

Mortality Impact of COVID-19: Ontario, Canada Huron Perth Public Health Unit

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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 Huron Perth Public Health Unit for the period January 15, 2020 to October 14, 2021.¹

Relative to the province as a whole, Huron Perth 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 0.06 COVID-19 deaths would be expected in this health unit and there were actually 0. For adults age 20-39, provincial data suggests 0.8 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 54% of expected.

Age Group	Population	Cases			Hospitalization			Death		
		Actual	Expected	A / E	Actual	Expected	A / E	Actual	Expected	A / E
0-19	33,697	381	1,089	35%	0	6.2	0%	0	0.06	0%
20-39	33,612	740	1,862	40%	8	26	31%	0	0.8	0%
40-59	35,956	580	1,585	37%	18	72	25%	1	6	16%
60-79	34,898	369	954	39%	39	142	27%	27	40	68%
80+	8,080	232	334	70%	34	96	35%	38	75	51%
Total	146,243	2,302	5,823	40%	99	342	29%	66	122	54%

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 Huron and Perth counties combined, the expectation would be just 1 death over 28 years if COVID-19 remained at 2020-2021 impact levels indefinitely. Given that COVID-19 case rates in Huron and Perth counties have been 35% of the provincial case rate for ages 0-19, if exposure continues at this lower level, the expectation reduces to just 1 death over 80 years in the 0-19 age group. In this same 80-year period, 438 other 0-19 age deaths would be expected in Huron and Perth counties.

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 1,322 deaths in this health unit. Actual COVID-19 deaths being 42 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	33,697	241	688	35%	0.0	3.9	0%	0.00	0.04	0%
20-39	33,612	467	1,176	40%	5	16	31%	0.0	0.5	0%
40-59	35,956	366	1,001	37%	11	45	25%	1	4	16%
60-79	34,898	233	602	39%	25	90	27%	17	25	68%
80+	8,080	147	211	70%	21	60	35%	24	47	51%
Total	146,243	1,454	3,678	40%	63	216	29%	42	77	54%

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	33,697	5.5	0.00	0.0%	0.04	0.7%
20-39	33,612	24	0.0	0.0%	0.5	2.1%
40-59	35,956	95	1	0.7%	4	4.2%
60-79	34,898	475	17	3.6%	25	5.3%
80+	8,080	722	24	3.3%	47	6.6%
All Ages	146,243	1,322	42	3.2%	77	5.8%

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 1,322 in a normal year for the health unit, 37 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 1.1 times the 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 32 to 42 deaths for this health unit; COVID-19 deaths at 42 have been within 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	33,697	5.5	0.12	0.04	0.0
20-39	33,612	24	0.2	0.5	0.0
40-59	35,956	95	1	4	1
60-79	34,898	475	8	25	17
80+	8,080	722	28	47	24
All Ages	146,243	1,322	37	77	42

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.