

## Appendix 2

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## Appendix 2a) Criteria for highest level of care for people with COVID-19 in British Columbia and Ontario

Location of highest level of care	Database	Variables assessed
Hospitalized with ICU (ICU) in Ontario and BC	DAD	Hospitalization with ICU admission between 1 day before index date and 14 days after index date.  To ensure that the ICU stay is due to COVID-19, the ICU stay must start between 1 day prior to the positive test (i.e. patient was admitted to the ICU and then tested positive) and 14 days after the positive test (i.e. patient tested positive and then admitted to the ICU within 14 days).
Hospitalized with no ICU (hospital) in Ontario and BC	DAD	Hospitalization with no ICU admission between 1 day before and 14 days after index date. Includes patients who were infected while already in the hospital as well as those admitted to the hospital after infection.
LTC in Ontario*	CCRS ODB OHIP	At least one of the following: CCRS: Admission date with no discharge date before Index date; ODB: LTC flag on prescription in ODB, within 90 days before Index date OHIP record with fee code beginning with 'W' within 90 days before index date and the institution code in the OHIP claim having a type of NH (nursing home) or HF (home for the aged).
LTC in BC*	HCC-MRR	Resident of facility care with no service end date before index date.
Community in Ontario and BC	-	Does not meet criteria for any of the above for each respective province.

Abbreviations: CCRS: Continuing Care Reporting System; DAD: Discharge Abstract Database; ICU: Intensive Care Unit; LTC: long term care; ODB: Ontario Drug Benefit; OHIP: Ontario Health Insurance Plan; HCC: Home and community care; MRR: minimum reporting requirements.

\*If an LTC resident was transferred to the hospital (with or without ICU admission) on or within 14 days after their index date, the patient will be categorized under “hospitalized with/ with no ICU”, accordingly.

Note that highest level of care was for care for COVID-19 and was determined for the people with COVID-19 only. Level of care is distinct from residence at index date as defined in Appendix 1c. Figure S2 shows the residence at index date and transitions to level of care group.

## **Appendix 2b) Matching strategy for people with COVID-19 and controls in British Columbia and Ontario**

Potential controls (the general population in BC and Ontario, registered for MSP and OHIP respectively) who did not have a positive test for SARS-CoV-2 up to June 30, 2020 in the BC Ministry of Health COVID-19 Test Lab Data<sup>1,2</sup> or the Ontario Laboratory Information System (OLIS) COVID-19 database<sup>3</sup>, were randomly assigned pseudo-index dates based on the distribution of index dates. People with COVID-19 and controls were hard-matched on sex, place of residence at index date (Appendix 1c), age on index date (+/- 5 years), calendar week of index/pseudo-index date (+/-1 week), and on the logit of the propensity score within a caliper width of 0.1 standard deviation. Propensity scores for a positive SARS-CoV-2 test were computed from multimorbidity using John's Hopkins' Adjusted Clinical Groups® System (ACG®) version 10 Aggregated Diagnosis Groups (ADGs) (Appendix 1d) and Resource Utilization Band<sup>4</sup> and geographic and socioeconomic factors (Appendix 1e). The quality of the matching was evaluated using weighted standardized differences<sup>5</sup>.

## Appendix 2c) Determination of Place of Residence at index date for people with COVID-19 and controls in British Columbia and Ontario

Residence	BC Data	Ontario Data	Variable(s) and values
Long-term care (LTC)	HCC-MRR	CCRS ODB OHIP	At least one of the following: CCRS: Admission date prior to the index date, and discharge date after the index date or no discharge date (person is still residing in LTC); ODB: LTC flag on prescription in ODB within 90 days before the index date; Claim for a physician service dated within 90 days before index date with fee code indicating service was provided in a LTC residence and the institution code in the claim designating a LTC residence.  HCC-MRR: Resident of facility care with no service end date before index date.
Home (community)			Does not meet criteria for long-term care

Abbreviations: BC: British Columbia; CCRS: Continuing Care Reporting System; LTC: long term care; ODB: Ontario Drug Benefit; OHIP: Ontario Health Insurance Plan; HCC-MRR: Home and Community Care Minimum Reporting Requirements.

## Appendix 2d) Comorbidity

The John's Hopkins' Adjusted Clinical Groups® System (ACG®) software uses the diagnosis codes found in inpatient and same day surgery hospital discharge records, emergency department visit records and physician claims to assign 32 Aggregated Diagnosis Group (ADG) binary variables to each individual. ADGs are determined by five clinical dimensions: 1) duration of the condition, 2) severity of the condition, 3) diagnostic certainty, 4) etiology of the condition, and 5) specialty care involvement<sup>4</sup>.

In BC, we used diagnosis codes found in records from the Canadian Institute for Health Information - Discharge Abstract Database (CIHI-DAD) and MSP Payment Information Files, in the year before index date for people with COVID-19 and the year before pseudo-index date for potential controls, to assign the ADGs. In Ontario, we used diagnosis codes found in records from the Canadian Institute for Health Information - Discharge Abstract Database (CIHI-DAD), CIHI - National Ambulatory Care Reporting System database (CIHI-NACRS), and Ontario Health Insurance Plan (OHIP) Physicians' Claims database in the year before index date for people with COVID-19 and the year before pseudo-index date for potential controls, to assign the ADGs. In both provinces, we used the 32 ADGs in the propensity score to match controls to people with COVID-19.

We also used the point-scoring system developed by Austin and van Walraven<sup>6</sup> to calculate an ADG comorbidity score for each patient and control.

## Appendix 2e) Variables describing residence and socioeconomic factors in British Columbia and Ontario

Variable	British Columbia	Ontario
Rurality of residence Statistics Canada definition <sup>7</sup>	Dissemination blocks with a population of $\geq 1000$ and $\geq 400$ persons per square kilometre, and adjacent areas with a population of $\geq 1000$ and $\geq 400$ employees per square kilometre, such that the cluster of areas has $\geq 400$ persons per square kilometre, are designated urban. All other areas are rural.	
Postal code rural indicator <sup>8</sup>	The second character of Canada's six-digit postal codes is a number. A zero indicates a wide-area rural region.	
Rurality Index of Ontario (RIO) <sup>9</sup>	N/A	<40 = not rural area; $\geq 40$ = rural area
Health authority	Health Authority	Local Health Integration Network (LHIN) <sup>10</sup>
Neighbourhood income quintile	Neighbourhood income quintile, based on the 2016 Canadian census	

## Appendix 2f) Resources and costing methods in British Columbia and Ontario

Resource Category	Database		Costing methods
	British Columbia	Ontario	
Cancer clinic, dialysis clinic	N/A	CIHI-NACRS	RIW $\times$ CPWC 2018 $\times$ inflation using the CPI for health care. The CPWC was extrapolated to 2020 using data from 2002 to 2018.
Outpatient clinic visits	N/A	CIHI-NACRS	Cost per visit in 2018 adjusted for inflation using the CPI for health care.
Physician services (general/family practice and specialties) and OHIP-covered non-physician services	MSP Payment Information File	OHIP Claims Database	Ontario: Costs for 2018 were adjusted for inflation using the CPI for health care services. BC: Paid amounts were used as they appeared in the data, using the current Payment Schedule at the time of the claim (including temporary COVID-19-related changes)
Emergency department visits	CIHI-NACRS emergency department visits	CIHI-NACRS emergency department visits	Ontario: RIW $\times$ CPWC $\times$ inflation using the CPI for health care. The CPWC was extrapolated to 2020 using data from 2002 to 2018. ED visits in March 2020 with a main diagnosis of COVID (U07) were not assigned an RIW. An estimated value was assigned using the relationship between triage level and RIW observed for other ED visits (R-square = 0.30).  BC: RIW was not available in the BC data; a mean cost per ED visit (adjusted for inflation using the CPI for health care services) was applied to records in the NACRS data <sup>11</sup>
Inpatient hospitalization and same day surgery	CIHI-DAD and SDS	CIHI-DAD and SDS	Both provinces: RIW $\times$ CSHS $\times$ inflation using the CPI for health care. The CSHS was extrapolated to 2020 using data from 2002 to 2018 (Ontario) and 2014 to 2018 (BC).  Ontario inpatient hospitalization: Hospital discharges in March 2020 with a most responsible diagnosis of COVID (U07*) were not assigned an RIW. An estimated value was assigned using the relationship between length of stay and RIW observed for other hospital stays (R-square = 0.47).

Appendix 2, as supplied by the authors. Appendix to: Tsui TCO, Zeitouny S, Bremner KE, et al. Initial health care costs for COVID-19 in British Columbia and Ontario, Canada: an interprovincial population-based cohort study. *CMAJ Open* 2022. doi:10.9778/cmajo.20210328. Copyright © 2022 The Author(s) or their employer(s). To receive this resource in an accessible format, please contact us at [cmajgroup@cmaj.ca](mailto:cmajgroup@cmaj.ca).

			Ontario SDS: $RIW \times CPWC \times \text{inflation using the CPI for health care. The CPWC was extrapolated to 2020 using data from 2002 to 2018.}$
Mental health inpatient care	N/A	Ontario Mental Health Reporting System	Weighted days $\times$ cost per weighted day $\times$ inflation using the CPI for health care. Weighted days were estimated using the relationship between actual days and weighted days observed for 2018 data (R-square = 0.98). Cost per weighted day was extrapolated to 2020 from earlier costs.
Outpatient prescription drugs	PharmaNet	Ontario Drug Benefit Program database	Ontario: Total paid $\times$ inflation using the CPI for medicinal and pharmaceutical products. BC: Total costs (ingredient cost plus fees) paid by both PharmaCare and private payment.
Cancer chemotherapy drugs covered by the New Drug Funding Program	N/A	New Drug Funding Program data N/A in BC	Drug cost $\times$ inflation using the CPI for medicinal and pharmaceutical products.
Laboratory tests	MSP Payment Information File	OHIP laboratory tests	Ontario: Average costs for 2018 were adjusted for inflation using the CPI for health care services. BC: Paid amounts were used as they appeared in the data, using the current Payment Schedule at the time of the claim (including temporary COVID-19-related changes).
Home Care	Home and community care-Minimum Reporting Requirements.	Home Care Database	Ontario: Cost for a given service $\times$ inflation. The most recent available costs are for 2018. These were used, adjusted for inflation using the CPI for health care services. BC: Costs were calculated at an average hourly rate for home support services and an average cost per visit for home nursing and other health professional services, using published values adjusted for inflation using the CPI for health care

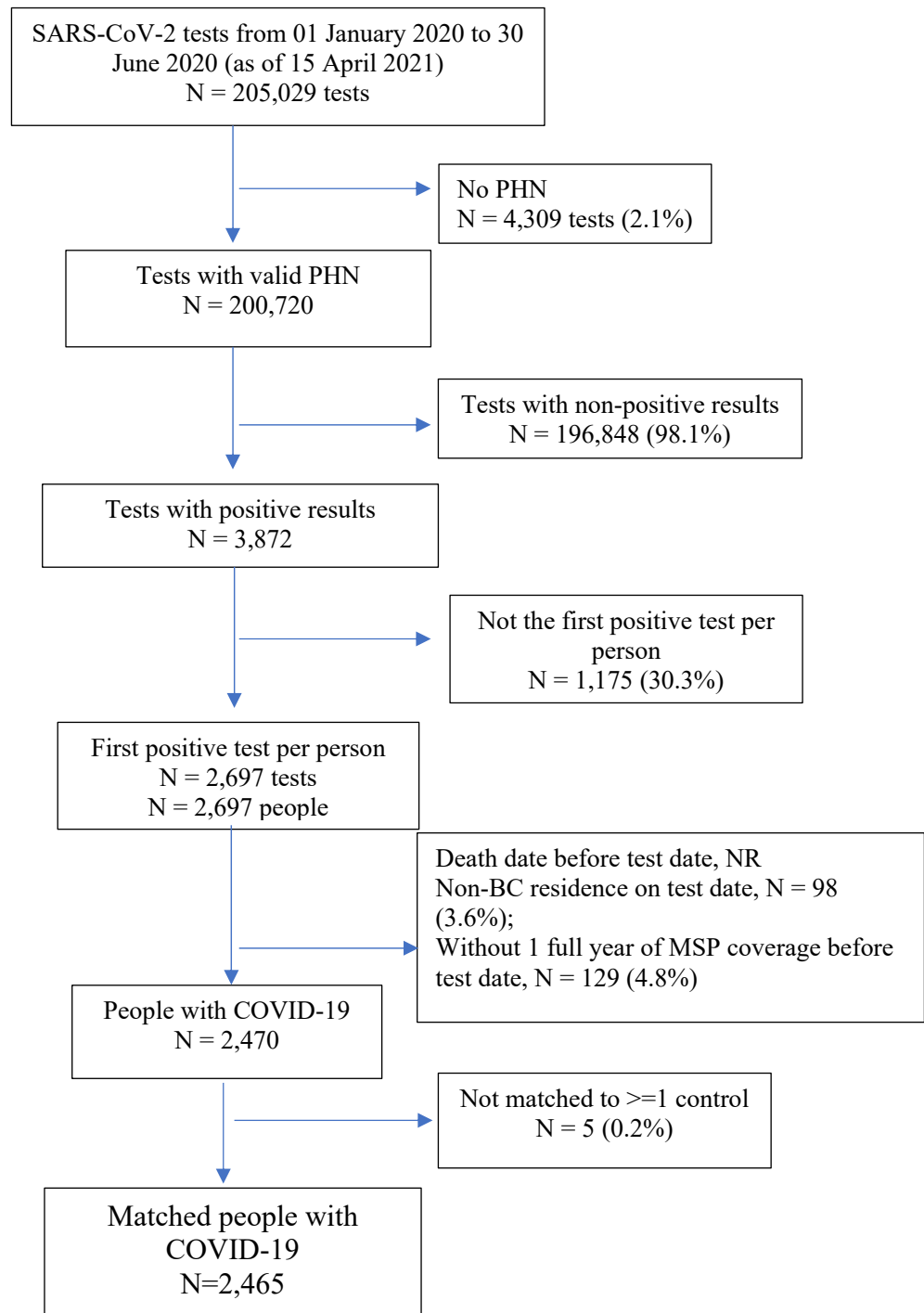


			services <sup>12</sup> . Costs were distributed uniformly across the service period (from service start date to the service end date or end of observation period).
Long-term care	Home and community care- Minimum Reporting Requirements.	CCRS data	<p>Ontario: Weighted days × cost per weighted day × inflation using the CPI for health care.</p> <p>Days in LTC were obtained from the CCRS data, assuming that a missing discharge date means that the person is still in LTC. The relationship between weighted days and actual days was estimated using the observed relationship for 2019 (R-square = 0.89).</p> <p>The cost per weighted day was extrapolated to 2020 using data from earlier years.</p> <p>BC: Costs were calculated at an average daily rate<sup>12</sup>, adjusted for inflation using the CPI for health care services, applied to each day of the service period (from service start date to the service end date or end of observation period).</p>
Complex continuing care	N/A	CCRS data	<p>Weighted days × cost per weighted day × inflation using the CPI for health care.</p> <p>Days in CCC were obtained from the CCRS data, assuming that a missing discharge date means that the person is still in the CCC facility. The relationship between weighted days and actual days was estimated using the observed relationship for 2018 (R-square = 0.90). The cost per weighted day was extrapolated from data from earlier years.</p>

BC: British Columbia; CCC: Complex Continuing Care; CCRS: Continuing Care Reporting System; CIHI: Canadian Institute for Health Information; CPI: Consumer Price Index; CPWC: cost per weighted case; DAD: Discharge Abstract Database; ED: emergency department; LTC: long-term care; MSP: Medical Services Plan; NACRS: National Ambulatory Care Reporting System; OHIP: Ontario Health Insurance Plan; RIW: Resource Intensity Weight; SDS: same day surgery.

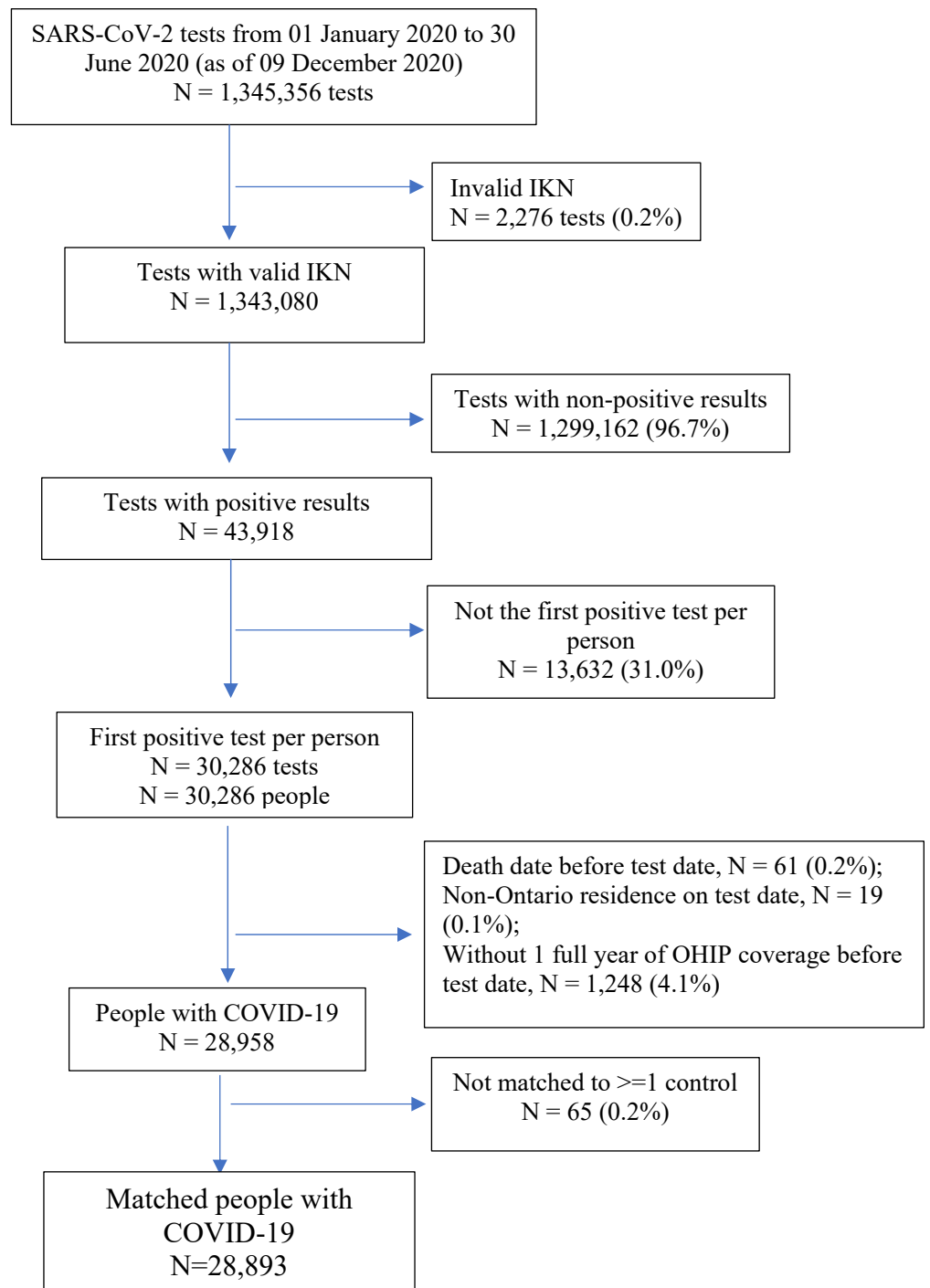
**Figure S1.** Cohort selection process

a) in British Columbia



Abbreviations: BC: British Columbia; MSP: Medical Services Plan; NR: not reported ( $\leq 5$  people); PHN: Personal Health Number

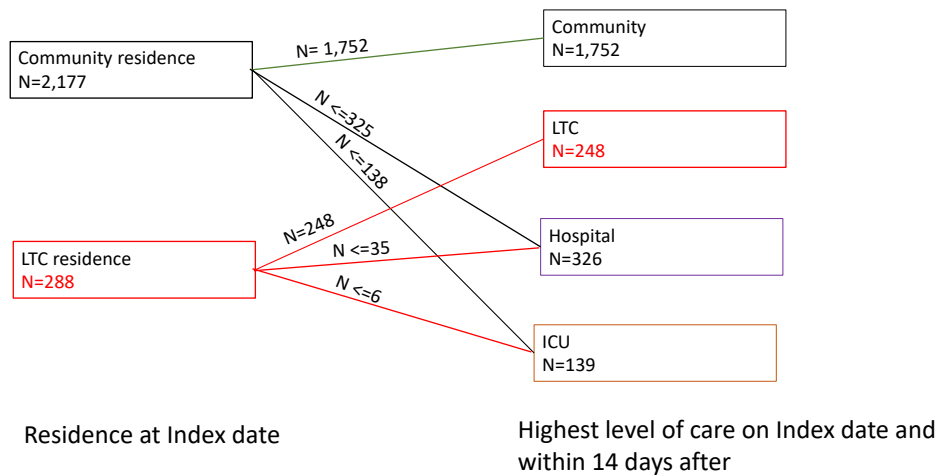
b) in Ontario



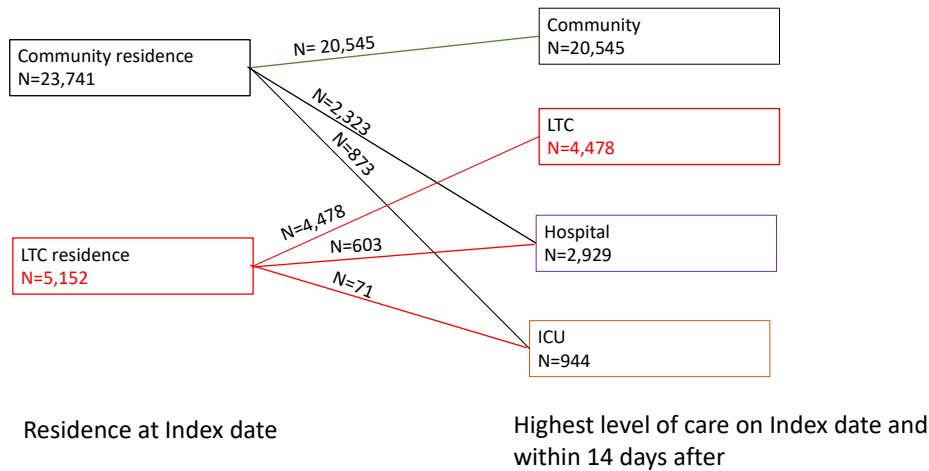
Abbreviations: IKN: ICES Key number (anonymous identifier used to link databases); OHIP: Ontario Health Insurance Plan

**Figure S2.** Transitions from place of residence at index date to level of care for people with COVID-19

a) British Columbia



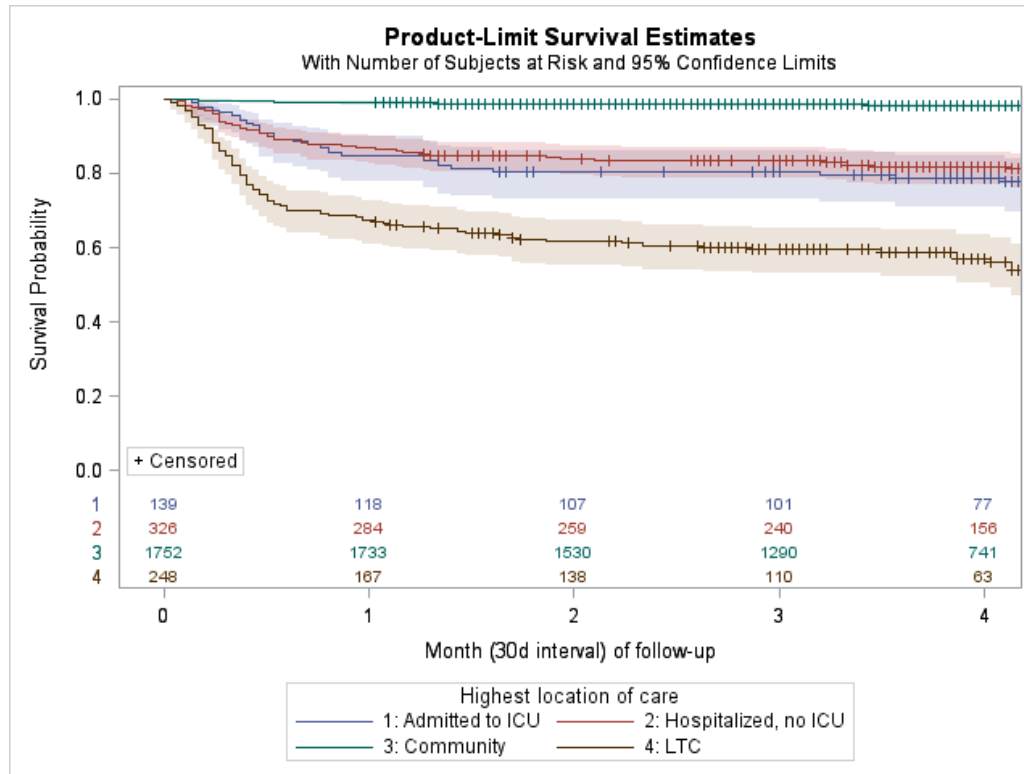
b) Ontario



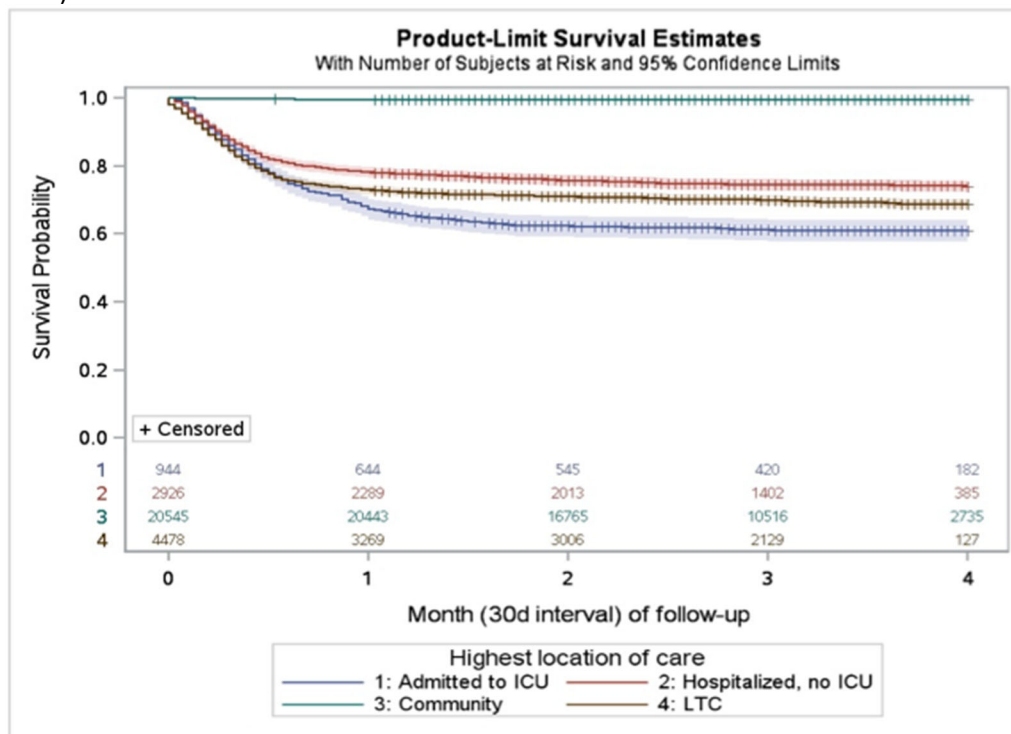
Note that highest level of care was for care for COVID-19 and was determined for people with COVID-19 only.

**Figure S3.** Kaplan-Meier survival curves for a) British Columbia, and b) Ontario

a) British Columbia



b) Ontario



**Table S1.** British Columbia - Characteristics of people with COVID-19 and matched controls for each level of care

a) Community

Variable	Value	Controls	People with COVID-19
<b>Age at index date</b>			
	Mean $\pm$ SD	45(18)	45(18)
	Median (IQR)	45(33-57)	45(33-57)
<b>Sex N (%)</b>			
	Female	4,028 (57%)	1,007 (57%)
	Male	2,980 (43%)	745 (43%)
<b>Rural/Small Town N (%)</b>			
	Not rural	6,649 (95%)	1,668 (95%)
	Rural	359 (5%)	84 (5%)
<b>Rurality of residence (postal code) N (%)</b>			
	Not rural	6,685 (95%)	1,679 (96%)
	Rural	323 (5%)	73 (4%)
<b>Health Authority N (%)</b>			
	Interior	500 (7%)	122 (7%)
	Fraser	3,536 (50%)	966 (55%)
	Vancouver Coastal	2,347 (33%)	524 (30%)
	Vancouver Island	441 (6%)	98 (6%)
	Northern	184 (3%)	42 (2%)
<b>Neighbourhood income quintile N (%)</b>			
	1-lowest	1,645 (23%)	370 (21%)
	2	1,428 (20%)	384 (22%)
	3	1,478 (21%)	355 (20%)
	4	1,316 (19%)	328 (19%)
	5-highest	1,052 (15%)	291 (17%)
	Missing	89 (1%)	24 (1%)
<b>RUB N (%)</b>			
	0	554 (8%)	126 (7%)
	1	419 (6%)	103 (6%)
	2	1,127 (16%)	330 (19%)
	3	3,800 (54%)	962 (55%)
	4	768 (11%)	166 (9%)
	5	340 (5%)	65 (4%)

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<b>ADG score</b>			
	Mean $\pm$ SD	7(11)	6(10)
	Median (IQR)	4(0-13)	4(0-11)
<b>Number of days of follow-up after Index date<sup>1</sup></b>			
	Mean $\pm$ SD	104(32)	104(32)
	Median (IQR)	110(87-130)	111(88-130)

<sup>1</sup>Controls were censored on the date that their matched person with COVID-19 died or was censored

Abbreviations: ADG: Adjusted Diagnostic Group; IQR: Interquartile range; SD: standard deviation; RUB: Resource utilization band

b) Long-term care

Variable	Value	Controls	People with COVID-19
<b>Age at index date</b>			
	Mean $\pm$ SD	85(9)	85(9)
	Median (IQR)	87(80-92)	87(80-92)
<b>Sex N (%)</b>			
	Female	672 (68%)	168 (68%)
	Male	320 (32%)	80 (32%)
<b>Rural/Small Town N (%)</b>			
	Not rural	964 (97%)	248 (100%)
	Rural	28 (3%)	NR
	Not rural	963 (97%)	246 (99%)
	Rural	29 (3%)	NR
<b>Health Authority N (%)</b>			
	Interior	66 (7%)	NR
	Fraser	522 (53%)	85 (34%)
	Vancouver Coastal	348 (35%)	162 (65%)
	Vancouver Island	49 (5%)	NR
	Northern	7 (1%)	NR
	1-lowest	335 (34%)	111 (45%)
	2	202 (20%)	39 (16%)
	3	183 (18%)	60 (24%)
	4	152 (15%)	23 (9%)
	5-highest	113 (11%)	15 (6%)
	Missing	6 (1%)	NR
<b>RUB N (%)</b>			
	0	NR	NR

	1	NR	NR
	2	NR	NR
	3	254 (26%)	88 (35%)
	4	299 (30%)	82 (33%)
	5	435 (44%)	76 (31%)
<b>ADG score</b>			
	Mean $\pm$ SD	31(12)	27(12)
	Median (IQR)	31(22-39)	26(18-35)
<b>Number of days of follow-up after Index date<sup>1</sup></b>			
	Mean $\pm$ SD	67(49)	70(50)
	Median (IQR)	74(13-118)	79(14-120)

<sup>1</sup>Controls were censored on the date that their matched person with COVID-19 died or was censored

Abbreviations: ADG: Adjusted Diagnostic Group; IQR: Interquartile range; SD: standard deviation; RUB: Resource utilization band

c) Hospital

Variable	Value	Controls	People with COVID-19
<b>Age at index date</b>			
	Mean $\pm$ SD	68 (18)	68 (18)
	Median (IQR)	71 (55-82)	71 (55-82)
<b>Sex N (%)</b>			
	Female	568 (44%)	142 (44%)
	Male	736 (56%)	184 (56%)
<b>Rural/Small Town N (%)</b>			
	Not rural	1253 (96%)	316 (97%)
	Rural	51 (4%)	10 (3%)
<b>Health Authority N (%)</b>			
	Interior	86 (7%)	19 (6%)
	Fraser	694.33 (53%)	193 (59%)
	Vancouver Coastal	448.67 (34%)	92 (28%)
	Vancouver Island	57 (4%)	16 (5%)
	Northern	18 (1%)	6 (2%)
<b>Income Quintile N(%)</b>			
	1-lowest	342 (26%)	89 (27%)
	2	269 (21%)	53 (16%)



	3	268 (21%)	72 (22%)
	4	213 (16%)	64 (20%)
	5-highest	203 (16%)	46 (14%)
<b>RUB N (%)</b>			
	0	31 (2%)	NR
	1	27 (2%)	7 (2%)
	2	88 (7%)	13 (4%)
	3	621 (48%)	156 (48%)
	4	239 (18%)	63 (19%)
	5	298 (23%)	82 (25%)
<b>ADG score</b>			
	Mean $\pm$ SD	18 (15)	18 (14)
	Median (IQR)	17 (6-28)	17 (7-27)
<b>Number of days of follow-up after Index date</b>			
	Mean $\pm$ SD	98 (43)	99 (42)
	Median (IQR)	118 (79-127)	119 (81-127)

<sup>1</sup>Controls were censored on the date that their matched person with COVID-19 died or was censored

Abbreviations: ADG: Adjusted Diagnostic Group; IQR: Interquartile range; SD: standard deviation; RUB: Resource utilization band

d) Intensive Care Unit

<b>Variable</b>	<b>Value</b>	<b>Controls</b>	<b>People with COVID-19</b>
<b>Age at index date</b>			
	Mean $\pm$ SD	65(14)	65(14)
	Median (IQR)	68(58-74)	68(58-74)
<b>Sex N (%)</b>			
	Female	220 (40%)	55 (40%)
	Male	336 (60%)	84 (60%)
<b>Rural/Small Town N (%)</b>			
	Not rural	510 (94%)	130 (94%)
	Rural	46 (6%)	9 (6%)
<b>Rurality of residence (postal code) N (%)</b>			
	Not rural	518 (95%)	132 (95%)

	Rural	38 (5%)	7 (5%)
<b>Health Authority N (%)</b>			
	Interior	57 (8%)	11 (8%)
	Fraser	248 (32%)	44 (32%)
	Vancouver Coastal	187 (48%)	67 (48%)
	Vancouver Island	46 (6%)	9 (6%)
	Northern	18 (6%)	8 (6%)
<b>Neighbourhood income quintile N (%)</b>			
	1-lowest	119 (22%)	31 (22%)
	2	106 (19%)	27 (19%)
	3	119 (20%)	28 (20%)
	4	92 (14%)	19 (14%)
	5-highest	112 (22%)	31 (22%)
	9-missing	8 (%)	NR
<b>RUB N (%)</b>			
	0	24 (4%)	6 (4%)
	1	16 (%)	NR
	2	61 (8%)	11 (8%)
	3	274 (56%)	78 (56%)
	4	101 (14%)	19 (14%)
	5	80 (15%)	21 (15%)
<b>ADG score</b>			
	Mean $\pm$ SD	14(13)	13(12)
	Median (IQR)	12(4-22)	11(4-18)
<b>Number of days of follow-up after Index date<sup>1</sup></b>			
	Mean $\pm$ SD	100(44)	100(44)
	Median (IQR)	122(73-130)	122(73-130)

<sup>1</sup>Controls were censored on the date that their matched person with COVID-19 died or was censored

Abbreviations: ADG: Adjusted Diagnostic Group; IQR: Interquartile range; SD: standard deviation; RUB: Resource utilization band

**Table S1.** Ontario - Characteristics of people with COVID-19 and matched controls for each level of care

a) Community

Variable	Value	Controls N=82,148	People with COVID-19 N=20,545
<b>Age at index date</b>			
	Mean $\pm$ SD	44.49 $\pm$ 18.13	44.49 $\pm$ 18.13
	Median (IQR)	45 (30-57)	45 (30-57)
	Female	45,805 (55.8%)	11,457 (55.8%)
	Male	36,343 (44.2%)	9,088 (44.2%)
<b>Neighbourhood income quintile N (%)</b>			
	1-lowest	21,744 (26.5%)	5,736 (27.9%)
	2	18,197 (22.2%)	4,382 (21.3%)
	3	16,632 (20.2%)	4,225 (20.6%)
	4	13,396 (16.3%)	3,366 (16.4%)
	5-highest	12,176 (14.8%)	2,836 (13.8%)
<b>Rural/Small Town N (%)</b>			
	Not rural	78,710 (95.8%)	19,814 (96.4%)
	Rural	3,438 (4.2%)	731 (3.6%)
<b>Rurality of residence (postal code) N (%)</b>			
	Not rural	76,573 (93.2%)	19,342 (94.1%)
	Rural	5,575 (6.8%)	1,203 (5.9%)
<b>Local Health Integration Network N (%)</b>			
	Erie St. Clair	3,495 (4.3%)	971 (4.7%)
	South West	2,692 (3.3%)	582 (2.8%)
	Waterloo Wellington	3,564 (4.3%)	879 (4.3%)
	Hamilton Niagara Haldimand Brant	5,585 (6.8%)	1,363 (6.6%)
	Central West	11,341 (13.8%)	3,525 (17.2%)
	Mississauga Halton	8,437 (10.3%)	2,030 (9.9%)
	Toronto Central	9,259 (11.3%)	2,165 (10.5%)
	Central West	16,547 (20.1%)	4,195 (20.4%)
	Central East	11,356 (13.8%)	2,710 (13.2%)
	South East	1,198 (1.5%)	248 (1.2%)
	Champlain	5,992 (7.3%)	1,335 (6.5%)
	North Simcoe Muskoka	1,227 (1.5%)	278 (1.4%)
	North East	954 (1.2%)	158 (0.8%)
	North West	493 (0.6%)	106 (0.5%)

	missing	8 (0.0%)	0 (0.0%)
<b>Residence at time of testing N (%)</b>			
	Community	82,148 (100%)	20,545 (100%)
<b>ADG score</b>			
	Mean $\pm$ SD	7.53 $\pm$ 10.91	6.68 $\pm$ 10.05
	Median (IQR)	4 (0-12)	4 (0-10)
<b>RUB</b>	0	10,501 (12.8%)	2,173 (10.6%)
	1	4,327 (5.3%)	1,391 (6.8%)
	2	16,500 (20.1%)	4,624 (22.5%)
	3	38,854 (47.3%)	9,955 (48.5%)
	4	8,660 (10.5%)	1,740 (8.5%)
	5	3,306 (4.0%)	662 (3.2%)
<b>Number of days of follow-up after Index date<sup>1</sup></b>			
	Mean $\pm$ SD	87.43 $\pm$ 28.00	87.45 $\pm$ 27.98
	Median (IQR)	91 (66-109)	91 (66-109)

<sup>1</sup> Controls were censored on the date that their matched person with COVID-19 died or was censored

Abbreviations: ADG: Adjusted Diagnostic Group; IQR: Interquartile range; SD: standard deviation; RUB: Resource utilization band

b) Long-term care

<b>Variable</b>	<b>Value</b>	<b>Controls N=17,609</b>	<b>People with COVID-19 N=4,478</b>
<b>Age at index date</b>			
	Mean $\pm$ SD	83.54 $\pm$ 10.43	83.34 $\pm$ 10.80
	Median (IQR)	86 (78-91)	86 (78-91)
<b>Sex N (%)</b>			
	Female	11,719 (66.6%)	2,963 (66.2%)
	Male	5,890 (33.4%)	1,515 (33.8%)
<b>Neighbourhood income quintile N (%)</b>			
	1-lowest	6,023 (34.2%)	1,350 (30.1%)
	2	3,941 (22.4%)	1,174 (26.2%)
	3	2,822 (16.0%)	847 (18.9%)
	4	2,582 (14.7%)	468 (10.5%)
	5-highest	2,237 (12.7%)	639 (14.3%)
<b>Rural/Small Town N (%)</b>			
	Not rural	16,232 (92.2%)	4,337 (96.9%)

	Rural	1,377 (7.8%)	141 (3.1%)
<b>Rural postal code N (%)</b>			
	Not rural	16,024 (91.0%)	4,115 (91.9%)
	Rural	1,585 (9.0%)	363 (8.1%)
<b>Local Health Integration Network N (%)</b>			
	Erie St. Clair	1,032 (5.9%)	159 (3.6%)
	South West	1,033 (5.9%)	81 (1.8%)
	Waterloo Wellington	890 (5.1%)	177 (4.0%)
	Hamilton Niagara Haldimand Brant	2,009 (11.4%)	155 (3.5%)
	Central West	1,121 (6.4%)	348 (7.8%)
	Mississauga Halton	1,165 (6.6%)	537 (12.0%)
	Toronto Central	1,891 (10.7%)	587 (13.1%)
	Central West	2,417 (13.7%)	958 (21.4%)
	Central East	2,623 (14.9%)	938 (20.9%)
	South East	562 (3.2%)	31 (0.7%)
	Champlain	1,763 (10.0%)	452 (10.1%)
	North Simcoe Muskoka	475 (2.7%)	35 (0.8%)
	North East	433 (2.5%)	<=20
	North West	194 (1.1%)	NR
	missing	1 (0.0%)	0 (0.0%)
<b>Residence at index date N (%)</b>			
	Long-term care	17,609 (100%)	4,478 (100%)
<b>ADG score</b>			
	Mean $\pm$ SD	28.96 $\pm$ 15.11	24.44 $\pm$ 15.01
	Median (IQR)	26 (16-40)	20 (16-34)
<b>RUB N (%)</b>			
	0	76 (0.4%)	72 (1.6%)
	1	48 (0.3%)	23 (0.5%)
	2	504 (2.9%)	300 (6.7%)
	3	8,021 (45.6%)	2,318 (51.8%)
	4	3,012 (17.1%)	686 (15.3%)
	5	5,948 (33.8%)	1,079 (24.1%)
<b>Number of days from index date to end of follow-up<sup>1</sup></b>			
	Mean $\pm$ SD	70.43 $\pm$ 41.76	70.87 $\pm$ 41.78
	Median (IQR)	86 (20-107)	87 (20-107)

<sup>1</sup>Controls were censored on the date that their matched person with COVID-19 died or was censored

Abbreviations: ADG: Adjusted Diagnostic Group; IQR: Interquartile range; NR, not reportable due to small cell size (<5); SD: standard deviation; RUB: Resource utilization band

c) Hospital

Variable	Value	Controls N=11,584	People with COVID-19 N=2,926
<b>Age at index date</b>			
	Mean $\pm$ SD	69.65 $\pm$ 17.79	69.69 $\pm$ 17.78
	Median (IQR)	73 (58-84)	73 (58-84)
<b>Sex N (%)</b>			
	Female	5,768 (49.8%)	1,454 (49.7%)
	Male	5,816 (50.2%)	1,472 (50.3%)
<b>Neighbourhood income quintile N (%)</b>			
	1-lowest	3,454 (29.8%)	874 (29.9%)
	2	2,694 (23.3%)	681 (23.3%)
	3	2,168 (18.7%)	574 (19.6%)
	4	1,694 (14.6%)	413 (14.1%)
	5-highest	1,574 (13.6%)	384 (13.1%)
<b>Rural/Small Town N (%)</b>			
	No	11,088 (95.7%)	2,852 (97.5%)
	Yes	496 (4.3%)	74 (2.5%)
<b>Rural postal code N (%)</b>			
	Not rural	10,808 (93.3%)	2,799 (95.7%)
	Rural	776 (6.7%)	127 (4.3%)
<b>Local Health Integration Network N (%)</b>			
	Erie St. Clair	520 (4.5%)	124 (4.2%)
	South West	402 (3.5%)	92 (3.1%)
	Waterloo Wellington	478 (4.1%)	109 (3.7%)
	Hamilton Niagara Haldimand Brant	869 (7.5%)	218 (7.5%)
	Central West	1,419 (12.2%)	350 (12.0%)
	Mississauga Halton	1,060 (9.2%)	324 (11.1%)
	Toronto Central	1,392 (12.0%)	468 (16.0%)
	Central West	2,229 (19.2%)	625 (21.4%)
	Central East	1,802 (15.6%)	353 (12.1%)

	South East	170 (1.5%)	29 (1.0%)
	Champlain	852 (7.4%)	166 (5.7%)
	North Simcoe Muskoka	176 (1.5%)	23 (0.8%)
	North East	148 (1.3%)	29 (1.0%)
	North West	67 (0.6%)	15 (0.5%)
	missing	0 (0.0%)	1 (0.0%)
<b>Residence at index date N (%)</b>			
	Long-term care	2,333 (20.1%)	603 (20.6%)
	Community	9,251 (79.9%)	2,323 (79.4%)
<b>ADG score</b>			
	Mean $\pm$ SD	20.24 $\pm$ 17.02	21.83 $\pm$ 17.75
	Median (IQR)	17 (6-32)	19 (7-34)
<b>RUB N (%)</b>			
	0	561 (4.8%)	85 (2.9%)
	1	179 (1.5%)	49 (1.7%)
	2	1,058 (9.1%)	269 (9.2%)
	3	5,165 (44.6%)	1,168 (39.9%)
	4	1,914 (16.5%)	542 (18.5%)
	5	2,707 (23.4%)	813 (27.8%)
<b>Number of days from index date to end of follow-up<sup>1</sup></b>			
	Mean $\pm$ SD	75.78 $\pm$ 41.90	75.72 $\pm$ 41.88
	Median (IQR)	87 (41-111)	87 (41-111)

<sup>1</sup> Controls were censored on the date that their matched person with COVID-19 died or was censored

Abbreviations: ADG: Adjusted Diagnostic Group; IQR: Interquartile range; SD: standard deviation; RUB: Resource utilization band

#### d) Intensive Care Unit

<b>Variable</b>	<b>Value</b>	<b>Controls N=3,757</b>	<b>People with COVID-19 N=944</b>
<b>Age at index date</b>			
	Mean $\pm$ SD	62.91 $\pm$ 13.59	62.90 $\pm$ 13.60
	Median (IQR)	63 (55-73)	63 (55-73)
<b>Sex N (%)</b>			
	Female	1,369 (36.4%)	345 (36.5%)
	Male	2,388 (63.6%)	599 (63.5%)
<b>Neighbourhood income quintile N (%)</b>			
	1-lowest	1,060 (28.2%)	272 (28.8%)

	2	834 (22.2%)	220 (23.3%)
	3	719 (19.1%)	174 (18.4%)
	4	601 (16.0%)	162 (17.2%)
	5-highest	543 (14.5%)	116 (12.3%)
<b>Rural/Small Town N (%)</b>			
	No	3,566 (94.9%)	908 (96.2%)
	Yes	191 (5.1%)	36 (3.8%)
<b>Rural postal code N (%)</b>			
	No	3,450 (91.8%)	901 (95.4%)
	Yes	307 (8.2%)	43 (4.6%)
<b>Local Health Integration Network N (%)</b>			
	Erie St. Clair	178 (4.7%)	30 (3.2%)
	South West	144 (3.8%)	29 (3.1%)
	Waterloo Wellington	148 (3.9%)	42 (4.4%)
	Hamilton Niagara Haldimand Brant	273 (7.3%)	68 (7.2%)
	Central West	477 (12.7%)	109 (11.5%)
	Mississauga Halton	341 (9.1%)	84 (8.9%)
	Toronto Central	434 (11.6%)	140 (14.8%)
	Central West	741 (19.7%)	199 (21.1%)
	Central East	548 (14.6%)	150 (15.9%)
	South East	51 (1.4%)	15 (1.6%)
	Champlain	281 (7.5%)	51 (5.4%)
	North Simcoe Muskoka	75 (2.0%)	12 (1.3%)
	North East	50 (1.3%)	<=14
	North West	16 (0.4%)	NR
<b>Residence at index date N (%)</b>			
	Long-term care	269 (7.2%)	71 (7.5%)
	community	3,488 (92.8%)	873 (92.5%)
<b>ADG score</b>			
	Mean $\pm$ SD	14.27 $\pm$ 13.87	15.69 $\pm$ 15.33
	Median (IQR)	10 (4-22)	12 (4-23)
<b>RUB</b>	0	252 (6.7%)	56 (5.9%)
	1	90 (2.4%)	19 (2.0%)
	2	471 (12.5%)	120 (12.7%)
	3	1,943 (51.7%)	469 (49.7%)
	4	520 (13.8%)	135 (14.3%)
	5	481 (12.8%)	145 (15.4%)
<b>Number of days of follow-up after Index date<sup>1</sup></b>			
	Mean $\pm$ SD	69.72 $\pm$ 46.75	69.60 $\pm$ 46.80
	Median (IQR)	77 (18-115)	76 (18-115)



<sup>1</sup> Controls were censored on the date that their matched person with COVID-19 died or was censored

Abbreviations: ADG, Adjusted Diagnostic Group; IQR, interquartile range; NR, not reportable due to small cell size (<5); RUB: Resource Utility Band; SD, standard deviation.

**Table S2.** Number and percentage of people with COVID-19 who were censored or died in each 30-day period in British Columbia and Ontario

		British Columbia					Ontario				
		Community	LTC	Hospital	ICU	TOTAL	Community	LTC	Hospital	ICU	TOTAL
<b>Days 1 - 30</b>	N people with $\geq 1$ day	1752	248	326	139	2465	20,545	4,478	2,926	944	28,893
	N (%) died	19 (1.1)	81 (32.7)	42 (12.9)	21 (15.1)	163 (6.6)	$\leq 101$ ( $\leq 0.5$ )	1,209 (27.0)	637 (21.8)	$\leq 304$ ( $\leq 32.2$ )	2,247 (7.8)
	N (%) censored	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	$\leq 5$ (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	$\leq 5$ (0.0)
<b>Days 31 - 60</b>	N people with $\geq 1$ day	1733	167	284	118	2302	20,443	3,269	2,289	644	26,645
	N (%) died	$\leq 5$ ( $\leq 0.3$ )	13 (7.8)	10 (3.5)	$\leq 10$ ( $\leq 8.5$ )	$\leq 38$ ( $\leq 1.7$ )	11 (0.05)	90 (2.7)	71 (3.1)	55 (8.5)	227 (0.85)
	N (%) censored	$\leq 202$ ( $\leq 11.7$ )	16 (9.6)	15 (5.3)	$\leq 5$ ( $\leq 4.2$ )	$\leq 238$ ( $\leq 10.3$ )	3,667 (17.9)	173 (5.3)	205 (9.0)	44 (6.8)	4,089 (15.3)
<b>Days 61 - 90</b>	N people with $\geq 1$ day	1530	138	259	107	2034	16,765	3,006	2,013	545	22,329
	N (%) died	$\leq 5$ ( $\leq 0.3$ )	$\leq 5$ ( $\leq 0.36$ )	$\leq 5$ ( $\leq 1.9$ )	0 (0.0)	$\leq 15$ ( $\leq 0.7$ )	11 (0.07)	41 (1.4)	30 (1.5)	8 (1.5)	90 (0.4)
	N (%) censored	$\leq 239$ ( $\leq 15.6$ )	$\leq 27$ ( $\leq 19.6$ )	$\leq 18$ ( $\leq 6.9$ )	6 (5.6)	$\leq 290$ ( $\leq 14.3$ )	6,238 (37.2)	836 (27.8)	581 (28.9)	117 (21.5)	7,772 (34.8)
<b>Days 91 - 120</b>	N people with $\geq 1$ day	1290	110	240	101	1741	10,516	2,129	1,402	420	14,467
	N (%) died	6 (0.5)	$\leq 5$ ( $\leq 4.5$ )	$\leq 5$ ( $\leq 2.1$ )	$\leq 5$ ( $\leq 5.0$ )	$\leq 21$ ( $\leq 1.2$ )	$\leq 5$ ( $\leq 0.05$ )	$\leq 27$ ( $\leq 1.3$ )	$\leq 5$ ( $\leq 0.36$ )	$\leq 5$ ( $\leq 1.2$ )	35 (0.2)
	N (%) censored	543 (42.1)	$\leq 46$ ( $\leq 41.8$ )	$\leq 83$ ( $\leq 34.6$ )	$\leq 23$ ( $\leq 23.0$ )	$\leq 695$ ( $\leq 39.9$ )	7,778 (74.0)	1,977 (92.9)	1,012 (72.2)	236 (56.2)	11,003 (76.1)

People with COVID-19 were censored at the end of the observation period, July 31, 2020, or the end of their MSP or OHIP registration.

**Table S3.** Mean and median per person cost for each 30-day period before and after index date for people with COVID-19 by highest level of care, and matched controls, in a) British Columbia b) Ontario.

a) British Columbia

	People with COVID-19 in the community	Controls for people with COVID-19 in community	People with COVID-19 in LTC	Controls for people with COVID-19 in LTC	People with COVID-19 in hospital	Controls for people with COVID-19 in hospital	People with COVID-19 in ICU	Controls for people with COVID-19 in ICU
<b>Pre-index (Day -30 to Day -1)</b>								
<b>N</b>	1,752	7,005	248	984	326	1,301	139	556
<b>Mean cost</b>	302	283	5,545	5,942	4,494	1,361	1,749	783
<b>(95% CI)</b>	(209-395)	(240-325)	(5,334-5,757)	(5,609-6,276)	(3,574-5,414)	(1,162-1,559)	(884-2,613)	(517-1,048)
<b>Median cost</b>	35	0	5,462	5,440	499	145	228	84
<b>(Q1-Q3)</b>	(0-155)	(0-130)	(5,363-5,611)	(5,337-5,680)	(139-5,401)	(0-598)	(35-660)	(0-323)
<b>Day 1 (Index date) to 30</b>								
<b>N</b>	1,752	7,005	248	983	326	1,301	139	556
<b>Mean cost</b>	339	222	4,842	4,523	23,015	1,004	66,324	496
<b>(95% CI)</b>	(305-373)	(191-253)	(4,219-5,465)	(4,277-4,768)	(20,520-25,509)	(835-1,174)	(58,946-73,702)	(311-680)
<b>Median cost</b>	149	0	5,446	5,330	15,402	100	61,379	40
<b>(Q1-Q3)</b>	(58-401)	(0-111)	(2,401-5,675)	(2,116-5,506)	(12,313-25,880)	(0-446)	(27,219-103,766)	(0-258)
<b>Days 31 to 60</b>								
<b>N</b>	1,733	6,921	167	641	284	1,126	118	471
<b>Mean cost</b>	247	226	5,719	5,157	6,238	963	18,483	502
<b>(95% CI)</b>	(181-313)	(196-256)	(4,537-6,900)	(4,851-5,463)	(4,439-8,038)	(791-1,135)	(13,266-23,699)	(282-722)
<b>Median cost</b>	32 (0-160)	0 (0-115)	5,434	5,394	520	107	935	49
<b>(Q1-Q3)</b>			(5,311-5,640)	(4,275-5,571)	(117-4,151)	(0-455)	(276-31,923)	(0-230)
<b>Days 61 to 90</b>								
<b>N</b>	1,530	6,106	138	520	259	1,026	107	426
<b>Mean cost</b>	224	242	5,645	5,297	3,059	882	4,525	426
<b>(95% CI)</b>	(169-279)	(213-271)	(4,986-6,304)	(5,033-5,561)	(1,761-4,357)	(721-1,043)	(1,835-7,216)	(296-556)
<b>Median cost</b>	32	0	5,443	5,388	379	97	842	41
<b>(Q1-Q3)</b>	(0-154)	(0-126)	(5,316-5,572)	(4,947-5,629)	(55-1,327)	(0-411)	(183-1,432)	(0-260)
<b>Days 91 to 120</b>								

Appendix 2, as supplied by the authors. Appendix to: Tsui TCO, Zeitouny S, Bremner KE, et al. Initial health care costs for COVID-19 in British Columbia and Ontario, Canada: an interprovincial population-based cohort study. *CMAJ Open* 2022. doi:10.9778/cmajo.20210328. Copyright © 2022 The Author(s) or their employer(s). To receive this resource in an accessible format, please contact us at cmajgroup@cmaj.ca.

<b>N</b>	1,290	5,141	110	406	240	946	101	402
<b>Mean cost</b>	226	202	4,526	4,873	1,718	706	2,930	600
<b>(95% CI)</b>	(145-307)	(169-236)	(4,167-4,886)	(4,508-5,238)	(905-2,531)	(557-855)	(1,108-4,751)	(317-884)
<b>Median cost</b>	0	0	5,380	5,332	236	73	322	41
<b>(Q1-Q3)</b>	(0-132)	(0-102)	(3,726-5,512)	(2,992-5,547)	(36-873)	(0-344)	(69-970)	(0-234)

People with COVID-19 were observed from index date until death or censoring. Controls were censored on the date of death or censoring of their matched person with COVID-19. Costs in each 30-day period include only people with COVID-19 and controls who were under observation at the start of the period. Costs for the controls were weighted so each set of controls represented one person with COVID-19.

b) Ontario

	People with COVID-19 in community	Controls for people with COVID-19 in Community	People with COVID-19 in LTC	Controls for people with COVID-19 in LTC	People with COVID-19 in hospital	Controls for people with COVID-19 in hospital	People with COVID-19 in ICU	Controls for people with COVID-19 in ICU
<b>Pre-index (Day -30 to Day -1)</b>								
N	20,545	82,148	4,478	17,609	2,926	11,584	944	3,757
Mean cost (95% CI)	260 (239, 281)	227 (221, 233)	4,836 (4,767, 4,905)	5,607 (5,573, 5,641)	5,391 (5,028, 5,754)	1,787 (1,750, 1,824)	3,446 (2,808, 4,084)	1,003 (929, 1,077)
Median cost (IQR)	0 (0-98)	0 (0-39)	4,407 (4,306-4,594)	4,394 (4,298- 4,635)	1,733 (159-5,100)	125 (0-2,262)	330 (39-2,736)	26 (0-274)
<b>Days 1 (Index date) to Day 30</b>								
N	20,545	82,148	4,478	17,609	2,926	11,584	944	3,757
Mean cost (95% CI)	381 (362, 400)	220 (214, 226)	4,132 (4,053, 4,211)	4,475 (4,445, 4,505)	17,050 (16,648, 17,452)	1317 (1,286, 1,348)	56,717 (54,349, 59,085)	652 (596, 706)
Median cost (IQR)	90 (24-367)	0 (0 -40)	4,361 (2,994-4,605)	4,317 (2,894-4,513)	14,378 (10,228-22,391)	86 (0-906)	51,953 (22,658-87,797)	0 (0-156)
<b>Days 31 to 60</b>								
N	20,443	81,724	3,269	12,813	2,289	9,067	644	2,569
Mean cost (95% CI)	281 (254, 308)	217 (211, 223)	5,058 (4,928, 5,188)	5,160 (5,124, 5,196)	6,540 (6,094, 6,986)	1,335 (1,295, 1,375)	22,847 (20,512, 25,182)	604 (536, 672)
Median cost (IQR)	0 (0-85)	0 (0-43)	4,390 (4,290-4,591)	4,366 (4,261- 4,593)	617 (72-9,264)	75 (0-714)	5,910 (204-40,551)	0 (0-141)
<b>Days 61 to 90</b>								
N	16,765	67,013	3,006	11,742	2,013	7,976	545	2,175
Mean cost (95% CI)	243 (218, 268)	208 (202, 214)	4,658 (4,519, 4,797)	4,760 (4,723, 4,797)	3,799 (3,457, 4,141)	1,229 (1,190, 1,268)	9,299 (7,584, 11,014)	520 (475, 565)
Median cost (IQR)	0 (0-70)	0 (0-39)	4,316 (4,025-4,519)	4,316 (3,832-4,527)	392 (39-3,339)	69 (0-652)	393 (66-5,517)	0 (0-157)
<b>Days 91 to 120</b>								
N	10,516	42,040	2,129	8,266	1,402	5,556	420	1,674

<b>Mean cost</b>	210	170	2,868	2,976	2,164	787	3,986	425
<b>(95% CI)</b>	(184, 236)	(164, 176)	(2,753, 2,983)	(2,942, 3,010)	(1,856, 2,472)	(745, 829)	(2,784, 5,188)	(378, 472)
<b>Median cost</b>	0	0	2,617	2,616	202	37	254	0
<b>(IQR)</b>	(0-57)	(0-33)	(1,583-3,448)	(1,457-3,490)	(0-1,090)	(0-417)	(7-1,253)	(0-107)

Abbreviations: ICU: intensive care unit; IQR; interquartile range; LTC: long term care; N: number; SD: standard deviation  
 People with COVID-19 were observed from index date until death or censoring. Controls were censored on the date of death or censoring of their matched person with COVID-19. Costs in each 30-day period include only people with COVID-19 and controls who were under observation at the start of the period. Costs for the controls were weighted so each set of controls represented one person with COVID-19.

**Table S4.** Mean cumulative net costs by level of care for people with COVID-19 in British Columbia and Ontario

	British Columbia				Ontario			
	Community	LTC	Hospital	ICU	Community	LTC	Hospital	ICU
<b>Up to index date</b>								
<b>N</b>	1,752	248	326	139	20,545	4,478	2,926	944
<b>Mean net cost (95% CI)</b>	19 (-77, 115)	-397 (-805, 11)	3,133 (2,250, 4,016)	966 (140, 1,792)	34 (11, 57)	-748 (-846, -650)	3,628 (3,263, 3,995)	2,493 (1,849, 3,136)
<b>Up to day 30</b>								
<b>N</b>	1,752	248	326	139	20,545	4,478	2,926	944
<b>Mean net cost (95% CI)</b>	130 (6, 254)	-82 (-857, 692)	25,128 (22,439, 27,816)	66,793 (59,409, 74,177)	195 (156, 235)	-1,073 (-1233, -913)	19,376 (18,760, 19,992)	58,587 (56,116, 61,057)
<b>Up to day 60</b>								
<b>N</b>	1,530	138	259	107	16,765	3,006	2,013	545
<b>Mean net cost (95% CI)</b>	116 (-15, 247)	484 (-1,676, 2,644)	30,217 (26,103, 34,332)	86,612 (74,851, 98,372)	250 (190, 309)	-1,263 (-1,571, -955)	25,164 (24,177, 26,151)	85,439 (80,970, 89,908)
<b>Up to day 90</b>								
<b>N</b>	1,530	138	259	107	16,765	3,006	2,013	545
<b>Mean net cost (95% CI)</b>	128 (-47, 302)	-396 (-2,046, 1,254)	32,309 (27,079, 37,539)	85,644 (73,094, 98,194)	312 (227, 398)	-1,401 (-1,832, -970)	27,091 (25,934, 28,248)	91,138 (85,202, 97,073)
<b>Up to day 120</b>								
<b>N</b>	1,290	110	240	101	10,516	2,129	1,402	420
<b>Mean net cost (95% CI)</b>	96 (-129, 320)	-46 (-2,085, 1,993)	33,640 (27,607, 39,672)	90,056 (76,146, 103,967)	487 (353, 622)	-1,105 (-1,708, 502)	28,329 (26,705, 29,954)	96,308 (89,162, 103,454)

Abbreviations: CI, confidence interval; ICU, intensive care unit; LTC, long term care

People with COVID-19 were observed from index date until death or censoring. Controls were censored on the date of death or censoring of their matched person with COVID-19. Costs in each 30-day period include only people with COVID-19 and controls who were under observation at the start of the period. Mean net costs (mean difference between the cost for a person with COVID-19 and their matched controls) were estimated using generalized estimating equations to account for matched clusters. Costs for the controls were weighted so each set of controls represented one person with COVID-19.



**Table S5** - Mean net costs for people with COVID-19 during the first 30 days after index date, stratified by level of care and characteristics at index date, in British Columbia and Ontario

	British Columbia			Ontario		
Variable	N people with COVID-19	Estimated mean net cost	95%CI	N people with COVID-19	Estimated mean net cost	95%CI
<b>Level of care group</b>						
ICU	139	65,828	(58,535-73,122)	944	56,088	(53,721-58,455)
Hospital	326	22,010	(19,512-24,509)	2,926	15,750	(15,354-16,147)
Long-Term Care	248	319	(-280-919)	4,478	-327	(-410--244)
Community	1,752	117	(70-164)	20,545	161	(140-183)
<b>Age in years</b>						
0 to 19	101	287	(-68-641)	1,337	248	(151-345)
20 to 29	248	1,807	(468-3,145)	3,647	547	(401-694)
30 to 39	388	2,020	(826-3,215)	3,678	1,064	(829-1,300)
40 to 49	359	4,291	(2,508-6,073)	4,083	2,058	(1,739-2,377)
50 to 59	450	4,406	(2,900-5,912)	5,053	4,097	(3,673-4,520)
60 to 69	304	13,485	(9,814-17,155)	3,619	6,837	(6,175-7,500)
70 to 79	239	21,250	(16,904-25,596)	2,372	8,914	(8,094-9,734)
80 to 89	230	9,227	(6,852-11,602)	3,024	4,784	(4,374-5,193)
90 and older	146	3,595	(2,129-5,061)	2,080	2,576	(2,277-2,876)
<b>Sex</b>						
Male	1372	9,393	(7,870-10,917)	12,674	4,752	(4,472-5,033)
Female	1093	4,613	(3,755-5,471)	16,219	2,520	(2,360-2,680)
<b>Income quintile</b>						
1 (lowest income)	601	7,381	(5,605-9,157)	8,232	3,535	(3,252-3,818)
2	503	5,430	(3,881-6,978)	6,457	3,637	(3,299-3,975)
3	515	6,969	(5,134-8,804)	5,820	3,251	(2,937-3,566)
4	434	5,837	(4,128-7,546)	4,409	3,726	(3,313-4,138)
5 (highest income)	383	7,781	(5,296-10,265)	3,975	3,309	(2,900-3,718)
missing	29					
<b>Residence at index date</b>						
Long-term care	288	2,964	(1,737-4,191)	5,152	1,916	(1,688-2,144)
Homeless/shelter	NA	NA	NA	186	7,405	(5,124-9,687)
Home (community)	2,177	7,239	(6,312-8,165)	23,555	3,802	(3,622-3,981)
<b>Adjusted Diagnostic Groups score</b>						
-40 to -20	13	1,511	(-1,093-4,115)	55	1,394	(185-2,603)
-19 to 0	594	2,674	(1,478-3,869)	6,363	1,648	(1,411-1,886)

1 to 20	1,376	7,408	(6,239-8,577)	16,666	3,129	(2,927-3,332)
21 to 40	397	10,509	(8,029-12,989)	4,228	6,151	(5,677-6,626)
41 to 76	85	7,405	(3,972-10,838)	1,581	7,751	(6,968-8,533)

Abbreviations: CI, confidence interval; ICU, intensive care unit

People with COVID-19 were observed from index date until death or censoring. Controls were censored on the date of death or censoring of their matched person with COVID-19. Costs in each 30-day period include only people with COVID-19 and controls who were under observation at the start of the period. Mean net costs (mean difference between the cost for a person with COVID-19 and their matched controls) were estimated using generalized estimating equations to account for matched clusters. Costs for the controls were weighted so that each set of controls represented one person with COVID-19

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