age and Chronic Conditions

Data on use of specialists by age group were examined, controlling for chronic conditions. Among those without chronic conditions, a higher percentage of women in the 30- to 54-year-old age group reported seeking specialist care than men of the same age group. Distribution of specialist utilization among those with one or more chronic conditions across age groups was similar in men and women (Exhibit 5).

Wait Times

Three main categories were examined with respect to wait times: time to specialist care, time to surgery and time to diagnostic test. Statistically significant differences between the sexes were reported for some conditions: men waited significantly less time than women for asthma and other breathing conditions ($p = 0.0006$), but appreciably longer to see a mental health specialist ($p = 0.035$). Although some differences in wait times for surgery were reported by sex, these are not statistically significant. The mean wait time for MRI (magnetic resonance imaging) was a great deal longer for women than for men ($p < 0.0001$), and this was also true for CAT (computerized axial tomography) scans ($p = 0.048$) (Exhibit 6).

Preventive Health Services

Using the 2000–2001 CCHS data, three types of preventive health services were examined: mammography, breast examination and Pap test. Some differences in patterns of use by age were expected, reflecting both biological and social constructions of health and wellness. As well, individual variation in the utilization of these preventive services was anticipated, reflecting the mixed evidence on their effectiveness and the different recommendations from various clinical guidelines. Different patterns among rural residents as compared with urban residents were also expected.

Mammography

The 2000–2001 CCHS questions about mammography were addressed to women 35 years and older who had had a mammogram. For this analysis, respondents were grouped into four age groups: 49 and under, 50 to 59, 60 to 69 and 70+ (Exhibit 7). Two groups, 50 to 59 and 60 to 69, were very similar in recentness of test, carried out less than two years ago. Canadian guidelines recommend mammography for women aged 50 to 69 at two-year intervals. This analysis showed utilization outside these guidelines among younger and older women. Age was a significant factor with regard to the last time a mammogram was received ($p < 0.0001$).

Residence location was significant in terms of the current timing of obtaining a mammogram. Rural women were slightly more likely to report having obtained a mammogram less than two years ago (75.2%, CI: 73.8, 76.5) than urban women (73.5%, CI: 72.7, 74.4). Early information from the CCHS 2000–2001 indicated higher overall rates of screening mammography within a year, about 70%, compared to the rates reported in NPHS 1996 analyses, at 63%.

Clinical Breast Examination (CBE)

The 2000–2001 CCHS asked female respondents 18 years of age and older questions regarding CBE by a doctor (about 65% of respondents reported having a breast examination within the previous year). When asked more specifically about the last time such a procedure was done, there was a small but statistically significant ($p < 0.0001$) difference in the current timing of the examination for younger age groups (18 to 24 and 25 to 34) as compared with the older ages. In addition, there was a statistically significant difference between rural and urban residents in the reported recentness of a CBE by a doctor ($p < 0.0001$). Rural women were slightly more likely (36.8%, CI: 34.6, 39.0) than urban women (32.7%, CI: 31.6, 33.7) to have had a breast examination by a doctor more than one year ago (Exhibit 8).

Pap Test

The 2000–2001 CCHS data were used to determine the last time women reported having a Pap test, whether there was a difference between women who had had a recent Pap test and women who had not, and whether these differences could be associated with age or geographic location. The Canadian guidelines suggest that all sexually active women be tested annually until three negative Pap tests have been reported, and then tested every three years until age 69.

As expected, the reported currency of Pap testing is inversely related to age. For example, 18- to 24-year-olds are more than twice as likely (41.5%, CI: 39.4, 43.6) as those 55 and older (17.6%, CI: 16.7, 18.5) to report having had a test in the previous six months (Exhibit 9). Almost 60% of women aged 55+ and 40% of those 35 to 54 report having had a Pap test done more than one year ago. Residing in an urban area provides a small but statistically significant advantage regarding the last time a Pap test was done: 60% (CI: 59.3, 60.8) of urban residents compared with 56% (CI: 54.8, 57.2) of rural ones report having their test done less than a year ago.

Discussion

Overall Utilization of Health Services and Access

The systematic review of the literature undertaken to inform the analysis provides some interesting context for the interpretation of these findings. The results of this study are generally consistent with findings from a range of Canadian studies examining physician and hospital utilization by population groups. [2, 6–9] This study has extended these observations by reporting some new findings. The approach has been to provide a general overview of women's use of health care resources across all ages to investigate possible system bias that may result in health service inequities.

Overall, the findings confirm that access to first contact with the system is generally high, in that women report a slight advantage over men. There are differences between men and women regarding reasons for not having a regular family physician and also differences regarding frequency of service utilization. While some insight is gained by examining further sex-specific utilization of specialist services for selected conditions, surgical interventions and diagnostic technologies, more complex analyses and longitudinal data are needed to delineate the relative effects of prevalence of illness, care-seeking behaviour and social roles, appropriateness of care and health outcomes by sex and gender.

Wait Times

Wait times and wait lists are a current issue for the Canadian health system and the subject of debates about a system in crisis, yet there is no general consensus about what constitutes appropriate wait times for medical and surgical care. Provincial and regional wait lists for diagnostic tests are debated in the context of fiscal policies that have not kept up with the rapid diffusion of expensive diagnostic technologies that could affect the quality of health care in Canada. The present findings indicate important differences between men and women in wait times to receive specialist care for asthma/other breathing conditions and for mental health. It is difficult to explain the considerably longer time women have reported waiting for asthma treatment and men have reported waiting for treatment regarding mental health problems without further analyses of respondents' health status, attitudes regarding access to health care and other health care seeking behaviours. However, the authors can speculate that the reason for the large differences may be explained, at least in part, by the degree to which the diagnostic and therapeutic services provided by physicians vary according to the sex of the patient. Very little knowledge exists about this aspect of health care utilization, other than recent work on women's higher use of prescription medication for certain mental health conditions.

Preventive Health Services and the Medicalization of Life Cycle Transitions

There is a much greater expectation for women than men to present themselves for medical care or consultation. Although women's passage through the life cycle is both a social and biological process, the focus of attention in medicine is confined to biological processes, interpreted by health care systems and providers as requiring medical management. In comparison, medical management of men occurs only in the military and sometimes when they start employment. In that context, the authors' review of cross-sectional studies referring to earlier versions of the population surveys used in this analysis provides a historic backdrop from which to interpret these findings.

The literature alludes to increased rates of screening mammography during the last five to six years, yet the evidence is at best mixed and confounded by historic differences in the Canadian and United States (U.S.) guidelines. [10, 11] An analysis of trends for 1981–1994 [12] traced the early implementation of breast screening program mammography across the provinces and the impact of the National Breast Screening Study on the number of mammograms during that period. That analysis used data from multiple sources: NPHS 1994–1995, fee-for-service data from provincial health plans and data from screening programs, where available.

While the historic data showed important provincial differences in numbers screened, the 1998–1999 analysis indicates that the differences were small. More recent analyses of 1996–1997 NPHS data concluded that "50% of women aged 50–69 have not had a time-appropriate mammogram." [13] When compared with the U.S. rates in 1994, the overall percentage of Canadian women reporting that they had had a mammogram in the previous year was lower: 40% and 31% respectively. [14] The screening rates were more similar in the two countries for women aged 50 to 69, partly because of consistency in clinical policies; screening was substantially higher in the U.S. among women aged 40 to 49, as clinical policies in Canada do not endorse screening for this age group. It would be most informative to undertake longitudinal comparative studies of U.S. and Canadian women to quantify the relative influence of the health system, clinical policy and individual care-seeking behaviour on screening mammography and health outcomes.

Using the 1987 Quebec Health Survey and linking it with fee-for service physician payment data, [15] more comprehensive analyses were undertaken to examine the contribution of health services utilization variables in a multivariate model of the recentness of mammography use for women aged 50 to 59 years. The study concluded that the volume of general and gynecologic medical care, but not regularity and continuity of care, was associated with recentness of mammography.

Clinical breast examination is generally reported in the literature as an important aspect of preventive health behaviour, usually associated with use of screening mammography, but also with Pap testing. The literature suggests that physician practice behaviour can explain, in part, variations in utilization rates. [15, 16] A survey of rural family physicians in Ontario, undertaken to examine sex differences in medical practice related to cervical and breast cancer screening, provides interesting findings pertaining to CBE. [17] While no physician sex differences were observed in screening mammography rates, the self-reported screening rates for Pap tests and CBE were higher among female than male physicians. The latter reported that patients asked them more frequently for a referral to another physician to perform Pap tests and CBE.

Canadian women are currently advised to have an annual Pap test "once sexually active or at age 18 with a reduction in screening frequency to every three years after two normal tests to the age of 69." [17] Maxwell et al used the 1996–1997 NPHS to determine factors important in the promotion of cervical cancer screening. They found that "the estimates from the NPHS fail to indicate the dynamic nature of Pap test participation (i.e. regular, opportunistic and first time testing) and the temporal relationship between promoting factors and participation." [17] They also noted that the NPHS is unable to provide data about women's beliefs, knowledge and attitudes regarding cancer and preventive health practices. The present analysis of the 2000–2001 CCHS data is also limited in the conclusions that can be drawn about regular Pap testing patterns and compliance with screening recommendations.

A study from Quebec using data linkage developed logistic regression models to examine women's use of health services in relation to Pap test use. [18] Regularity of care was the most important predictor of recentness of Pap testing among several utilization variables. Individual characteristics, such as women's age, marital status and the presence of inflammatory diseases of the genital organs, were strong predictors that remained significant even after utilization variables were controlled for.

Limitations of the Analysis

In the Discussion section, specific observations have been made about the availability of data, as well as its quality and appropriateness for comprehensive gender-relevant analysis. The analysis includes a few key aspects of health services pertinent to surveillance. Hospital utilization has not been examined, because an overall analysis of volume of services would not be meaningful and condition-specific morbidity is covered elsewhere.

Also excluded from the analyses has been the use of alternative care practitioners. This is a rapidly increasing area of utilization and traditionally associated with women's use of health resources. However, as provincial health profession statutes vary greatly in terms of their regulation and public funding, it is futile to examine such specific utilization without the appropriate sample design.

Finally, the authors did not examine the appropriateness of women's use of health services from a perspective of the growing medicalization of women's life cycle transitions. This would require longitudinal data as well as richer data on the context of women's lives.

Data Gaps and Recommendations

The authors identified the following data gaps and made the following recommendations:

- Recent national surveys report from much larger national samples than previous surveys of this type; for surveillance purposes, however, mostly sex-specific and only some sex-sensitive research questions regarding access and health care use can be explored by cross-sectional surveys of this size.
- More detailed and comprehensive information (e.g. a list of providers that includes a range of alternative providers/therapists and a longitudinal design to capture causal relationships between utilization, the life-course and outcome) is required to capture more accurately, and in a richer context, the range of women's health care experiences to improve knowledge of equity and quality in health services.
- As hospital and medical care is largely under provincial/territorial jurisdiction, the measurement of possible system bias and its implication for equitable and quality health care for women requires larger samples of the national surveys, along with a longitudinal design.
- National databases, or closer alignment in the development of the various provincial databases, are needed for health promotion and preventive services. This will facilitate data linkage with national surveys for the purposes of undertaking longitudinal studies that support gender-based analyses.
- Increased use of data linkage between provincial administrative databases and national surveys reduces the heavy burden of longitudinal surveys, supports the validation of measurement tools and enhances our understanding of women's health.

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Exhibit 1: Number of Times Primary Care Provider Was Seen in Previous 12 Months, by Sex

	1	2–4	5–9	10–19	20+	Total
% Female	17.8	46.8	21.5	10.3	3.6	100
% Male	26.1	47.0	17.0	7.1	2.9	100

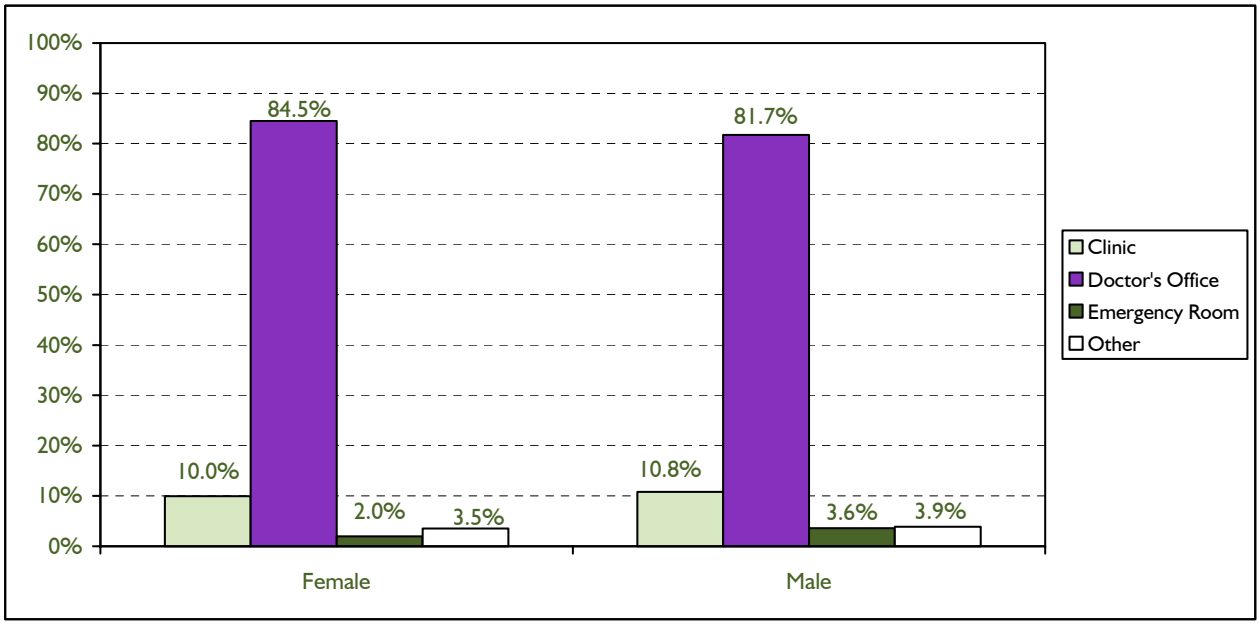
Source: Statistics Canada, National Population Health Survey, 1998–1999

Exhibit 2: Number of Times Primary Care Provider Seen in Previous 12 Months, by Sex and Rural/Urban Location

	Rural				Urban			
	% Female	(95% CI)	% Male	(95% CI)	% Female	(95% CI)	% Male	(95% CI)
1–4	64.9	61.6,68.2	73.3	69.9,76.8	64.5	62.9,66.1	73.0	71.4,74.6
5+	35.1	31.8,38.4	26.7	23.3,30.1	35.5	33.9,37.1	27.0	25.4,28.6
Total	100		100		100		100	

Source: Statistics Canada, National Population Health Survey, 1998–1999

Exhibit 3: Place of Most Recent Primary Care Contact by Sex



Source: Statistics Canada, National Population Health Survey, 1998–1999

Exhibit 4: Reasons Reported for Not Having a Regular Family Doctor, by Sex

Reasons	Male	Female
None Available	4.6%	7.2%
No New Patients	8.0%	14.1%
Did Not Try	58.0%	39.6%
Left/Retired	7.8%	12.2%
Other	21.6%	26.9%

Source: Statistics Canada, Health Service Access Survey, 2001 (CCHS supplement)

Exhibit 5: Age Distribution of Those Who Sought Specialist Care, by Sex and Chronic Condition

Age Group	No Chronic Conditions, Percentage		One or More Chronic Conditions, Percentage	
	Male	Female	Male	Female
15–29	24.4	25.4	14.5	16.1
30–54	48.9	60.2	48.1	48.5
≥ 55	26.7	14.3	37.4	35.3
Total	**100**	**100**	**100**	**100**

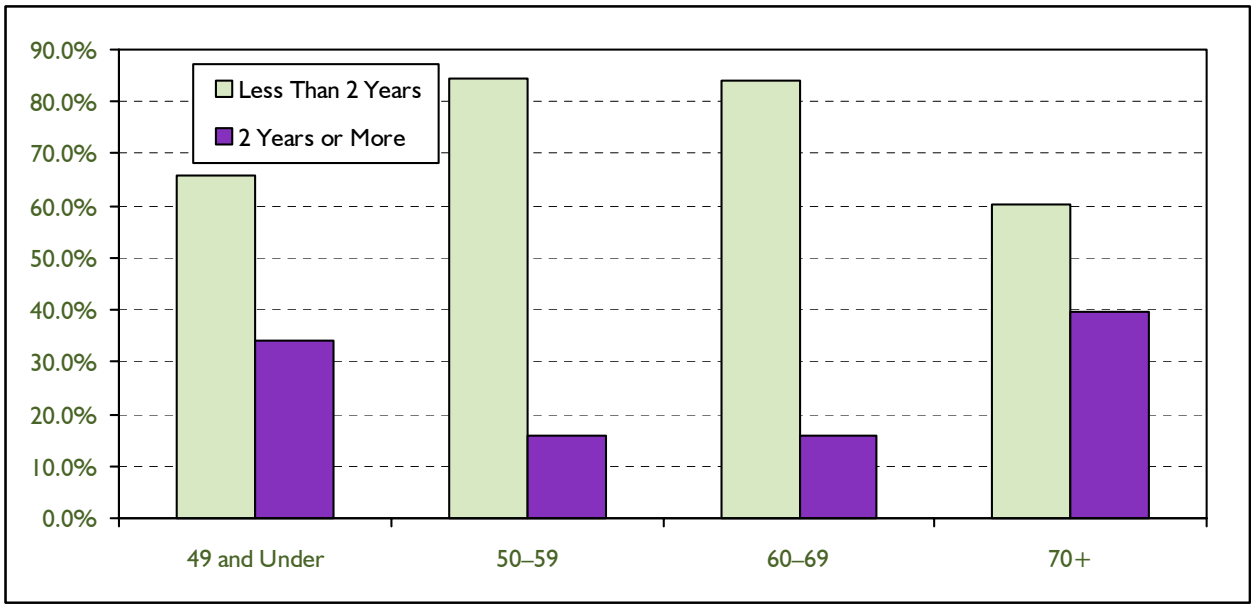
Source: Statistics Canada, Health Service Access Survey, 2001 (CCHS supplement)

Exhibit 6: Mean Waiting Time (Days) for Selected Services, by Sex

Service	Mean Waiting Time, Days	
	Male	Female
Specialist		
Circulatory Condition/Stroke	41.5	40.1
Cancer	35.8	37.1
Asthma/Other Breathing Conditions*	10.8	78.8
Arthritis/Other Joint Condition	85.7	65.4
Cataracts/Other Eye Conditions	42.3	45.9
Mental Health*	55.4	20.9
Skin Condition	71.5	50.9
Surgery		
Cardiac	59.2	---
Cancer Related	36.6	26.2
Hip or Knee Replacement	170.8	107.4
Cataract or Other Eye Surgery	---	95.6
Removal of Gall Bladder	---	---
Diagnostic Test		
MRI*	29.1	70.3
Cat Scan*	32.5	42.8
Angiography	34.6	41.4

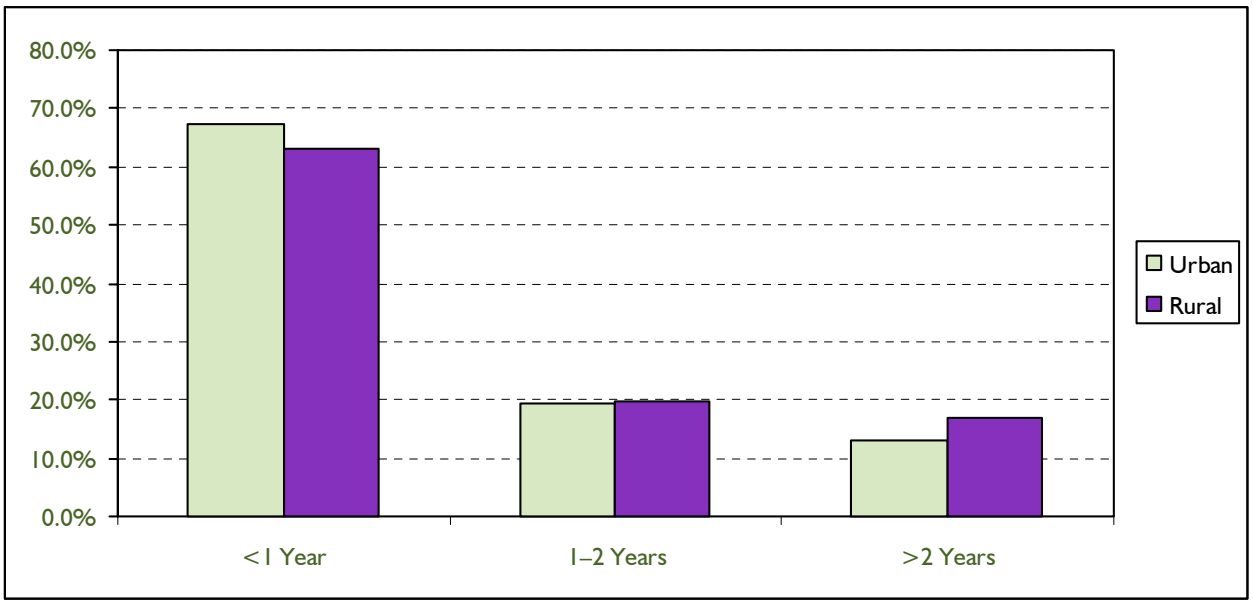
* Indicates significant difference, $p = 0.05$
--- Data suppressed because of small cell size
Source: Statistics Canada, Health Service Access Survey, 2001 (CCHS supplement)

Exhibit 7: Last Time Had Mammography, by Age Group



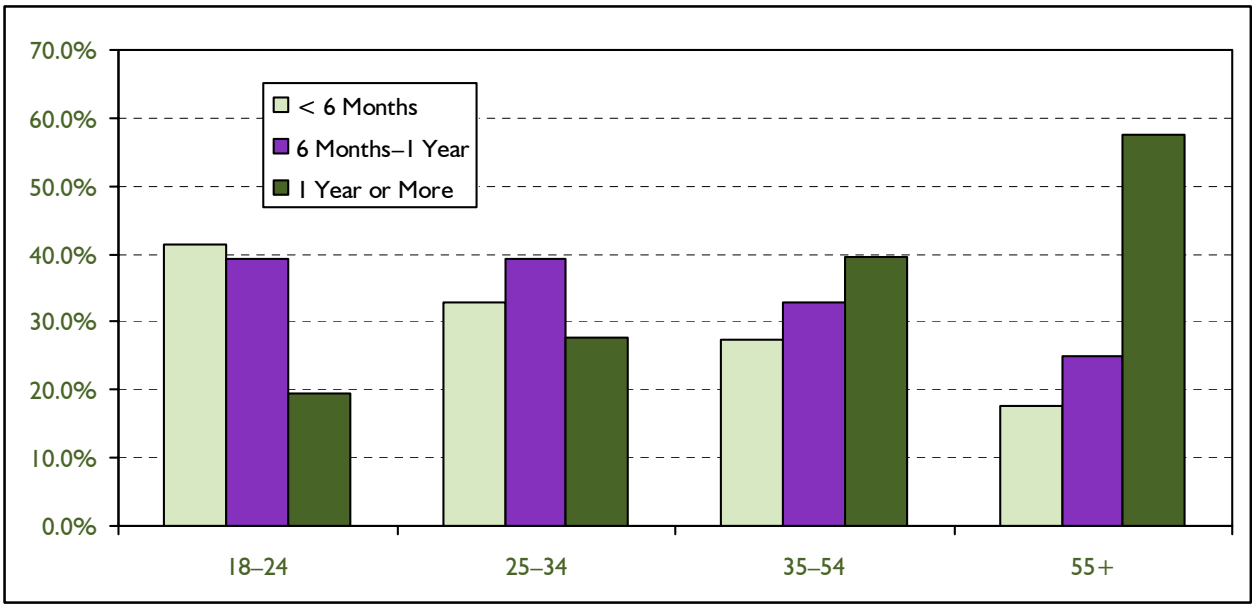
Source: Statistics Canada, Canadian Community Health Survey, 2000–2001

Exhibit 8: Last Time Breasts Were Examined by Doctor (Rural/Urban)



Source: Statistics Canada, Canadian Community Health Survey, 2000–2001

Exhibit 9: Last Time Had Pap Smear, by Age Group



Source: Statistics Canada, Canadian Community Health Survey, 2000–2001