

Mortality Impact of COVID-19: Ontario, Canada Wellington-Dufferin-Guelph 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 W-D-G Public Health Unit for the period January 15, 2020 to October 14, 2021.¹

Relative to the province as a whole, W-D-G 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 0.12 COVID-19 deaths would be expected in this health unit and there were actually 0. For adults age 20-39, provincial data suggests 2.0 COVID-19 deaths would be expected in this health unit and there were actually 0. COVID-19 deaths in all age groups have been low in this health unit relative to the provincial experience, just 63% of expected.

Age Group	Population	Cases			Hospitalization			Death		
		Actual	Expected	A / E	Actual	Expected	A / E	Actual	Expected	A / E
0-19	71,808	1,833	2,320	79%	12	13.2	91%	0	0.12	0%
20-39	85,036	3,455	4,711	73%	47	66	72%	0	2.0	0%
40-59	83,321	2,507	3,672	68%	93	166	56%	8	15	55%
60-79	59,156	1,040	1,617	64%	139	241	58%	38	67	56%
80+	12,673	369	523	71%	80	150	53%	80	118	68%
Total	311,994	9,204	12,844	72%	371	636	58%	126	202	63%

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 Wellington-Dufferin-Guelph combined, the expectation would be just 1 death over 13 years if COVID-19 remained at 2020-2021 impact levels indefinitely. Given that COVID-19 case rates in W-D-G have been 79% of the provincial case rate for ages 0-19, if exposure continues at this lower level, the expectation reduces to just 1 death over 17 years in the 0-19 age group. In this same 17-year period, 194 other 0-19 deaths would be expected in Wellington-Dufferin-Guelph.

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 5.7% of deaths overall. In a normal year, it would be expected that there would be 2,231 deaths in this health unit. Actual COVID-19 deaths being 80 represents 3.6% of this total.

Age Group	Population	Cases			Hospitalization			Death		
		Actual	Expected	A / E	Actual	Expected	A / E	Actual	Expected	A / E
0-19	71,808	1,158	1,465	79%	7.6	8.3	91%	0.00	0.08	0%
20-39	85,036	2,182	2,976	73%	30	41	72%	0.0	1.3	0%
40-59	83,321	1,583	2,319	68%	59	105	56%	5	9	55%
60-79	59,156	657	1,021	64%	88	152	58%	24	43	56%
80+	12,673	233	330	71%	51	95	53%	51	74	68%
Total	311,994	5,813	8,112	72%	234	402	58%	80	127	63%

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	71,808	11.7	0.00	0.0%	0.08	0.7%
20-39	85,036	62	0.0	0.0%	1.3	2.1%
40-59	83,321	220	5	2.3%	9	4.2%
60-79	59,156	804	24	3.0%	43	5.3%
80+	12,673	1,133	51	4.5%	74	6.6%
All Ages	311,994	2,231	80	3.6%	127	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 2,231 in a normal year for the health unit, 61 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 1.3 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 53 to 68 deaths for this health unit; COVID-19 deaths at 80 per annum 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	71,808	11.7	0.25	0.08	0.0
20-39	85,036	62	0.5	1.3	0.0
40-59	83,321	220	3	9	5
60-79	59,156	804	14	43	24
80+	12,673	1,133	43	74	51
All Ages	311,994	2,231	61	127	80

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.