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The Private Cost of Public Queues for Medically Necessary Care, 2023

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Summary

■ One measure of the privately borne cost of wait times is the value of time that is lost while waiting for treatment.

■ Valuing only hours lost during the average work week, the estimated cost of waiting for care in Canada for patients who were in the queue in 2022 was almost $3.6 billion. This works out to an average of about $2,925 for each of the estimated 1,228,047 Canadians waiting for treatment in 2022.

■ This is a conservative estimate that places no intrinsic value on the time individuals spend waiting in a reduced capacity outside of the work week. Valuing all hours of the week, including evenings and weekends but excluding eight hours of sleep per night, would increase the estimated cost of waiting to $10.9 billion, or about $8,897 per person.

■ This estimate only counts costs that are borne by the individual waiting for treatment. The costs of care provided by family members (the time spent caring for the individual waiting for treatment) and their lost productivity due to difficulty or mental anguish are not valued in this estimate. Moreover, non-monetary medical costs, such as increased risk of mortality or adverse events that result directly from long delays for treatment, are not included in this estimate.

Introduction

In December 2022, the Fraser Institute released the results of its most recent annual measurement of waiting times for medically necessary treatments in Canada (Moir and Barua, 2022b). The study reported that the national median waiting time from specialist appointment to treatment was 14.8 weeks in 2022, which is 0.3 weeks longer than in 2021. The total wait between referral from a general practitioner and receipt of treatment was 27.4 weeks in 2022—longer than the 25.6 weeks reported in 2021. Due to the potential impact of COVID-19 on wait times and the number of procedures performed in hospitals (CIHI, 2021), Moir and Barua (2022b) caution readers about interpreting the results presented in their study. As the estimates included in this report are based on their study, the same limitations and notes of caution apply here when interpreting the data.

The measurement of waiting times, or the examination of the absolute delay Canadians

Table 1: Estimated Number of Procedures for which Patients are Waiting after Appointment with Specialist, by Specialty, 2022

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	CAN
Plastic Surgery	5,962	8,397	728	588	6,449	7,839	919	1,124	102	230	32,338
Gynaecology	3,556	4,081	766	900	10,998	7,922	858	3,944	352	1,830	35,206
Ophthalmology	25,969	21,770	3,384	9,717	50,319	28,897	5,054	5,169	1,693	4,486	156,459
Otolaryngology	5,104	5,822	—	1,012	9,401	5,815	723	838	78	235	29,029
General Surgery	21,671	13,804	2,941	8,929	38,801	21,504	3,418	2,895	1,651	2,251	117,865
Neurosurgery	2,804	3,350	492	860	1,504	1,297	—	439	—	—	10,745
Orthopaedic Surgery	20,863	19,991	8,580	10,929	38,275	37,823	6,828	11,007	191	2,772	157,260
Cardiovascular Surgery	203	527	—	—	1,042	239	—	183	—	—	2,195
Urology	9,035	5,367	—	735	19,300	7,357	2,346	5,278	—	1,935	51,353
Internal Medicine	14,671	10,833	5,013	3,605	9,680	2,694	886	1,161	—	563	49,107
Radiation Oncology	44	47	2	20	403	135	12	19	3	15	699
Medical Oncology	426	155	39	42	1,756	261	27	24	—	20	2,750
Residual	77,248	87,186	26,007	36,404	181,472	110,259	17,459	26,175	3,350	17,482	583,041
Total	187,554	181,331	47,953	73,741	369,402	232,040	38,531	58,257	7,420	31,818	1,228,047
Proportion of Population	3.5%	4.0%	4.0%	5.2%	2.4%	2.7%	4.7%	5.7%	4.4%	6.1%	3.2%

Notes: a) Totals may not match sums of numbers for individual procedures due to rounding.

b) All data regarding oncology refer only to procedures done in hospitals. Most cancer patients are treated in cancer agencies. Therefore, the oncology data must be regarded as incomplete.

Source: Moir and Barua, 2022.

must endure in order to receive medically necessary care, is only one way of looking at the burden of waiting for health care. We can also calculate the privately borne cost of waiting: the value of the time that is lost while waiting for treatment.[1]

The privately borne cost of waiting for care

One way of estimating the privately borne cost of waiting for care in Canada was originally developed by Steven Globerman and Lorna Hoye (1990).[2] They calculated the cost of waiting by estimating the amount of time that could not be used productively by a patient while waiting for treatment.

Globerman and Hoye's methodology is relatively straightforward. First, multiply the number of patients waiting for treatment by the wait times for those treatments in order to derive an estimate of the total number of weeks all patients will spend waiting for care. Then multiply this value by a measure of the proportion of time spent waiting for treatment that is rendered unproductive owing to the physical and emotional impact of an untreated medical condition. The monetary value of this lost productive time can then be projected.

In 2022, an estimated 1,228,047 Canadians were waiting for care after an appointment with a specialist (table 1). These Canadians were expected to wait, on average, for 14.8 weeks

Table 2: Median Patient Wait for Treatment after Appointment with Specialist, by Specialty, 2022 (in Weeks)

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	CAN
Plastic Surgery	34.4	59.3	44.4	23.9	17.9	41.1	34.2	45.2	38.0	16.1	34.3
Gynaecology	11.9	11.9	9.3	10.6	13.7	22.9	13.6	58.7	26.0	22.0	16.4
Ophthalmology	17.3	17.7	12.4	61.0	19.1	16.0	23.8	16.2	36.0	56.0	18.7
Otolaryngology	24.2	30.4	—	18.7	16.6	15.0	16.1	20.0	11.2	8.0	18.4
General Surgery	8.7	11.9	6.2	16.1	8.3	18.0	20.5	6.0	22.4	6.6	10.3
Neurosurgery	19.4	34.2	17.3	34.0	4.7	7.6	—	18.9	—	—	13.3
Orthopaedic Surgery	26.9	34.4	50.1	60.9	19.9	41.3	49.1	71.9	6.0	46.1	32.4
Cardiovascular Surgery (Urgent)*	2.0	4.0	—	—	2.0	1.1	—	4.8	—	—	2.0
Cardiovascular Surgery (Elective)	20.0	9.0	—	—	4.0	11.5	—	62.7	—	—	10.3
Urology	8.6	15.4	—	6.2	5.9	12.7	18.0	21.4	—	10.0	8.7
Internal Medicine	10.2	20.3	35.0	14.5	4.9	5.9	13.2	6.6	—	12.0	9.6
Radiation Oncology	4.0	4.8	2.0	3.7	2.0	2.9	1.0	3.0	3.0	4.0	2.4
Medical Oncology	4.7	2.5	1.8	2.5	2.2	1.6	1.4	0.9	—	2.0	2.3
Weighted Median	13.4	19.2	18.1	25.4	10.2	18.5	23.9	21.0	23.0	16.6	14.8

Note: To calculate the total weeks of waiting for care, only Cardiovascular Surgery (Urgent) was used.

Source: Moir and Barua, 2022.

in order to receive medically necessary treatment after an appointment with a specialist. Of course, the wait times patients faced varied significantly across provinces and medical specialties (table 2). Multiplying the number of Canadians waiting in each of the 12 medical specialties in each of the 10 provinces by the weighted median wait time for that medical specialty in that province gives a rough estimate[3] of the total amount of time that Canadians waited for treatment in 2022: about 24.1 million weeks. This estimate is lower than the 28.9 million weeks estimated for 2021, primarily due to a decrease in the estimated number of Canadians waiting for care (Barua and Moir, 2021; Moir and Barua, 2022a) (see Limitations).

Globerman and Hoye's original estimate for the cost of waiting, which came from responses to a survey of physicians, used specialty-specific measures of the proportion of patients who were "experiencing significant difficulty in carrying on their work or daily duties as a result of their medical conditions" (1990: 26). The proportions they estimated ranged from 14% of patients in gynaecology to 88% in cardiovascular surgery, and averaged 41% overall (Globerman with Hoye, 1990; Esmail, 2009). The estimates of lost productivity measured by Globerman and Hoye cannot necessarily be applied today because of advances in medicine and the medical system's ability to deal with pain and discomfort with pharmaceuticals. These advances may allow many Canadians who are suffering significant difficulties to function at a higher level today than they would have in 1990, or even to maintain their normal activity levels. For this reason, our estimation of the cost of waiting in 2022 is based on more recent data from Statistics Canada's Canadian Community Health Survey [CCHS]. Specifically, the survey's Health Services Access Subsample [HSAS] provides estimates for the number of patients whose lives were affected by the wait for non-emergency surgery. Using data from the most recent HSAS, Ren and Barua (2017) estimated that 13.2% of people were adversely affected by their wait for non-emergency surgery in 2013 (Statistics Canada, 2014). This

Table 3: Average of Average Hourly and Weekly Wages, by Province, January to December, 2022

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	CAN
Nominal average hourly wage ($)	$31.8	$32.9	$30.1	$27.7	$32.2	$30.6	$27.2	$27.0	$26.7	$29.1	$31.4
Nominal average weekly wage ($)	$1,160.6	$1,240.8	$1,121.3	$1,015.0	$1,190.5	$1,092.8	$1,024.7	$997.7	$989.7	$1,126.3	$1,152.0

Notes:
a) Wages reported are earned wages or salaries including tips, commissions, and bonuses before taxes and other deductions for all occupations, both sexes, ages 15 and over.
b) The nominal average hourly/weekly wage is an average of the hourly/weekly wage of January to December.
c) Previous reports used wage information from Statistics Canada's CANSIM table 282-0069, which has been discontinued and replaced by table 14-10-0306-01 (formerly CANSIM 282-0151).

Source: Statistics Canada, 2023a; calculations by authors.

Table 4: Estimated Cost of Waiting for Medically Necessary Health Services from Specialist Appointment to Treatment, by Province and Specialty, 2022 ($ thousands)

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	CAN
Plastic Surgery	$31,452	$81,600	$4,787	$1,886	$18,185	$46,464	$4,247	$6,699	$505	$548	$196,374
Gynaecology	$6,492	$7,934	$1,055	$1,284	$23,659	$26,143	$1,579	$30,499	$1,195	$5,988	$105,827
Ophthalmology	$68,717	$63,210	$6,230	$79,441	$151,307	$66,906	$16,296	$11,018	$7,965	$37,373	$508,462
Otolaryngology	$18,926	$29,048	—	$2,534	$24,610	$12,579	$1,576	$2,211	$115	$279	$91,879
General Surgery	$29,030	$26,885	$2,710	$19,296	$50,808	$55,726	$9,461	$2,289	$4,825	$2,202	$203,233
Neruosurgery	$8,330	$18,787	$1,262	$3,920	$1,102	$1,413		$1,096			$35,911
Orthopaedic Surgery	$86,127	$112,784	$63,669	$89,241	$119,950	$225,423	$45,376	$104,357	$150	$19,029	$866,105
Cardiovasular Surgery	$62	$346	—	—	$328	$39	—	$116	—	—	$890
Urology	$11,946	$13,538	—	$611	$17,776	$13,458	$5,704	$14,862	—	$2,883	$80,778
Internal Medicine	$22,958	$36,013	$25,986	$6,987	$7,435	$2,289	$1,581	$1,011	—	$1,005	$105,265
Radiation Oncology	$27	$37	$1	$10	$127	$57	$2	$8	$1	$9	$277
Medical Oncology	$305	$65	$10	$14	$617	$62	$5	$3	—	$6	$1,087
Residual (using est. median data)*	$158,815	$274,466	$69,859	$123,861	$291,997	$294,913	$56,391	$72,261	$10,082	$43,197	$1,395,841
Total Cost	$443,187	$664,711	$175,569	$329,085	$707,901	$745,471	$142,218	$246,429	$24,839	$112,520	$3,591,929

* The "residual" count is a count of the number of non-emergency procedures for which people are waiting in Canada that are not included in the Fraser Institute's survey. The wait time used for calculating the residual cost is each province's weighted median wait time for all specialties included in *Waiting Your Turn*.

Sources: Tables 1–3; Statistics Canada, 2017; Statistics Canada 2023a; calculations by authors.

percentage is below even the lowest specialty-specific measure estimated by Globerman and Hoye (1990).[4]

An assumption that 13.2% of people waiting for treatment in 2022 experienced significant difficulties in their daily lives as a result of their untreated medical condition, and thus lost productivity while waiting for treatment, results in an estimate that roughly 3.2 million weeks were "lost" while patients waited for treatment. However, because this estimate is based on the assumption that all individuals face the same wait time for treatment in each specialty/province combination, it is mathematically equivalent to assuming that 13.2% of the productivity of all Canadians waiting for care was lost to a combination of mental anguish and the pain and suffering that can accompany any wait for treatment. Multiplying this lost time by an estimate of the average weekly wage of Canadians in 2022 (given in

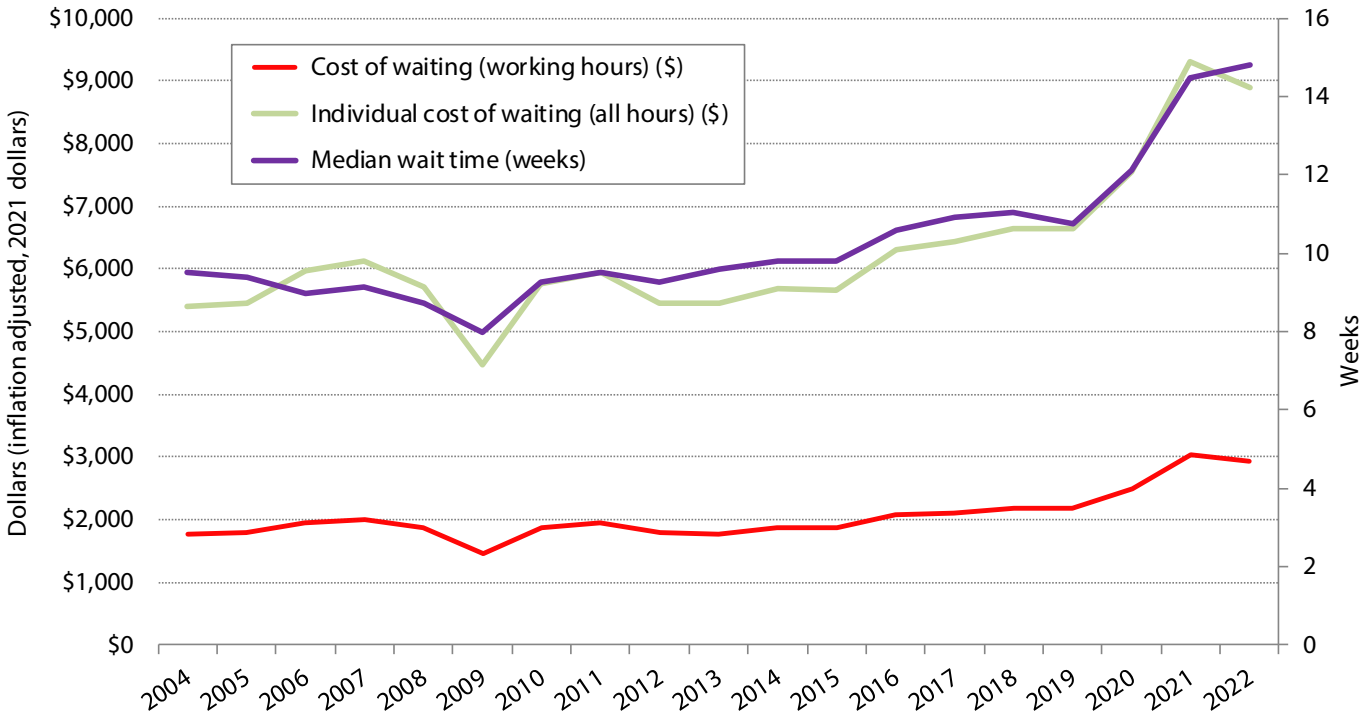
Table 5: Estimated per Capita Cost of Waiting for Medically Necessary Health Services, by Province, 2022

BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	CAN
$2,363	$3,666	$3,661	$4,463	$1,916	$3,213	$3,691	$4,230	$3,348	$3,536	$2,925

table 3), which provides an estimate for the value of the lost time to each individual,[5] gives an estimate of the cost of productive time that was lost while individuals waited for medically necessary treatments in 2022 (table 4).

The estimated cost of waiting for care in Canada for patients who were in the queue in 2022, according to calculations based on the methodology produced by Globerman and Hoye (1990), was almost $3.6 billion—lower than the almost $4.1 billion estimated in 2021 (see Limitations). This year's total $3.6 billion cost works out to an average of about $2,925 for each of the estimated 1,228,047 Canadians waiting for treatment in 2022. The highest costs per patient waiting for care were found in Manitoba ($4,463), with the lowest found in Ontario at $1,916 (see table 5). Alternately, the total $3.6

Figure 1: Calculated Cost of Waiting per Patient and Median Wait for Treatment after Consultation with Specialist, 2004–2022



Sources: Statistics Canada, 2004-2014; Statistics Canada, 2023b; Various authors, 2005-2022; calculations by authors.

billion cost works out to roughly $22,158 for each individual among the 13.2% of patients in the queue who were suffering considerable hardship while waiting for care.[6]

Of course, this number is a conservative estimate of the private cost of waiting for care in Canada. It assumes that only those hours during the average work week should be counted as lost. It places no intrinsic value on the time individuals spend waiting in a reduced capacity outside of the working week. Valuing all hours of the week, including evenings and weekends but excluding eight hours of sleep per night, at the average hourly wage (given in table 3) would increase the estimated cost of waiting to almost $10.9 billion or about $8,897 per person.

This estimate only counts costs that are borne by the individual waiting for treatment. The costs of care provided by family members (in time spent caring for the individual waiting for treatment) and their lost productivity due to difficulty or mental anguish, are not valued in this estimate.[7] Non-monetary medical costs, such as increased risk of mortality or adverse events that result from long delays for treatment are also not included in this estimate (Day, 2013). Moreover, we only estimate the cost of the wait time from specialist to treatment, and do not include the cost of the 12.6 week wait time from referral by a general practitioner to seeing a specialist,[8] or other delays in the care pathway.

From a historical perspective, the estimated $2,925 private cost of waiting for treatment per patient in 2022 is 65% higher than the $1,771 (inflation adjusted, 2022 dollars) estimated for 2004 (see figure 1). While the nominal cost per patient waiting in 2022 is 2.7% higher than in 2021 ($2,848), it has decreased by 3.8% on an inflation-adjusted basis. If hours outside of the work week are included, the estimated $8,897 private cost of waiting per patient in 2022 is 65% higher than the $5,403 estimated for 2004. Again, while the nominal cost per patient waiting (including hours outside of work) in 2022 is 2.2% higher than in 2021 ($8,706), it is 4.3% lower on an inflation adjusted basis.[9]

Limitations and comparability

The estimates presented in this report should be interpreted with caution due to the potential impact of COVID-19 on response rates, wait times, and the number of procedures performed in hospitals (CIHI, 2021). While Moir and Barua (2022b) detail a number of relevant factors in the Method section of *Waiting Your Turn* 2022 (upon which this study is based), particular attention should be given to the effect of documented decreases in the number of procedures performed in Canada during the COVID-19 pandemic (CIHI, 2021).

Moir and Barua's (2022b) estimate for the number of procedures for which patients are waiting is calculated by taking the total annual number of a specific procedure, dividing that figure by 52 (to get the number performed per week), then multiplying that figure by the median wait for that procedure (in weeks). The procedure counts used for this estimate are sourced from the National Ambulatory Care Reporting System (NACRS) and the Discharge Abstract Database (DAD). Notably, the 2022 report used the latest procedure counts available from the 2020/2021 fiscal year, a year in which fewer procedures were performed due to the varied policy responses to the emerging COVID-19 pandemic—including provincial surgical program ramp-downs. By design, all else constant, this will result in lower estimates of the total number of patients waiting for care.

Indeed, Moir and Barua (2022b) estimate that 806,121 fewer patients were waiting in 2022 compared to 2021—a figure used in the calculations contained in this report. Due to this anomalous change in the number of performed procedures, the authors urge caution when interpreting these results.

Further, editions of this report from 2005-2016 used a Statistics Canada finding that 11.0% of people were adversely affected by their wait for non-emergency surgery in 2005 (Statistics Canada, 2006). Ren and Barua (2017) calculated a newer estimate of this figure (13.2%) based on raw data (weighted population estimates) contained in the 2014 Data Dictionary of the Canada Community Health Survey's (CCHS) Health Services Access Subsample (Statistics Canada, 2014).[10] This year's report also uses this more recent estimate. The two estimates are, however, not directly comparable because the 11.0% used in the past reports was calculated using data that "do not reflect the waiting times of those still waiting at the time of the survey" (Statistics Canada, 2006). By including those still waiting at the time of the survey, the updated estimate for 2005 would be 14.4%. This suggests that previous reports may have underestimated the cost of waiting for treatment.

This year's report therefore also contains Ren and Barua's (2017) revised estimates of the cost of waiting since 2004 based on updated estimates of the percent of patients whose life are affected by the wait for non-emergency surgery calculated using data from successive iterations of the Canada Community Health Survey's [CCHS] Health Services Access Subsample Data Dictionaries[11] (2003 to 2013).

Conclusion

The rationing of health care in Canada through queues for medically necessary health services imposes direct costs on those waiting for care. The ability of individuals who are waiting to enjoy leisure time and earn an income to support their families is diminished by physical and psychological pain and suffering. In addition, friends and family may be asked to help those waiting for treatment, or may suffer similar reductions in their productive lives because of their own psychological pain.

In 2022, the estimated 1,228,047 Canadians who were waiting for treatment endured an estimated private cost of almost $3.6 billion, and possibly substantially more, in lost productivity and leisure time.

Notes

[1] The calculation here measures only the cost of the wait time from specialist to treatment, and does not include the 12.6 week wait time from referral by a general practitioner to seeing a specialist (Moir and Barua, 2022b), or other delays in the care pathway. Thus, this estimate of the privately borne cost of waiting is an underestimate of the true privately borne cost of waiting.

[2] Globerman and Hoye employed this methodology in 1990 to develop an estimate of the cost of waiting for medically necessary treatment in the first measurement of waiting times in Canada published by the Fraser Institute. Follow-up examinations published by the Fraser Institute of the privately borne cost of queuing since 2004 also employ this methodology.

[3] This estimate includes the number of non-emergency procedures for which people are waiting that were not included in the survey, reported as the "residual" number of procedures for which people are waiting. For the purposes of calculation, it is assumed that the wait time for these procedures is the same as the weighted median for the 12 specialties in the province in question. For further details on how this number is calculated, see Moir and Barua, 2022b.

[4] Statistics Canada's findings are based on the percentage of survey respondents who reported that "waiting for non-emergency surgery affected their life." Globerman and Hoye's estimate measures the number of patients who "experienced

significant difficulty carrying on their work or daily duties as a result of their medical conditions." Notably, in 2013, 11% of those who reported being affected by their wait reported a loss of income, while 21% experienced loss of work. At the same time, 45% experienced worry, anxiety, and stress, 54% experienced pain, and 42% experienced problems with activities of daily living (Statistics Canada, 2014; calculations by Ren and Barua, 2017). The methodology employed here for the estimate of the private cost of waiting attempts to measure much more than just lost work or lost income. Rather, it estimates lost productivity in total, including lost on-the-job productivity, lost enjoyment of life, inability to play sports, etc. In other words, the private cost of waiting for care estimated here values the amount of time Canadians spend waiting for care during which these individuals are unable to participate fully in their lives.

[5] Though extending this value of time to all individuals may seem questionable (given that some children and retired seniors will be included in the number of patients in the queue), one need only understand that the lost leisure or ability to concentrate that these individuals endure must have some value. Since seniors are enjoying increasing opportunities to engage in part-time employment, their labour/leisure trade off will be such that the last unit of leisure a senior citizen enjoys is equal in value to the last unit of work he or she undertakes. Seniors who choose not to work are clearly placing a higher value on their leisure time than the labour market will offer for their labour. For children, the value of their leisure (which can potentially be viewed as time for personal growth) or productivity at school (which can be viewed as an investment for the future) is assumed to be, for simplicity, not significantly different from that of a working adult. Furthermore, as there are likely to be few children waiting for treatment, any variation from the value of time for adults is not likely to have a marked effect on the average calculation.

[6] Globerman and Hoye estimated the cost of queuing for medically necessary care to be about $2,900 per patient in 1989. In 2022 dollars, this works out to approximately $5,862.

[7] In 2013, 13% of individuals whose lives were affected by the wait times for treatment reported an increased dependence on family or friends based on the CCHS 2013 Subsample Data Dictionary (Statistics Canada, 2014; calculations by Ren and Barua, 2017).

[8] In 2013, approximately 19.4% of individuals who visited a specialist indicated that waiting for the visit affected their life (Statistics Canada, 2014; calculations by Ren and Barua, 2017).

[9] According to the Canadian CPI, inflation in Canada was 6.8% between 2021 and 2022. Between 2020 and 2021 inflation was at 3.4%, and the average rate of inflation between 2004 and 2020 was 1.7%. As a result, readers should exercise some caution when interpreting these results, as their adjustment this year is well and above the annual norm during the 15 years preceding this period.

[10] Ren and Barua (2017) estimated the rate using (population weighted) responses to WTM_28 in the CCHS 2013 Subsample Data Dictionary (Statistics Canada, 2014). Due to the changes made by CCHS over time, the variable name may vary depending on the edition; however, the concept has stayed the same.

[11] The subsample (which includes estimates for all 10 provinces) on access to health care services (ACC) and waiting times (WTM) has been conducted within the CCHS every odd year from 2001 to 2013. For even years, Ren and Barua (2017) calculated an average based on the preceding and following year. For example, in 2012, they took an average of the rate in 2011 (14.8%) and 2013 (13.2%) to get the 14.0%. In 2015, the HSAS subsample was discontinued. The authors therefore use the 13.2% from the 2013 edition for all subsequent calculations.

References

Canadian Institute for Health Information [CIHI] (2021). *COVID-19's Impact on Hospital Services*. CIHI. <https://www.cihi.ca/en/covid-19-resources/impact-of-covid-19-on-canadas-health-care-systems/hospital-services>, as of February 28, 2023.

Day, Brian (2013). The Consequences of Waiting. In Steven Globerman (ed.), *Reducing Wait Times for Health Care: What Canada Can Learn from Theory and International Experience* (Fraser Institute): 45-75. <https://www.fraserinstitute.org/studies/reducing-wait-times-for-health-care>, as of February 28, 2023.

Esmail, Nadeem (2009). *Waiting Your Turn: Hospital Waiting Lists in Canada* (19th ed.). Fraser Institute.

Globerman, Steven, with Lorna Hoye (1990). *Waiting Your Turn: Hospital Waiting Lists in Canada*. Fraser Institute.

Moir, Mackenzie, and Bacchus Barua (2022a). *The Private Cost of Public Queues for Medically Necessary Care* (2022 edition.) Fraser Institute. < https://www.fraserinstitute.org/studies/private-cost-of-public-queues-for-medically-necessary-care-2022 >, as of February 28, 2023.

Moir, Mackenzie, and Barua, Bacchus (2022b). *Waiting Your Turn: Wait Times for Health Care in Canada, 2022 Report*. Fraser Institute. < https://www.fraserinstitute.org/studies/waiting-your-turn-wait-times-for-health-care-in-canada-2022 >, as of February 28, 2023.

Ren, Feixue, and Barua, Bacchus (2017). *The Private Cost of Public Queues for Medically Necessary Care*. Fraser Institute.

Statistics Canada (2006). *Access to Health Care Services in Canada: January to December 2005*. Catalogue No. 82-575-XIE. Statistics Canada. < https://www150.statcan.gc.ca/n1/pub/82-575-x/82-575-x2006002-eng.htm>, as of February 28, 2023.

Statistics Canada (various years, 2004 to 2014). *Health Services Access Subsample (HSAS). Canadian Community Health Survey*. Special request. Received April 10, 2017. Statistics Canada.

Statistics Canada (2023a). Table 14-10-0306-01: Labour Force Survey Estimates (LFS), Wages of Employees by Type of Work, National Occupational Classification (NOC), Sex, and Age Group, Unadjusted for Seasonality, Monthly (Current Dollars). Statistics Canada.

Statistics Canada (2023b). Table 18-10-0005-01: Consumer Price Index (CPI), annual (2002=100). Statistics Canada.

Various authors (2005-2022). *The Private Cost of Public Queues for Medically Necessary Care*. Fraser Institute.

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