

Mortality Impact of COVID-19: Ontario, Canada Simcoe Muskoka Public Health Unit

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Contact: Michael Hawkins, mh@hawconsult.com

Michael Hawkins is president of Hawkins Consulting Corporation. Previously, he was a consultant to the life insurance industry at a large international consulting company and a senior analyst at a multi-national life insurance company. Mr. Hawkins is an actuary who is enrolled as a Fellow of the Society of Actuaries (FSA) and holds the designation of Fellow of the Canadian Institute of Actuaries (FCIA). Mr. Hawkins is trained as a mathematician. A graduate of the University of Waterloo, Mr. Hawkins was granted a Bachelor of Mathematics degree in Honours Actuarial Science (BMath), graduating With Distinction, Dean's Honour List. Mr. Hawkins has been qualified by the Tax Court of Canada as an expert on individual life insurance, individual annuities and reinsurance at the request of the Department of Justice, Canada.

Our publication "Mortality Impact of COVID-19: Ontario, Canada" dated October 6, 2021 used data for the entire Province of Ontario. Public health units within the Province of Ontario have data that is distinct from the province as a whole. This document exams Simcoe Muskoka Public Health Unit for the period January 15, 2020 to October 14, 2021.¹

Relative to the province as a whole, Simcoe Muskoka Public Health Unit has experienced significantly lower incidences of infection with the COVID-19 virus and attributed hospitalizations and deaths. Table 1 presents actual incidences compared to expected incidences had this health unit had similar experiences to the province as a whole.

For children and youth age 0-19, in the 21 months of exposure, provincial data suggests 0.21 COVID-19 deaths would be expected in this health unit and there were actually 0. For adults age 20-39, provincial data suggests 3.6 COVID-19 deaths would be expected in this health unit and there were actually 2. COVID-19 deaths in all age groups have been low in this health unit relative to the provincial experience, just 58% of expected.

Age Group	Population	Cases			Hospitalization			Death		
		Actual	Expected	A / E	Actual	Expected	A / E	Actual	Expected	A / E
0-19	126,445	2,591	4,085	63%	15	23.3	64%	0	0.21	0%
20-39	151,142	5,173	8,374	62%	81	117	69%	2	3.6	55%
40-59	163,257	3,791	7,195	53%	172	326	53%	19	28	67%
60-79	135,225	1,842	3,696	50%	335	551	61%	100	154	65%
80+	28,443	430	1,174	37%	135	337	40%	140	264	53%
Total	604,512	13,827	24,525	56%	738	1,354	55%	261	450	58%

Table 2 presents the data and statistics annualized; mortality is normally examined on an annual basis. COVID-19 deaths have been so rare among children and youth age 0-19 in the Province of Ontario, in Simcoe County and Muskoka District combined, the expectation would be just 1 death over 7 years if COVID-19 remained at 2020-2021 impact levels indefinitely. Given that COVID-19 case rates in Simcoe-Muskoka have been 63% of the provincial case rate for ages 0-19, if exposure continues at this lower level, the expectation reduces to just 1 death over 12 years in the 0-19 age group. In this same 12-year period, 242 other 0-19 deaths would be expected in Simcoe-Muskoka.

Table 3 presents expected deaths from all causes and relates both actual COVID-19 deaths and expected COVID-19 deaths to the larger total.² In terms of proportionality, COVID-19 deaths would be expected to be a small portion of

¹ Government of Ontario is source of data for province as a whole and for health unit.

² All causes of death rates are 2019 rates from Statistics Canada using Canadian average rates within age groupings.

deaths if the health unit had followed provincial averages. If following the province, COVID-19 deaths in the health unit would have been expected to have been 6% of deaths overall. In a normal year, it would be expected that there would be 4,943 deaths in this health unit. Actual COVID-19 deaths being 165 represents 3% of this total.

Age Group	Population	Cases			Hospitalization			Death		
		Actual	Expected	A / E	Actual	Expected	A / E	Actual	Expected	A / E
0-19	126,445	1,636	2,580	63%	9.5	14.7	64%	0.00	0.13	0%
20-39	151,142	3,267	5,289	62%	51	74	69%	1.3	2.3	55%
40-59	163,257	2,394	4,544	53%	109	206	53%	12	18	67%
60-79	135,225	1,163	2,335	50%	212	348	61%	63	97	65%
80+	28,443	272	741	37%	85	213	40%	88	167	53%
Total	604,512	8,733	15,489	56%	466	855	55%	165	284	58%

Age Group	Population	All Causes Expected Deaths	Actual COVID-19 Deaths	Ratio: Actual COVID-19 / Expected All Causes	Expected COVID-19 Deaths	Ratio: Expected COVID-19 / Expected All Causes
0-19	126,445	20.6	0.00	0.0%	0.13	0.7%
20-39	151,142	110	1.3	1.1%	2.3	2.1%
40-59	163,257	431	12	2.8%	18	4.2%
60-79	135,225	1,839	63	3.4%	97	5.3%
80+	28,443	2,543	88	3.5%	167	6.6%
All Ages	604,512	4,943	165	3.3%	284	5.7%

As another tool for perspective, the more familiar infectious diseases of influenza and pneumonia are compared to COVID-19. Of the expected total deaths of 4,943 in a normal year for the health unit, 135 of these would be expected to be caused by influenza or pneumonia.³ Expected COVID-19 deaths were 2.1 times the normal number of influenza and pneumonia deaths. However, actual COVID-deaths were just 1.2 times normal influenza and pneumonia deaths (marginally higher). Year-to-year variation in the rate of death caused by influenza and pneumonia from 2015-2019 experience is a range of 118 to 153 deaths for this health unit; COVID-19 deaths at 165 have been marginally above the range of a normal year of influenza and pneumonia deaths.

Age Group	Population	All Causes Expected Deaths	Expected Influenza & Pneumonia Deaths	Expected COVID-19 Deaths	Actual COVID-19 Deaths
0-19	126,445	20.6	0.43	0.13	0.0
20-39	151,142	110	0.8	2.3	1.3
40-59	163,257	431	6	18	12
60-79	135,225	1,839	31	97	63
80+	28,443	2,543	97	167	88
All Ages	604,512	4,943	135	284	165

Caution with respect to Biases

Please review section in the October 6, 2021 research paper discussing biases. The data of the Government of Ontario contains biases that may materially overstate the impact of the COVID-19 virus on mortality. Data available has been used. The reader is cautioned that the biases in the data result in an overstatement of the severity of outcomes from the COVID-19 virus.

³ Influenza and pneumonia rates of death are Canadian average for 2015-2019 from Statistics Canada.