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by Kristyn Frank

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Difficulties accessing health care in Canada during the COVID-19 pandemic: Comparing individuals with and without chronic conditions

by Kristyn Frank

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ABSTRACT

Background

Individuals with chronic conditions have higher levels of health care usage and may be at higher risk of more severe outcomes from COVID-19. Therefore, they may have experienced greater difficulty accessing health care during the pandemic because of restrictions on health care services.

Data and methods

Data from the Survey on Access to Health Care and Pharmaceuticals During the Pandemic were used to estimate the proportion of individuals in Canada, with and without chronic conditions, who experienced difficulties accessing health care services during the pandemic. Multivariate analyses examined associations between demographic, socioeconomic and health characteristics and the likelihood of experiencing difficulties accessing health care during the pandemic.

Results

Nearly one-third (32.0%) of individuals who self-reported having one or more chronic conditions and 24.2% of those who reported no conditions had one or more medical appointments cancelled, rescheduled or delayed because of COVID-19. Smaller proportions of individuals with (19.5%) and without (16.8%) chronic conditions delayed contacting a medical professional because of fear of exposure to COVID-19 in health care settings. Individuals who were younger or had a disability were also more likely than older individuals or those without a disability, respectively, to have had a medical appointment cancelled, rescheduled or delayed because of the pandemic. Women, immigrants, and individuals with multiple chronic conditions were more likely than their counterparts (men, Canadian-born individuals, and individuals with no chronic conditions, respectively) to have delayed contacting a medical professional because of fear of exposure to COVID-19.

Interpretation

Individuals with chronic conditions were more likely than those with no chronic conditions to have experienced difficulties accessing health care during the pandemic. Consequently, these individiuals may be at greater risk of experiencing health challenges in the future.

Keywords

chronic disease; COVID-19; health services accessibility

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What is already known on this subject?

- Prior to the COVID-19 pandemic, Canadians with one or more chronic conditions were more likely to report unmet health care needs, compared with those with no reported conditions.
- Systemic difficulties, such as availability of services, were the primary reason for unmet health care needs among Canadians with chronic conditions prior to the pandemic, although personal reasons also played a role.

What does this study add?

- It provides new information about the extent to which individuals in Canada, with and without chronic conditions, experienced different types of difficulties accessing health care services during the pandemic.
- It identifies other population groups at greater risk of experiencing difficulties accessing health care during the pandemic.

During the COVID-19 pandemic, concerns were raised that Canadians with chronic conditions may be at higher risk of more severe COVID-19 outcomes,[1,2] although more recent research shows conflicting information regarding the types of conditions associated with higher severity.[3,4] At the same time, access to non-urgent health care services became more restricted, particularly early in the pandemic.[5] This change may have affected individuals with chronic conditions disproportionately, as they typically have more complex medical needs requiring frequent monitoring.[6,7,8]

Increased health risks for those with chronic conditions during the pandemic may also have contributed to a greater reluctance to seek health care services.[9,10] In Italy and the United States, researchers found that fear of exposure to COVID-19 in health care settings resulted in patients delaying in-person care.[11,12] In Ontario, decreases in the frequency of primary health care visits for chronic conditions were also observed.[7]

Previous research indicates that considering both systemic and personal barriers to health care provides a more complete understanding of the difficulties patients experience.[13,14,15,16] Prior to the pandemic, Canadians with one or more chronic conditions were more likely to report unmet health care needs than those with no reported conditions.[16,17,18] In 2014, 14.0% of Canadians aged 12 or older with at least one chronic condition reported unmet health care needs, compared with 7.6% of those with no chronic conditions.[18] Systemic issues, such as availability of services, were the primary reason for these unmet needs, while personal reasons, such as perceived acceptability of services, also played a role.[16,17,19] For policy makers, differentiating between systemic and personal challenges is of interest, as each would suggest different policy implications: systemic issues are often under the jurisdiction of provincial or other health authorities, while personal reasons for not accessing care might involve different measures, such as those aimed at changing behaviours[17,20,21] or providing alternative modes of care.[22]

Considering the difficulties experienced by individuals with chronic conditions in accessing health care prior to the pandemic, and their potential risk for adverse COVID-19 outcomes and worsening chronic conditions, it is necessary to understand how their access to health care was affected by the pandemic, relative to others. The Survey on Access to Health Care and Pharmaceuticals During the Pandemic (SAHCPDP) provides new data to examine the challenges individuals encountered in accessing health care services during the pandemic.

The study focuses on individuals who reported a need for health care services during the pandemic. Two main questions are addressed: (a) were individuals who self-reported having one or more chronic conditions more likely than those who did not report a chronic condition to have had medical appointments cancelled, rescheduled or delayed because of the pandemic? and (b) were individuals who reported having one or more chronic conditions more likely than those who did not report a chronic condition to have delayed contacting a medical professional about a physical, emotional or mental problem because of fear of exposure to COVID-19 in health care settings? Given the variation in COVID-19 cases and public health measures across provinces,[23,24,25,26] provincial-level results are also presented. Differences in the types of medical appointments affected by the pandemic are also discussed, by presence of chronic condition.

Canadian researchers have also raised concerns about disparities in the way the pandemic affected other populations, such as immigrants and racialized groups.[27,28,29] Drawing from studies employing Andersen's health behaviour framework,[17,30,31] this study also examines whether a set of demographic, socioeconomic and health characteristics previously found to affect individual access to health care was associated with greater difficulties accessing health care during the pandemic. This information can help to determine whether certain groups were more likely to have experienced difficulties accessing health care, potentially putting them at greater risk of poorer health outcomes in the future.

Data and methods

Data source

Data from the SAHCPDP were used, which was administered to better understand how health care service disruptions affected Canadians during the pandemic. The SAHCPDP collected data between March 8 and May 15, 2021, through an electronic questionnaire or computer-assisted telephone interviewing. The target population was aged 18 or older, living in Canada's 10 provinces. Individuals living on reserves or other Indigenous settlements and the institutionalized population were excluded from the sampling frame. Indigenous individuals living off reserve were oversampled; however, this study does not present detailed results for this group—another paper will focus specifically on the health care needs of Indigenous individuals during the pandemic.[32] The response rate was 46.2%, with a final sample size of 25,268. Additional information about the SAHCPDP is available from Statistics Canada.[33]

Measures

Access to health care services

Respondents who reported having one or more medical appointments cancelled, rescheduled or delayed because of the COVID-19 pandemic in the previous 12 months were identified as having experienced a systemic difficulty accessing health care. The types of appointments affected were categorized into six groups: consultation or treatment with a family doctor or nurse practitioner, consultation with a specialist medical doctor, treatment or monitoring of a chronic condition (including cancer treatment), screening or diagnostic testing (excluding COVID-19 testing), surgery and other health care services (including mental health and addiction services). Dental care was not examined in this study.

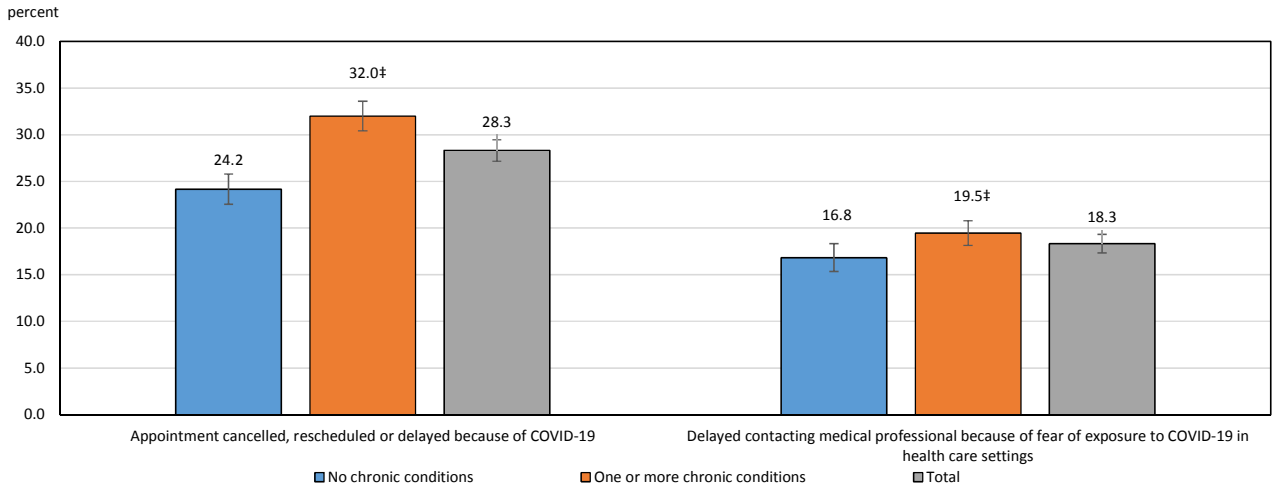
Respondents who delayed contacting a medical professional about a problem with their physical, emotional or mental health because of fear of exposure to COVID-19 in health care settings (e.g., hospital, clinic) in the previous 12 months were identified as having experienced a personal difficulty accessing health care. While this measure indicates a personal choice, it is possible that systemic factors also influenced the decision. Because exposure to COVID-19 was a real risk for patients,[22] their deferral of care related to fear of exposure could be associated with factors like new measures implemented in health care settings (e.g., waiting outside clinics for appointments), stay-at-home orders[34] or lack of alternative options such as virtual care. Consequently, these factors may have created additional barriers to care, contributing to some patients' fear of exposure to COVID-19 in health care settings.

Both measures of access to health care refer to respondents' experiences in the previous 12 months, corresponding with the first year of the pandemic, during which restrictions to health services were implemented.[25]

Demographic characteristics

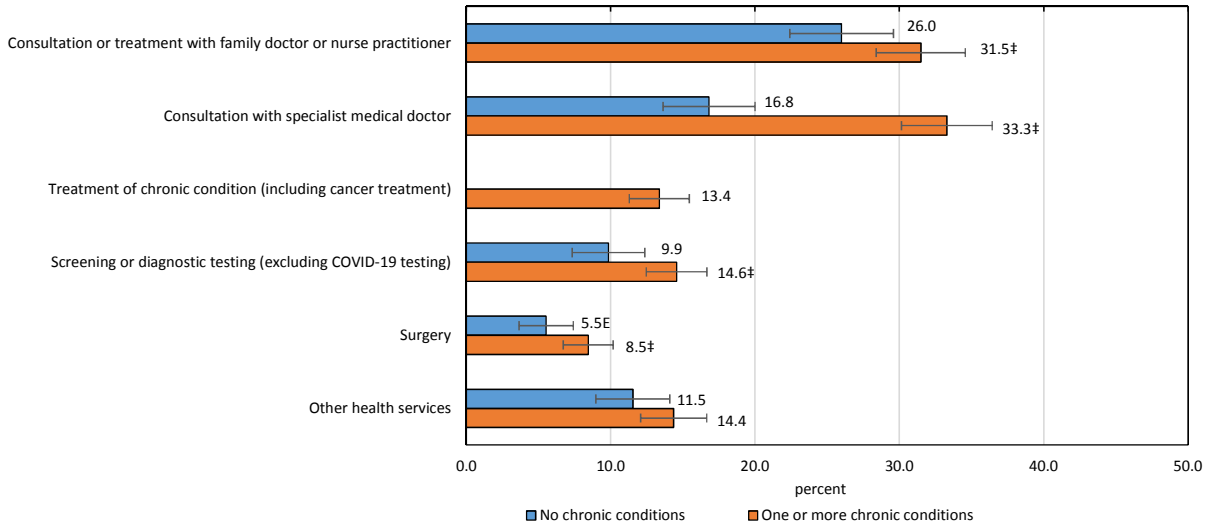
Several demographic characteristics, including sex (male or female), age group (18 to 24, 25 to 34, 35 to 44, 45 to 54, 55 to 64 and 65 or older) and immigrant status (Canadian-born individual, landed immigrant or non-permanent resident), were examined. Racialized groups were also studied, categorized as South Asian; Chinese; Black; Filipino; Arab; Latin American;

Figure 1
People who reported having an appointment cancelled, rescheduled or delayed because of COVID-19 and delaying contacting a medical professional because of fear of exposure to COVID-19 in health care settings, by presence of chronic condition, household population aged 18 years or older who needed health care services in the previous 12 months, Canada excluding the territories, 2021



‡ significantly different from individuals with no chronic conditions based on t-test ($p < 0.05$)
Source: Statistics Canada, Survey on Access to Health Care and Pharmaceuticals During the Pandemic, 2021.

Figure 2
Types of appointments cancelled, rescheduled or delayed because of COVID-19, by presence of chronic condition, household population aged 18 years or older who needed health care services in the previous 12 months and had an appointment cancelled, rescheduled or delayed because of COVID-19, Canada excluding the territories, 2021



[E] use with caution
[‡] significantly different from individuals with no chronic conditions based on t-test ($p < 0.05$)
Source: Statistics Canada, Survey on Access to Health Care and Pharmaceuticals During the Pandemic, 2021.

Southeast Asian; West Asian; other racialized groups (Korean, Japanese, racialized group not identified elsewhere and multiple racialized groups), which were combined because of low sample sizes; non-racialized and non-Indigenous; or missing. The concept of racialized groups is used to label the 'visible minority' variable. 'Visible minority' refers to whether or not a person belongs to one of the visible minority groups defined by the *Employment Equity Act,* which defines visible minorities as "persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in colour.

The 10 Canadian provinces were also examined.

Socioeconomic characteristics

Socioeconomic characteristics include total household income (less than $20,000, $20,000 to $39,999, $40,000 to $59,999, $60,000 to $79,999, $80,000 to $99,999, $100,000 to $149,999 and $150,000 or more) and level of education, measured as respondents' highest certificate, diploma or degree completed (high school diploma or less; trade, college, CEGEP or other non-university certificate or diploma below the bachelor's level; and bachelor's degree or higher). Additionally, the number of household members aged 18 or older was used as a proxy for social support, as it is associated with more frequent use of health care services (one person, two people and three or more people).[35]

Health characteristics

Respondents were asked whether they have been diagnosed by a health care professional as having a long-term condition lasting six months or more and were provided the following list: chronic lung condition, asthma, chronic heart disease, diabetes, chronic kidney disease, liver disease, high blood pressure, chronic blood disorder, weakened immune system, chronic neurological disorder, stroke, Alzheimer's disease or other dementia, mental health condition, cancer, arthritis, or other condition.

Other health variables include self-reported physical health and mental health, both of which were categorized as "poor" or "fair," "good," or "very good" or "excellent." Disability status was defined by an individual self-identifying as a person with a disability or not. Lastly, access to a regular health care provider was defined as whether or not an individual had a health professional they see regularly or talk to when in need of care or health advice.

Analytical techniques

The analytical sample was restricted to individuals in Canada who reported a need for health care services in the past 12 months, resulting in a sample size of 20,914.

Descriptive statistics were used to estimate the proportion of individuals with and without chronic conditions who experienced systemic or personal difficulties accessing health care during the pandemic. Both national- and provincial-level

Table 1

People who reported having an appointment cancelled, rescheduled or delayed because of COVID-19, by presence of chronic condition and province, household population aged 18 years or older who needed health care services in the previous 12 months, Canada excluding the territories, 2021, unadjusted results

	Overall			No chronic conditions			One or more chronic conditions			
		95% confidence interval			95% confidence interval			95% confidence interval		
	%	from	to	%	from	to	%	from	to	*p* value
Canada	**28.3**	**27.1**	**29.5**	**24.2**	**22.5**	**25.8**	**32.0**	**30.4**	**33.6**	**<0.001**
Newfoundland and Labrador	44.0	40.3	47.7	41.6	35.0	48.1	45.9	41.2	50.7	0.300
Prince Edward Island	30.0	26.7	33.4	26.9	21.6	32.1	32.5	27.9	37.0	0.104
Nova Scotia	32.9	29.6	36.1	30.0	24.8	35.3	34.7	30.6	38.8	0.165
New Brunswick	29.6	26.4	32.8	25.8	20.3	31.3	33.0	28.8	37.1	0.045
Quebec	23.4	21.1	25.6	21.4	18.1	24.8	25.5	22.2	28.9	0.099
Ontario	33.1	30.7	35.4	27.6	24.3	30.9	37.6	34.3	40.8	<0.001
Manitoba	27.4	24.5	30.3	23.0	18.6	27.5	31.9	28.2	35.5	0.003
Saskatchewan	27.9	24.9	30.8	21.5	17.0	25.9	33.9	29.9	37.8	<0.001
Alberta	24.8	22.1	27.4	21.7	17.8	25.7	27.0	23.7	30.3	0.045
British Columbia	23.7	21.4	25.9	19.4	16.2	22.6	27.2	24.0	30.4	0.001

Note: The *p* value indicates the statistical significance of the observed difference between individuals with no chronic conditions and individuals with one or more chronic conditions, within each province.

Source: Statistics Canada, Survey on Access to Health Care and Pharmaceuticals During the Pandemic, 2021.

results are presented. A binary chronic condition variable was used to identify whether an individual had one or more chronic conditions, or no conditions.

Two multivariate logistic regression models were used to examine associations between demographic, socioeconomic and health characteristics (described above) and the probability of respondents (a) having one or more appointments cancelled, rescheduled or delayed because of COVID-19 and (b) having delayed contacting a medical professional about a problem with their physical, emotional or mental health because of fear of exposure to COVID-19 in health care settings. To assess whether having multiple chronic conditions was associated with greater difficulty accessing health care, the regression models included a variable measuring the number of chronic conditions (no chronic condition, one condition, and two or more conditions).

All results were weighted at the individual level using the SAHCPDP survey weight, which corresponds to the number of people in the population represented by the respondent.[36] To account for survey design effects, 95% confidence intervals and significance tests were estimated using the bootstrap resampling technique (500 iterations). Statistical differences between groups were determined with t-tests. Data were analyzed using Stata 14.

Results

Descriptive results: Difficulties accessing health care during the pandemic

Overall, 28.3% of individuals who needed care in the previous 12 months reported having one or more medical appointments cancelled, rescheduled or delayed because of COVID-19 (Figure 1). Those with chronic conditions were more likely to experience this type of difficulty—nearly one-third (32.0%) of those with one or more chronic conditions had an appointment that was affected by the pandemic, compared with 24.2% of those with no chronic conditions. While smaller proportions had delayed contacting a medical professional because of fear of exposure to COVID-19 in health care settings, individuals with one or more chronic conditions were more likely to report this type of difficulty than those with no chronic conditions (19.5% compared with 16.8%, respectively).

The most common appointment types that were cancelled, rescheduled or delayed were consultations or treatments with a family doctor or nurse practitioner, and consultations with a medical specialist doctor (Figure 2). One-third (33.3%) of individuals with chronic conditions had a consultation with a medical specialist doctor cancelled, rescheduled or delayed, compared with 16.8% of those with no chronic conditions. There was a smaller gap between individuals with (31.5%) and without (26.0%) chronic conditions whose consultations or treatments with a family doctor or nurse practitioner were affected by the pandemic.

The types of difficulties related to accessing health care during the pandemic varied across the provinces (Table 1). The highest proportions of residents who reported having an appointment cancelled, rescheduled or delayed because of COVID-19 resided in Newfoundland and Labrador (44.0%), Ontario (33.1%), and Nova Scotia (32.9%). Across the remaining provinces, between 23.4% (Quebec) and 30.0% (Prince Edward Island) of residents experienced this type of difficulty.

Individuals with chronic conditions were statistically more likely to report a systemic difficulty accessing health care than their counterparts with no conditions in some provinces. Gaps were largest in Saskatchewan, where rates for residents with and without chronic conditions differed by 12 percentage points, and Ontario, where rates were 10 percentage points apart.

The highest proportions of individuals who delayed contacting a medical professional because of fear of exposure to COVID-19 were observed in Ontario (22.2%), Manitoba (20.7%) and British Columbia (20.1%) (Table 2). By contrast, fewer than 1

Table 2
People who reported delaying contacting a medical professional because of fear of exposure to COVID-19 in health care settings, by presence of chronic condition and province, household population aged 18 years or older who needed health care services in the previous 12 months, Canada excluding the territories, 2021, unadjusted results

	Overall			No chronic conditions			One or more chronic conditions			
		95% confidence interval			95% confidence interval			95% confidence interval		
	%	from	to	%	from	to	%	from	to	*p* value
Canada	**18.3**	**17.3**	**19.3**	**16.8**	**15.3**	**18.3**	**19.5**	**18.1**	**20.8**	**0.012**
Newfoundland and Labrador	10.4	7.9	12.8	8.0 [E]	4.5	11.4	12.2	8.8	15.6	0.086
Prince Edward Island	8.9	6.8	11.0	9.1 [E]	5.5	12.7	8.2 [E]	5.7	10.6	0.671
Nova Scotia	13.1	10.8	15.4	10.1 [E]	6.6	13.6	15.2	12.2	18.3	0.031
New Brunswick	8.2	6.3	10.0	6.6 [E]	3.6	9.6	9.3	6.8	11.7	0.182
Quebec	13.2	11.3	15.0	11.5	8.7	14.2	14.1	11.5	16.8	0.165
Ontario	22.2	20.2	24.3	21.3	18.2	24.4	22.8	20.0	25.6	0.482
Manitoba	20.7	18.3	23.1	16.5	13.0	20.1	24.7	21.4	28.0	0.001
Saskatchewan	15.2	13.1	17.4	12.5	8.9	16.2	17.9	14.9	20.9	0.031
Alberta	17.7	15.6	19.8	15.7	12.6	18.8	19.7	16.9	22.6	0.073
British Columbia	20.1	17.8	22.4	19.2	15.6	22.9	20.9	17.9	23.8	0.497

[E] use with caution

Note: The *p* value indicates the statistical significance of the observed difference between individuals with no chronic conditions and individuals with one or more chronic conditions, within each province.

Source: Statistics Canada, Survey on Access to Health Care and Pharmaceuticals During the Pandemic, 2021.

in 10 residents of New Brunswick (8.2%) and Prince Edward Island (8.9%) reported this difficulty. Among those who delayed contacting a medical professional because of fear of exposure, differences between individuals with and without chronic conditions were statistically different only among residents of Nova Scotia, Manitoba and Saskatchewan.

Regression results: Accounting for demographic, socioeconomic and health characteristics

Individuals with chronic conditions were more likely than those without them to experience both systemic and personal difficulties accessing health care during the pandemic, after accounting for demographic, socioeconomic and other health characteristics (Table 3). However, while those with multiple conditions were more likely than those with no reported conditions to have delayed contacting a medical professional because of fear of exposure to COVID-19 (odds ratio [OR] = 1.40; $p < 0.01$), those with one condition did not differ significantly from those with no conditions in reporting this type of difficulty.

Among the other health characteristics, only disability status was associated with experiencing a systemic difficulty accessing health care. Individuals with a disability were more likely to report having an appointment cancelled, rescheduled or delayed because of COVID-19 (OR = 1.63; $p < 0.001$) than those who did not have a disability.

Age was also associated with a higher likelihood of experiencing a systemic challenge accessing health care services, with adults younger than 55 more likely to have had an appointment cancelled, rescheduled or delayed than adults aged 65 or older. Additionally, compared with individuals with a high school diploma or less, those with higher education levels were more likely to have encountered this type of difficulty.

Several factors were associated with individuals reporting that they delayed contacting a medical professional because they feared exposure to COVID-19 in a health care setting. Individuals who reported their physical (OR = 0.63; $p < 0.001$) or mental (OR = 0.59; $p < 0.001$) health as "very good" or "excellent" were less likely than those reporting "poor" or "fair" physical or mental health to have delayed contacting a medical professional because of fear of exposure. However, women, immigrants, individuals with a bachelor's degree or higher, and Chinese or "other" racialized groups were more likely than their counterparts (men, Canadian-born individuals, those with a high school diploma or less, and non-racialized and non-Indigenous individuals, respectively) to report this type of difficulty.

Discussion

The pandemic presented significant challenges to Canadians' access to health care services. The primary objective of this study was to determine whether individuals with chronic conditions were more likely to encounter difficulties accessing health care during the pandemic than those without chronic conditions.

Both individuals with and without chronic conditions encountered systemic and personal difficulties accessing health care services, with greater proportions reporting systemic challenges. This corresponds with previous research, which found that Canadians living with chronic pain more often reported systemic reasons for changes to their treatments during the pandemic, rather than fear of exposure to COVID-19.[10]

Individuals with chronic conditions were more likely than those with no reported conditions to have had one or more appointments cancelled, rescheduled or delayed because of COVID-19, even after accounting for demographic,

socioeconomic and other health characteristics. This is likely connected to higher levels of health care use among individuals with chronic conditions, which would have created more opportunities for an appointment to be affected by the pandemic than among those without chronic conditions.[37]

One-third of individuals with chronic conditions reported having a consultation with a medical specialist cancelled, rescheduled or delayed because of the pandemic, again reflecting the significant use of health care services and complex medical needs of individuals with chronic conditions.[6,7] Among those with no chronic conditions, the most commonly affected type of appointment was consultation or treatment with a family doctor or nurse practitioner. This may be related to the reduction of non-urgent health care services during the pandemic.[5]

At the provincial level, the highest proportions of individuals who experienced a systemic difficulty accessing health care were in Newfoundland and Labrador, and Ontario. While Ontario results may be indicative of the higher number of public health restrictions implemented by the province compared with most other provinces,[38] results for Newfoundland and Labrador could reflect other factors, such as the province's lower reliance on telehealth.[39] Provincial differences in the use of virtual health care prior to the pandemic were likely influential in its early stages. For example, prior to the pandemic, only British Columbia and Ontario allowed providers to bill for real-time

Table 3

Adjusted odds ratios of reporting having an appointment cancelled, rescheduled or delayed because of COVID-19 or delaying contacting a medical professional because of fear of exposure to COVID-19 in health care settings, by demographic, socioeconomic and health characteristics, household population aged 18 or older who needed health care services in the previous 12 months, Canada excluding the territories, 2021

	Appointment cancelled, rescheduled or delayed because of COVID-19				Delayed contacting medical professional because of fear of exposure to COVID-19 in health care settings			
			95% confidence interval				95% confidence interval	
	Odds ratio	Standard error	from	to	Odds ratio	Standard error	from	to
Demographic characteristics								
Sex (male = reference group)								
Female	1.12	0.07	0.99	1.27	1.20 *	0.10	1.02	1.41
Age group (65 or older = reference group)								
18 to 24	1.48 *	0.27	1.03	2.13	1.39	0.30	0.91	2.14
25 to 34	1.53 ***	0.17	1.22	1.90	1.28	0.18	0.96	1.70
35 to 44	1.38 **	0.14	1.14	1.68	1.35 *	0.17	1.04	1.74
45 to 54	1.43 **	0.15	1.17	1.76	1.26	0.16	0.98	1.63
55 to 64	1.03	0.09	0.87	1.22	1.03	0.12	0.82	1.29
Province (Ontario = reference group)								
Newfoundland and Labrador	2.73 ***	0.31	2.19	3.41	0.93	0.16	0.67	1.30
Prince Edward Island	1.34 *	0.16	1.06	1.69	0.63 **	0.11	0.45	0.89
Nova Scotia	1.53 ***	0.16	1.24	1.89	1.06	0.15	0.80	1.41
New Brunswick	1.40 **	0.16	1.11	1.75	0.67 *	0.12	0.47	0.94
Quebec	1.53 ***	0.14	1.28	1.83	1.61 ***	0.19	1.28	2.03
Manitoba	1.23	0.14	0.99	1.53	1.70 ***	0.21	1.34	2.17
Saskatchewan	1.27 *	0.13	1.03	1.56	1.21	0.16	0.94	1.57
Alberta	1.04	0.11	0.84	1.28	1.38 **	0.17	1.09	1.75
British Columbia	1.03	0.11	0.84	1.26	1.39 *	0.18	1.08	1.79
Immigrant status (Canadian-born individual = reference group)								
Immigrant	1.04	0.11	0.84	1.28	1.31 *	0.16	1.02	1.67
Non-permanent resident	0.22 **	0.11	0.09	0.57	1.24	0.51	0.55	2.80
Racialized group (non-racialized and non-Indigenous = reference group)								
South Asian	0.97	0.20	0.64	1.46	1.43	0.30	0.95	2.16
Chinese	0.74	0.13	0.53	1.04	2.14 ***	0.36	1.53	2.98
Black	0.79	0.18	0.50	1.25	0.90	0.23	0.54	1.48
Filipino	0.62	0.18	0.35	1.08	1.29	0.37	0.73	2.27
Arab	1.97 *	0.68	1.00	3.89	0.90	0.36	0.41	1.97
Latin American	0.89	0.30	0.46	1.72	1.47	0.68	0.59	3.65
Southeast Asian	0.64	0.25	0.30	1.40	0.54	0.23	0.23	1.26
West Asian	0.34 *	0.17	0.12	0.93	0.78	0.42	0.27	2.25
Other racialized groups	1.38	0.34	0.84	2.25	2.12 **	0.53	1.30	3.48
Missing	1.03	0.07	0.90	1.18	1.42 ***	0.12	1.20	1.67

* significantly different from reference category ($p < 0.05$)

** significantly different from reference category ($p < 0.01$)

*** significantly different from reference category ($p < 0.001$)

Notes: The number of observations for the model examining whether an appointment was cancelled, rescheduled or delayed because of COVID-19 was 17,465. The number of observations for the model examining whether an individual delayed contacting a medical professional because of fear of exposure to COVID-19 in health care settings was 17,472. The concept of racialized population is measured with the 'visible minority' variable in this release. 'Visible minority' refers to whether or not a person belongs to one of the visible minority groups defined by the Employment Equity Act. The Employment Equity Act defines visible minorities as "persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in colour".

Source: Statistics Canada, Survey on Access to Health Care and Pharmaceuticals During the Pandemic, 2021.

Table 3

Adjusted odds ratios of reporting having an appointment cancelled, rescheduled or delayed because of COVID-19 or delaying contacting a medical professional because of fear of exposure to COVID-19 in health care settings, by demographic, socioeconomic and health characteristics, household population aged 18 or older who needed health care services in the previous 12 months, Canada excluding the territories, 2021 (continued)

	Appointment cancelled, rescheduled or delayed because of COVID-19				Delayed contacting medical professional because of fear of exposure to COVID-19 in health care settings			
	Odds ratio	Standard error	95% confidence interval from	to	Odds ratio	Standard error	95% confidence interval from	to
Socioeconomic characteristics								
Highest level of education (high school diploma or less = reference group)								
Trade, college, CEGEP or other non-university certificate or diploma	1.30 **	0.11	1.10	1.54	1.08	0.11	0.89	1.32
Bachelor's degree or higher	1.44 ***	0.13	1.20	1.72	1.64 ***	0.18	1.32	2.04
Number of household members aged 18 or older (one = reference group)								
Two	0.98	0.07	0.85	1.13	1.03	0.09	0.87	1.23
Three or more	0.99	0.10	0.81	1.22	1.15	0.14	0.91	1.46
Total household income (less than $20,000 = reference group)								
$20,000 to $39,999	1.08	0.16	0.81	1.44	1.08	0.19	0.77	1.53
$40,000 to $59,999	1.07	0.17	0.79	1.46	0.96	0.17	0.68	1.37
$60,000 to $79,999	1.14	0.18	0.84	1.55	0.77	0.15	0.53	1.12
$80,000 to $99,999	1.23	0.21	0.88	1.73	1.03	0.21	0.69	1.52
$100,000 to $149,999	1.19	0.19	0.87	1.63	0.94	0.18	0.64	1.38
$150,000 or more	1.19	0.20	0.86	1.67	0.91	0.18	0.62	1.34
Health characteristics								
Self-reported physical health (poor or fair = reference group)								
Good	0.87	0.09	0.70	1.08	0.81	0.09	0.65	1.00
Very good or excellent	0.91	0.10	0.73	1.14	0.63 ***	0.08	0.49	0.80
Self-reported mental health (poor or fair = reference group)								
Good	1.06	0.10	0.88	1.27	0.86	0.08	0.71	1.04
Very good or excellent	0.88	0.08	0.73	1.06	0.59 ***	0.07	0.48	0.74
Self-reported disability status (does not identify as a person with a disability = reference group)								
Identifies as a person with a disability	1.63 ***	0.16	1.35	1.98	1.04	0.11	0.84	1.29
Has a regular health care provider (yes = reference group)								
No	1.04	0.10	0.86	1.25	1.19	0.14	0.94	1.50
Chronic conditions (no chronic conditions = reference group)								
One chronic condition	1.32 ***	0.10	1.13	1.54	1.09	0.11	0.90	1.33
Two or more chronic conditions	1.64 ***	0.16	1.36	1.97	1.40 **	0.17	1.11	1.77

* significantly different from reference category ($p < 0.05$)

** significantly different from reference category ($p < 0.01$)

*** significantly different from reference category ($p < 0.001$)

Notes: The number of observations for the model examining whether an appointment was cancelled, rescheduled or delayed because of COVID-19 was 17,465. The number of observations for the model examining whether an individual delayed contacting a medical professional because of fear of exposure to COVID-19 in health care settings was 17,472. The concept of racialized population is measured with the 'visible minority' variable in this release. 'Visible minority' refers to whether or not a person belongs to one of the visible minority groups defined by the Employment Equity Act. The Employment Equity Act defines visible minorities as "persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in colour".

Source: Statistics Canada, Survey on Access to Health Care and Pharmaceuticals During the Pandemic, 2021.

video visits outside of telehealth sites.[40] The age composition of provinces might also contribute to these differences, as older Canadians were less likely to use virtual care, compared with younger individuals.[41] Further research into provincial differences would provide greater insight into regional experiences across Canada.

Concerns about exposure to COVID-19 in health care settings were also higher among individuals with chronic conditions than those without. However, when other characteristics were considered, only those with multiple conditions were significantly more likely than those with no conditions to have delayed contacting a medical professional because of fear of exposure to COVID-19. Consequently, individuals with multiple conditions could be at greater risk of poorer health outcomes in the future because of their avoidance of health care services during the pandemic.

Across provinces, Ontario, Manitoba and British Columbia had the highest proportions of residents who delayed contacting a medical professional because of fear of exposure to COVID-19 in health care settings. The lowest proportions were in the Atlantic provinces. This may be associated with the lower infection rates and greater level of "normality" these provinces experienced, compared with more densely populated areas of Canada early in the pandemic.[42]

Other groups also reported greater difficulties accessing health care during the pandemic. Age, disability status and education were significant predictors of encountering a systemic difficulty. Individuals who were younger, had a disability or had higher levels of education were more likely than their counterparts who were older, did not have a disability or had a high school diploma or less to report having an appointment cancelled, rescheduled or delayed because of COVID-19. The

age and education results are consistent with research on the unmet health care needs of Canadians prior to the pandemic.[17,43] The education results may be connected to a higher use of health care services among more highly educated individuals.[44]

Previous research indicates that women, racialized groups and individuals with disabilities experienced greater fear of exposure to COVID-19 than their counterparts (men, non-racialized individuals and those with no disabilities, respectively).[34,45,46] This is largely supported by this study, as women, immigrants and those from some racialized groups, particularly Chinese individuals, were more likely than their counterparts (men, Canadian-born individuals and non-racialized and non-Indigenous individuals, respectively) to have delayed contacting a medical professional because of fear of exposure. Those reporting better physical and mental health were less likely to experience this type of difficulty.

The challenges individuals with chronic conditions encountered accessing health care during the pandemic may result in greater health challenges in the future,[34,47] as longitudinal research indicates that unmet health care needs negatively impact health outcomes.[43] Increased virtual care options, improved outreach and greater coordination of care have been suggested as potential options to minimize the health implications for those who experienced decreased access to health care during the pandemic.[22,47]

Limitations

The SAHCPDP sample included individuals aged 18 or older, who lived in the 10 provinces, did not live on reserves or in other Indigenous settlements and were not part of the institutionalized population. Therefore, the results do not represent Canada's entire population.

Data limitations prevented an examination of subprovincial differences. Although previous research indicates that individuals in rural areas experience more difficulties accessing health care services,[48,49] postal code data in the SAHCPDP were self-reported, resulting in several missing or invalid cases. Excluding these cases would have substantially decreased the sample size, thereby affecting the reliability of the estimates. Alternative regression models were estimated with a rural–urban indicator variable, excluding cases with missing or invalid postal codes. This variable was not found to be statistically significant. Further investigation of geographic variations in health care access during the pandemic would be valuable.

Future research would also benefit from information about how changes to procedures related to health care appointments may have affected patients' deferral of health care. Moreover, detailed data regarding the types of mental health conditions respondents have, and research examining health outcomes by type of condition, would provide a more nuanced understanding of the health implications of delayed care for individuals with chronic conditions.

Conclusions

Individuals with chronic conditions were more likely to experience difficulties accessing health care services during the pandemic than those without chronic conditions, indicating an increased vulnerability of this group. Individuals who were younger, had a disability or had higher levels of education were also more likely to report having an appointment cancelled, rescheduled or delayed because of COVID-19. Women, immigrants, some racialized groups and individuals with multiple conditions were more likely than their counterparts (men, Canadian-born individuals, non-racialized and non-Indigenous individuals and those with no conditions, respectively) to have delayed contacting a medical professional because of fear of exposure to COVID-19 in health care settings. These findings can inform Canadian policy makers, health care authorities and health care professionals about the extent to which individuals with chronic conditions were affected by health care restrictions, and identify other groups who may be at greater risk of health problems because of difficulties accessing health care during the pandemic.

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