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by Paul E. Ronksley, Claudia Sanmartin, David J.T. Campbell, Robert G. Weaver, G. Michael Allan, Kerry A. McBrien, Marcello Tonelli, Braden J. Manns, Deirdre Hennessy and Brenda R. Hemmelgarn

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.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0^s	value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
^{p}	preliminary
^{r}	revised
x	suppressed to meet the confidentiality requirements of the *Statistics Act*
^{E}	use with caution
F	too unreliable to be published
*	significantly different from reference category ($p < 0.05$)

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Abstract

Background
This analysis explores barriers to the receipt of health care from a primary care physician for management of chronic conditions.

Data and methods
A population-based survey was administered to adults in Manitoba, Saskatchewan, Alberta and British Columbia who had hypertension, diabetes, heart disease and/or stroke (n = 1,849). Associations between socio-demographic factors and barriers to receipt of primary care were identified.

Results
Most respondents with chronic conditions required care from a primary care physician in the past year and had no difficulty receiving it; about 10% reported a barrier. Barriers were most commonly reported by respondents with diabetes (16%) and were related to initiation of care or waiting too long to get care.

Interpretation
A small percentage of adults with chronic conditions reported barriers to receiving care from a primary care physician.

Keywords
Health services accessibility, health services needs and demand

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About a third of Canadians have chronic conditions such as diabetes, hypertension and heart disease. The care of patients with chronic conditions has become a major focus in health services research and public health policy,[1-3] and the direct costs of managing these conditions exceed $40 billion a year.[4-8] Even so, not all Canadians with chronic conditions receive the care they require.[9-14]

Previous research suggests that approximately one in seven adults with a chronic condition reports an unmet health care need—a common indicator of problems with access to services.[15-21] Information about the nature of these unmet needs is limited, particularly whether they pertain specifically to chronic disease care and whether they are associated with access to primary care physicians. Given that many chronic conditions are managed largely in outpatient settings, identifying perceived obstacles to primary care is important in determining which barriers are potentially modifiable.

Based on the results of a population-based survey conducted in the four western provinces, this analysis examines the prevalence of barriers to the receipt of care from primary care physicians and to other health services among adults aged 40 or older who reported having been diagnosed with diabetes, heart disease, hypertension and/or stroke. Socio-demographic factors associated with barriers to care are also explored.

Data and methods

Data sources

The data are from the Barriers to Care for People with Chronic Health Conditions (BCPCHC) survey, administered by Statistics Canada and designed by the Interdisciplinary Chronic Disease Collaboration (www.ICDC.ca).[22,23] People aged 40 or older residing in the four western Canadian provinces (Manitoba, Saskatchewan, Alberta and British Columbia) who responded to the 2011 Canadian Community Health Survey (CCHS), and who reported having been diagnosed with diabetes, heart disease, hypertension and /or stroke, were eligible for inclusion. Members of the Canadian Forces, First Nations people living on reserves, and people in institutions are not covered by the CCHS, and thus, were not eligible for the BCPCHC. Computer-assisted telephone interviews were conducted by Statistics Canada in 2012. Of the 2,316 individuals selected for the BCPCHC, 1,849 (80%) completed the

survey. With permission, their responses were linked to their 2011 CCHS data, which provided detailed demographic and health-related information.

Variables

Respondents were asked if, during the previous 12 months, they had needed the services of a family physician or general practitioner for their chronic condition(s). Those who replied affirmatively were asked if they had difficulty obtaining these services, and if so, what kind of difficulty they encountered. Difficulties were classified into four categories: initiating care (contacting a physician/getting an appointment); waiting for an appointment; in-office waiting; and other barriers (Text Table 1).

Text Table 1
Barriers perceived by respondents attempting to access primary care

Initiation of care
Difficulty getting appointment
Difficulty contacting doctor
Waiting too long to receive care
To get an appointment
Waiting too long in office
To see a doctor
Other
No personal/family doctor
Service not available in area
Service not available when required
Cost
Transportation problem
Language problem
Didn't know where to go
Unable to leave house because of health problem

Text Table 2
Reasons for unmet need for chronic condition care

System (availability)
Not available when required (for example, doctor on holiday, inconvenient hours)
Not available in area
Waiting time too long
Patient (accessibility, acceptability, personal choice)
Too busy
Felt would be inadequate
Cost
Didn't get around to it/Didn't bother
Decided not to seek care
Doctor didn't think it was necessary
Language problem
Personal or family responsibilities
Dislikes doctors/Afraid
Other

Respondents were also asked if there had been a time in the previous 12 months when they needed care for their chronic condition(s) but did not receive it. Those who reported a general unmet need for chronic disease care (which could include services outside a family physician's office, such as specialist care) were asked why they did not receive it. Responses were classified into two types of barriers: system level (resource availability) or patient level (accessibility, acceptability, or personal choice)[17] (Text Table 2). Respondents reporting an unmet need for chronic condition care were asked where they had sought care (doctor's office versus facility such as hospital, out-patient clinic or emergency department), and if they felt their health worsened because this need was not met. Although the present analysis focuses on barriers to primary care, the data about barriers to care in general provide additional information about where patients with chronic conditions seek care and the obstacles they confront.

Socio-demographic and health behaviour variables included in this study were based on the Health Behavior Model,[24] a framework of determinants of health service use that encompasses predisposing factors, enabling factors, personal health factors, and health care system/environmental factors. The variables in the present analysis are: age, sex, marital status, education, household income, ethnicity, province of residence, rural/urban location, having a regular medical doctor, perceived health status, and body mass index (BMI). BMI categories were calculated from self-reported height and weight, using an adjustment for self-report.[25]

Analysis

The percentages of respondents reporting key variables were calculated and stratified by the type (diabetes versus other) and number (one versus two or more) of chronic conditions. All descriptive statistics were weighted to reflect the population aged 40 or older in the four western provinces, who had the selected chronic conditions. These frequency weights were calculated by Statistics Canada based on weights from the 2011 CCHS and were readjusted for non-response by province, chronic condition, and age group to represent the target population. Bootstrapping techniques with 500 replications were used to calculate standard errors and confidence intervals (CI) around the estimates. To determine the reliability of the reported percentages, the coefficient of variation (CV) was calculated. Consistent with Statistics Canada guidelines, all estimates with a CV greater than 33.3% were considered unreliable and were not reported.[26] Log-binomial regression was used to determine associations between socio-demographic/patient factors and difficulty getting primary care. Unadjusted and age-adjusted prevalence rate ratios (PRR) were calculated for each covariate. For all statistical tests, $p < 0.05$ was considered significant. All analyses were conducted at the Prairie Regional Data Centre in Calgary, Alberta, using STATA 11.0 (Statacorp, College Station, Texas). This study was approved by the Conjoint Health Research Ethics Board of the University of Calgary and the Health Research Ethics Board of the University of Alberta.

Results

Study population

Approximately half (51%) of the 1,849 people who completed the survey were aged 65 or older (Table 1). Respondents were equally divided among men and women. Almost all respondents (95%) had a regular medical doctor. Two-thirds of respondents had only one chronic condition; the remaining third had at least two. Hypertension was reported by 82% of respondents; almost two-thirds of this group did not have any of the other conditions examined in this analysis. Compared with respondents who had only one condition, those with multiple conditions tended to be older, to be obese, and to have less than secondary school graduation. Even though all respondents had at least one of the four chronic conditions examined in this study, 37% reported their health as excellent or very good.

Table 1
Percentage distribution of selected socio-demographic and health characteristics, by number of chronic conditions, household population aged 40 or older,† Manitoba, Saskatchewan, Alberta and British Columbia, 2012

	Number of chronic conditions								
	Total (n = 1,849)			One (n = 1,184)			Two or more (n = 665)		
		95% confidence interval			95% confidence interval			95% confidence interval	
Characteristics	%	from	to	%	from	to	%	from	to
Sex									
Men	49.9	46.0	53.8	47.9	43.1	52.7	54.2	48.0	60.4
Women	50.1	46.2	54.0	52.1	47.3	56.9	45.8	39.6	52.0
Age group (years)									
40 to 64	48.8	45.7	52.1	54.4	50.3	58.5	37.2	31.1	43.4
65 to 74	26.9	23.9	29.8	25.4	21.7	29.0	30.0	24.7	35.4
75 or older	24.3	21.5	27.0	20.2	16.9	23.6	32.7	27.0	38.4
Location									
Urban	82.5	79.5	85.4	82.9	79.1	86.6	81.7	77.5	85.9
Rural	17.5	14.6	20.5	17.1	13.4	20.9	18.3	14.1	22.5
Household income									
Less than $30,000	21.8	18.9	24.7	18.5	15.2	21.8	28.6	23.1	34.1
$30,000 to $54,999	27.4	24.3	30.4	23.8	20.2	27.3	34.9	29.5	40.4
$55,000 to $94,999	24.9	21.5	28.4	27.0	22.4	31.6	20.6	15.7	25.4
$95,000 or more	26.0	22.3	29.6	30.7	25.8	35.6	15.9	11.4	20.4
Marital status									
Married/Common-law	66.9	63.2	70.6	69.2	64.7	73.7	62.2	56.6	67.8
Widowed/Separated/Divorced/Never married	33.1	29.4	36.8	30.8	26.3	35.3	37.8	32.2	43.4
Education									
Less than secondary graduation	21.3	18.6	24.1	18.7	15.5	21.9	26.8	21.6	32.0
Secondary graduation/Some postsecondary	22.0	18.9	25.1	22.3	18.3	26.2	21.5	16.2	26.8
Postsecondary graduation (less than bachelor's degree)	37.7	33.9	41.5	37.1	32.2	42.0	38.8	33.0	44.6
Bachelor's degree or higher	19.0	15.6	22.4	21.9	17.3	26.5	12.9	9.1	16.7
Body mass index category (kg/m^2) (corrected for self-report bias[25])									
Normal/Underweight (less than 25)	23.3	19.8	26.7	24.7	20.3	29.2	20.0	14.7	25.4
Overweight (25 to 29.9)	36.7	32.5	40.8	38.0	32.9	43.2	33.7	27.6	29.9
Obese (30 or more)	40.1	36.2	44.0	37.2	32.2	42.3	46.2	40.1	52.3
Province of residence									
British Columbia	44.5	41.3	47.7	43.8	39.2	48.4	46.0	40.7	51.3
Alberta	31.7	28.8	34.6	33.9	29.8	37.9	27.0	22.5	31.6
Saskatchewan	10.8	9.4	12.1	9.7	8.0	11.5	13.0	9.7	16.2
Manitoba	13.0	11.1	15.0	12.6	9.9	15.4	14.0	10.1	17.9
Ethnicity									
White	86.7	83.5	89.9	87.3	83.2	91.4	85.4	80.6	90.1
Aboriginal	4.2	2.9	5.5	3.3	1.8	4.9	6.0	3.3	8.7
Other	9.1	6.0	12.2	9.4	5.3	13.4	8.7	4.6	12.7
Self-perceived health									
Excellent/Very good	36.8	33.0	40.6	43.8	38.7	48.9	22.1	17.1	27.1
Good	40.2	36.1	44.2	41.1	35.7	46.4	38.3	32.1	44.5
Fair/Poor	23.0	20.1	25.9	15.1	12.0	18.3	39.6	33.5	45.6
Have regular medical doctor									
Yes	95.1	93.2	97.1	94.2	91.4	96.9	97.2	95.2	99.2
No	4.9	2.9	6.8	5.8	3.1	8.6	2.8	0.8	4.8
Type of chronic condition									
Hypertension	82.1	79.3	84.8	63.5	60.0	67.0	36.5	33.0	40.0
Diabetes	26.3	23.7	28.9	33.4	27.0	39.7	66.6	60.3	73.0
Heart disease	21.5	18.7	24.3	29.6	23.0	36.2	70.4	63.8	77.0
Stroke	8.0	6.4	9.6	9.0	3.0	15.1	91.0	84.9	97.0

†reported diagnosis of diabetes, heart disease, hypertension and/or stroke
Source: 2012 Barriers to Care for People with Chronic Health Conditions Survey.

Reported need for and barriers to primary physician care

More than three-quarters (78%) of respondents reported that, because of their chronic condition(s), they had required the services of a primary care physician in the past year (Table 2). The percentage was higher among those with multiple conditions and among those who had diabetes (both 85%). Overall, 10% of the respondents who accessed primary care reported difficulty obtaining these services; for those with diabetes, the percentage was higher at 16%.

Among the 10% of respondents who reported difficulty getting primary care, the barriers mentioned most frequently were related to the initiation of care (54%) and waiting to get an appointment (38%). Barriers related to initiating care were more common among respondents with only one chronic condition (60%), whereas waiting to get an appointment was more common among those with multiple chronic conditions (49%).

Factors associated with difficulty getting primary physician care

Being younger than 65 and having diabetes were significantly associated with difficulty getting primary physician care (Table 3). Patients younger than age 65 were almost three times as likely to report a barrier (PRR 2.9; 95% CI: 1.7-5.0), compared with seniors. When age was taken into account, respondents with diabetes were twice as likely as respondents reporting any of the three other selected conditions to report a barrier to primary care (PRR 2.2; 95% CI: 1.3-3.9).

Unmet needs

Approximately 5% of respondents reported having an unmet need for care in general related to their chronic condition(s) in the previous 12 months (Table 4). This type of unmet need was most prevalent among respondents with multiple conditions (7%) and among those with diabetes (8%). Half of respondents who reported an unmet need stated that it was associated with seeking care in a doctor's office.

While respondents with unmet needs gave a range of personal reasons for not receiving care (for example, too busy, family responsibilities), more than 60% reported a system-level barrier (service not available when required or in the area, or long wait times).

Most (61%) respondents who reported an unmet need felt that their chronic condition became worse as a result of the delayed care. Given the small number of respondents who reported an unmet need in general, it was not possible to identify socio-demographic/patient factors associated with this outcome.

Discussion

According to the results of the Barriers to Care for People with Chronic Health Conditions survey, the majority of adults in western Canada who had at least one chronic condition required the services of

Table 2
Prevalence of reported need for and barriers to primary physician care for management of chronic condition, by number and type of chronic conditions, household population aged 40 or older,† Manitoba, Saskatchewan, Alberta and British Columbia, 2012

				Number of chronic conditions						Type of chronic condition					
	Total			One			Two or more			Diabetes			Other chronic condition		
		95% confidence interval			95% confidence interval			95% confidence interval			95% confidence interval			95% confidence interval	
	%	from	to	%	from	to	%	from	to	%	from	to	%	from	to
Required family doctor/general practitioner care for chronic condition(s) in past year	78.1	74.8	81.5	74.8	70.4	79.2	85.3	81.2	89.3	84.5	80.0	89.0	75.9	71.7	80.1
Experienced difficulty getting primary care‡	9.5	6.7	12.3	10.6	6.7	14.6	7.3	4.2	10.4	15.8[E]	9.1	22.5	7.0[E]	4.3	9.7
Reason for difficulty§															
Difficulty contacting physician/getting appointment	53.9	38.6	69.2	59.9	40.3	79.5	37.3[E]	17.8	56.8	34.7[E]	11.7	57.7	70.5	54.8	86.2
Wait too long to get appointment	38.2[E]	24.3	52.0	34.2[E]	17.5	50.9	49.1[E]	27.3	70.9	F	...	...	47.1[E]	28.4	65.8
Wait too long in office	20.8[E]	10.2	31.4	F	...	...	39.1[E]	16.8	61.2	F	...	...	19.8[E]	7.3	32.4
Other	31.9[E]	15.9	47.8	36.7[E]	15.8	57.7	F	...	...	F	...	...	27.1[E]	11.4	42.9

†reported diagnosis of diabetes, heart disease, hypertension and/or stroke
‡respondents who needed family doctor/general practitioner care for chronic condition(s) in past 12 months
§ respondents who experienced difficulty getting family doctor/general practitioner care for chronic condition(s)
[E] interpret with caution
F too unreliable to be published
... not applicable
Note: Because respondents could report more than one reason for not receiving care, percentages sum to more than 100%.
Source: 2012 Barriers to Care for People with Chronic Health Conditions Survey.

a primary care physician in the previous year and had no difficulty receiving it. Nonetheless, approximately one in 10 reported a barrier. Barriers were reported most frequently by respondents with diabetes, and tended to be related to initiating care or waiting too long to receive it. As well, about 5% of respondents reported an unmet need for care in general, and more than half of this group considered that their condition had worsened because of this unmet need.

This analysis complements earlier studies using population-based survey data.[15,17-21] Prior estimates have reported that somewhat higher percentages—12% to 15%—of Canadians with chronic conditions had an unmet health care need in the past year.[15,18,19,21,27,28] However, those studies did not distinguish between the need for primary versus specialist care,

Table 3
Prevalence rate ratios associating selected socio-demographic and health factors with reported difficulty getting primary physician care, household population aged 40 or older,† Manitoba, Saskatchewan, Alberta and British Columbia, 2012

	Prevalence			Prevalence rate ratios (PRR)					
				Unadjusted			Age-adjusted		
		95% confidence interval			95% confidence interval			95% confidence interval	
Characteristics	%	from	to		from	to		from	to
Age (years)									
Younger than 65	14.3	9.1	19.6	2.9	1.7	5.0	...	...	...
65 or older‡	5.0	3.0	6.9	...	...	...	...	...	...
Sex									
Women‡	7.5	4.7	10.4	...	...	...	...	...	...
Men	11.4	6.7	16.1	1.5	0.9	2.6	1.4	0.8	2.4
Location									
Urban‡	9.4	6.2	12.6	...	...		...	...	...
Rural	10.0	5.2	14.8	1.1	0.6	1.9	1.0	0.5	1.7
Household income									
Less than $30,000‡	8.1	3.7	12.4	...	...	...	...	...	...
$30,000 or more	9.9	6.5	13.2	1.2	0.6	2.4	0.9	0.5	1.7
Marital status									
Married/Common-law	10.7	6.8	14.7	1.5	0.9	2.6	1.3	0.8	2.3
Widowed/Separated/Divorced/Never married‡	7.0	4.3	9.7	...	...	...	...	...	...
Education									
Less than secondary graduation‡	8.0	3.8	12.1	...	...		...	...	...
Secondary graduation or more	9.9	6.6	13.2	1.2	0.7	2.4	0.9	0.5	1.7
Body mass index (kg/m^2) (corrected)									
30 kg/m^2 or more	7.2	4.4	10.0	0.6	0.4	1.2	0.6	0.3	1.0
Less than 30 kg/m^2 ‡	11.2	6.7	15.7	...	...	...	...	...	...
Province									
Alberta‡	7.4	3.2	11.7	...	...	...	...	...	...
Manitoba/Saskatchewan/British Columbia	10.4	6.8	14.0	1.4	0.7	2.9	1.5	0.7	3.0
Self-perceived health									
Excellent/Very good‡	7.5	3.0	12.1	...	...	...	...	...	...
Good	9.7	4.7	14.7	1.3	0.5	3.1	1.3	0.6	3.1
Fair/Poor	12.3	7.5	17.1	1.6	0.8	3.5	1.7	0.8	3.6
Self-perceived mental health									
Excellent/Very good‡	8.6	5.3	11.8	...	...	...	...	...	...
Good/Fair/Poor	10.7	5.7	15.8	1.3	0.7	2.3	1.3	0.7	2.3
Number of chronic conditions									
One‡	10.6	6.7	14.6	...	...	...	...	...	...
Two or more	7.3	4.2	10.4	0.7	0.4	1.2	0.8	0.5	1.4
Type of chronic condition									
Diabetes	15.8	9.1	22.5	2.2	1.3	3.9	2.2	1.3	3.9
Other(s)‡	7.0	4.3	9.7	...	...	...	...	...	...

† reported diagnosis of diabetes, heart disease, hypertension and/or stroke
‡ reference category
... not applicable
Source: 2012 Barriers to Care for People with Chronic Health Conditions Survey.

whereas the present analysis focuses on primary care physicians.

In this study, the barriers most commonly cited involved systemic factors such as wait times and service availability. However, these results are not limited to the services of primary care physicians, but rather, refer to any component or service involved in chronic disease care. Previous research indicates that barriers to specialist care may explain why long wait times and service availability issues are most prevalent among chronic disease groups.[27,29] Even so, the present analysis also reveals perceptions of barriers to care from primary care physicians, especially among patients with more than one chronic condition. A study published in 2010 suggested that the delivery of health care by multiple providers in multiple locations may partially explain why access-related barriers are most commonly reported by patients with more than one chronic condition.[30]

Only a small percentage of adults with chronic conditions reported an unmet health care need. Nonetheless, earlier studies have shown that unmet health care needs related to resource availability are associated with an increased risk of all-cause hospitalization and higher rates of emergency department visits.[15,18,31,32]

Limitations

This study should be interpreted in light of its limitations. First, as is the case with all self-reported data, issues related to the reliability and validity of the responses can arise. Second, the small sample limited the extent to which data could be stratified by socio-demographic variables, and the wide confidence intervals surrounding some estimates make interpretation difficult. Third, it was not possible to measure the influence of local health care availability (for example, the ratio of primary care physicians to population) on reported barriers to primary care. Because the analysis was restricted to four chronic conditions, the generalizability of the findings could be limited. Respondents may have had other chronic conditions that differentially affect reported barriers. Finally, it is possible that the results are confounded by differing expectations of what should be available from the health care system and may depend on the type of barrier experienced. Additional studies are needed to explore how respondents interpret this survey question and to validate the findings.

Conclusion

The findings of this analysis should be considered to be hypothesis-generating and as input for subsequent studies. The majority of people aged 40 or older with one or more of the four selected chronic conditions (diabetes, heart disease, hypertension and stroke) reported that they had required the services of a primary care physician during the past year and had no difficulty receiving this care. A small percentage reported barriers, notably, problems related to contacting a physician or waiting too long to receive care. Future research might examine specific interventions developed to address these barriers, such as the expansion of primary care hours and increased numbers of after-hours clinics, and whether they are

Table 4
Prevalence of unmet needs for and barriers to chronic condition care in general, by number and type of chronic conditions, household population aged 40 or older,† Manitoba, Saskatchewan, Alberta and British Columbia, 2012

	Total			Number of chronic conditions						Type of chronic condition					
				One			Two or more			Diabetes			Other		
		95% confidence interval			95% confidence interval			95% confidence interval			95% confidence interval			95% confidence interval	
	%	from	to	%	from	to	%	from	to	%	from	to	%	from	to
Needed but did not get care for chronic condition(s) in past 12 months	4.6[E]	2.6	6.6	3.3[E]	1.5	5.1	7.4[E]	2.4	12.3	8.1[E]	3.0	13.2	3.4[E]	1.5	5.3
Reason for not receiving care‡															
Availability	61.9[E]	39.2	84.6	61.4[E]	34.0	88.9	62.4[E]	24.2	100.0	79.3[E]	48.0	100.0	47.3[E]	18.4	76.2
Other barrier (accessibility, acceptability, personal circumstances)	67.6[E]	46.8	88.4	51.7[E]	24.1	79.3	82.6[E]	55.2	100.0	71.4[E]	34.5	100.0	64.3[E]	39.2	89.5
Location where respondent sought care‡															
Doctor's office	49.5[E]	25.4	73.6	53.9[E]	25.8	82.0	F	...	...	F	...	...	74.5[E]	51.8	97.2
Other facility (hospital, outpatient clinic, other)	50.5[E]	26.4	74.6	46.1[E]	18.0	74.2	F	...	...	F	...	...	25.5[E]	2.8	48.2
Respondent perceived that chronic condition worsened because of unmet need for care‡	61.4[E]	36.1	86.7	F	...	...	F	...	...	69.9[E]	29.2	100.0	53.3[E]	21.7	85.0

† reported diagnosis of diabetes, heart disease, hypertension and/or stroke
‡ respondents who reported unmet need for chronic disease care
[E] interpret with caution
F too unreliable to be published
... not applicable
Note: Because respondents could report more than one reason for not receiving care, percentage add to more than 100%.
Source: 2012 Barriers to Care for People with Chronic Health Conditions Survey.

associated with improved outcomes. As well, further work might be conducted to determine if the findings of this study can be extrapolated to patients with other common chronic conditions. An examination of how patients who perceive barriers to care navigate the health care system would also provide insight into the association between reported gaps in care and health outcomes. ■

What is already known on this subject?

- Previous research suggests that approximately one in seven Canadian adults with a chronic condition has an unmet health care need—a common indicator of inadequate access to or availability of health care.
- Information is limited on whether barriers relate specifically to a perceived need for chronic disease care and whether they exist when attempting to access primary care.

What does this study add?

- About 10% of adults with diabetes, heart disease, hypertension and/or stroke reported barriers to primary care, notably, difficulties contacting a physician or waiting too long.
- Such barriers were more common among people with diabetes, 16% of whom reported difficulties getting primary care.
- About 5% of people with a chronic condition reported an unmet need for care related to that condition; more than half of them reported that the condition worsened because the need was unmet.

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References

1. Ahmed S, Gogovor A, Kosseim M, et al. Advancing the chronic care road map: a contemporary overview. *Healthcare Quarterly* 2010; 13(3): 72-9.
2. Dancer S, Courtney M. Improving diabetes patient outcomes: framing research into the chronic care model. *Journal of the American Academy of Nurse Practitioners* 2010; 22(11): 580-5.
3. Davis RM, Wagner EH, Groves T. Managing chronic disease. *British Medical Journal* 1999; 318(7191): 1090-1.
4. Broemeling AM, Watson DE, Prebtani F. Population patterns of chronic health conditions, co-morbidity and healthcare use in Canada: implications for policy and practice. *Healthcare Quarterly* 2008; 11(3): 70-6.
5. Health Council of Canada. *Population Patterns of Chronic Health Conditions in Canada: A Supplement to Why Health Care Renewal Matters: Learning from Canadians with Chronic Health Conditions.* Toronto, Ontario: The Council, 2007.
6. Health Council of Canada. *Why Health Care Renewal Matters: Learning from Canadians with Chronic Health Conditions.* Toronto, Ontario: The Council, 2007.
7. Lee DS, Chiu M, Manuel DG, et al. Trends in risk factors for cardiovascular disease in Canada: temporal, socio-demographic and geographic factors. *Canadian Medical Association Journal* 2009; 181(3-4): E55-66.
8. Mirolla M. *The Cost of Chronic Disease in Canada.* Ottawa, Ontario: The Chronic Disease Prevention Alliance of Canada, 2004.
9. Health Council of Canada. *Helping Patients Help Themselves: Are Canadians with Chronic Conditions Getting the Support They Need to Manage Their Health?* Toronto, Ontario: The Council, 2010.
10. Harris SB, Stewart M, Brown JB, et al. Type 2 diabetes in family practice. Room for improvement. *Canadian Family Physician* 2003; 49: 778-85.
11. Canadian Institute for Health Information. *Disparities in Primary Health Care Experiences Among Canadians With Ambulatory Care Sensitive Conditions.* Ottawa, Ontario: Canadian Institute for Health Information, 2012.
12. Leenen FH, Dumais J, McInnis NH, et al. Results of the Ontario survey on the prevalence and control of hypertension. *Canadian Medical Association Journal* 2008; 78(11): 1441-9.
13. McAlister FA, Wilkins K, Joffres M, et al. Changes in the rates of awareness, treatment and control of hypertension in Canada over the past two decades. *Canadian Medical Association Journal* 2011; 183(9): 1007-13.
14. Webster G, Sullivan-Taylor P, Terner M. Opportunities to improve diabetes prevention and care in Canada. *Healthcare Quarterly* 2011; 14(1): 18-21.
15. Allin S, Grignon M, Le Grand J. Subjective unmet need and utilization of health care services in Canada: what are the equity implications? *Social Science and Medicine* 2010; 70(3): 465-72.
16. Carr W, Wolfe S. Unmet needs as socio-medical indicators. *International Journal of Health Services* 1976; 6(3): 417-30.
17. Chen J, Hou F. Unmet needs for health care. *Health Reports* 2002; 13(2): 23-34.
18. Ronksley PE, Sanmartin C, Quan H, et al. Association between perceived unmet health care needs and risk of adverse health outcomes among patients with chronic medical conditions. *Open Medicine* 2013; 7(1): e21-30.
19. Ronksley PE, Sanmartin C, Quan H, et al. Association between chronic conditions and perceived unmet health care needs. *Open Medicine* 2012; 6(2): 48-58.
20. Sanmartin C, Houle C, Tremblay S, Berthelot JM. Changes in unmet health care needs. *Health Reports* 2002; 13(3): 15-21.
21. Sibley LM, Glazier RH. Many Canadians feel healthcare needs are not being met. *Healthcare Quarterly* 2010; 13(3): 19-22.
22. Interdisciplinary Chronic Disease Collaboration. *Barriers to Care for Patients with Chronic Health Conditions (BCPCHC) Survey.* Calgary, Alberta: Interdisciplinary Chronic Disease Collaboration, 2012.
23. Interdisciplinary Chronic Disease Collaboration. The research to health policy cycle: a tool for better management of chronic non-communicable diseases. *Journal of Nephrology* 2008; 21(5): 621-31.
24. Andersen RM. Revisiting the behavioral model and access to medical care: does it matter? *Journal of Health and Social Behavior* 1995; 36(1): 1-10.
25. Shields M, Connor Gorber S, Janssen I, Tremblay MS. Bias in self-reported estimates of obesity in Canadian health surveys: an update on correction equations for adults. *Health Reports* 2011; 22(3): 35-45.
26. Statistics Canada. *Indicators Based on Statistics Canada Surveys.* Ottawa, Ontario: Statistics Canada.
27. Kasman NM, Badley EM. Beyond access: who reports that health care is not being received when needed in a publicly-funded health care system? *Canadian Journal of Public Health* 2004; 95(4): 304-8.
28. Sibley LM, Glazier RH. Reasons for self-reported unmet healthcare needs in Canada: a population-based provincial comparison. *Healthcare Policy* 2009; 5(1): 87-101.
29. Schoen CO, R; How, SK; Doty, MM; Peugh, J. In chronic condition: Experiences of patients with complex health care needs, in eight countries. *Health Affairs (Millwood)* 2009; 28(1): w1-16.
30. Ravenscroft E. Navigating the health care system: insights from consumers with multi-morbidity. *Journal of Nursing and Healthcare of Chronic Illness* 2010; 2: 215-24.
31. McCusker J, Roberge D, Levesque JF, et al. Emergency department visits and primary care among adults with chronic conditions. *Medical Care* 2010; 48(11): 972-80.
32. Zuckerman S, Shen YC. Characteristics of occasional and frequent emergency department users: do insurance coverage and access to care matter? *Medical Care* 2004; 42(2): 176-82.