

Sociodemographic and Socioeconomic Factors Linked to COVID-19 Mortality Rates

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Statistics Canada is working rapidly to develop many new and innovative ways to measure the social and economic impacts of COVID-19 on the Canadian population. This includes the creation of an integrated de-identified dataset that connects the provisional COVID-19 death data from the [Canadian Vital Statistics – Death Database](#) with the 2016 [Census of Population](#) to provide valuable information on the characteristics of Canadians who died of COVID-19.

Statistics Canada has used this integrated information to explore the differences in the [rate of mortality attributed to COVID-19 by the type of private dwelling where a person lived and the size of their household in 2016](#). In collaboration with Statistics Canada, the Public Health Agency of Canada (PHAC) is releasing new insights based on these integrated data, exploring additional perspectives on how the pandemic has had different impacts on various groups. PHAC's recent release, [Social inequalities in COVID-19 mortality by area- and individual-level characteristics, January to July/August 2020](#), examines the impact of sex, sociodemographic and socioeconomic factors on COVID-19 mortality rates in the first part of the pandemic.

Compared with couples with children, one-parent households had lower COVID-19 mortality rates at the start of the pandemic

New insights from these integrated data show that, based on the type of household reported on Census Day in 2016, one-parent family households had significantly lower COVID-19 mortality rates than households of couples with at least one child and those living with others, such as roommates.

Differences in COVID-19 mortality rates were also observed between people who were part of a low-income household and those who were not in low income on Census Day in 2016. The COVID-19 mortality rate of people in low income was almost 1.4 times higher than for people not in low income.

Significant differences in mortality rates were also found between people from a one-parent household who were and were not in low income. The rate was 1.7 times higher for one-parent households in low income. As well, significant differences were found between people living alone who were and were not in low income, with a rate 1.6 times higher for one-person households in low income. Previous research from the [2019 Canadian Income Survey](#) showed that unattached individuals and one-parent families are more vulnerable to poverty.



Table 1
Age-standardized COVID-19 mortality rates in Canada between January 1 and July 4, 2020, by household type and household low-income status (low-income measure (LIM) – after tax) in 2016

	Age-standardized mortality rates (per 100,000 population)	Lower 95% confidence interval	Upper 95% confidence interval
Two or more person non-census family households	23.5	19.9	27.0
Couple with children households	19.2	16.5	21.9
Couple without children households	16.4	15.5	17.4
Other census family households	14.6	12.6	16.6
One-person households	14.6	13.8	15.3
Multigenerational households	14.4	12.7	16.0
One-parent family households	13.2	11.6	14.8
Households not in low income (LIM)	13.9	13.4	14.4
Households in low income (LIM)	19.0	17.8	20.2

Source(s): Statistics Canada, Canadian Vital Statistics – Death Database (3233), Census of Population, 2016 (3901).

While these mortality rates reflect differences between household types and low-income groups identified in the 2016 Census, several other lifestyle, geographic and socioeconomic factors also influence risk of COVID-19 transmission, infection, and morbidity, warranting further study.

Note to readers

This data analysis is the result of a collaboration between the Public Health Agency of Canada and Statistics Canada.

The probabilistically linked data source used for this analysis included de-identified deaths attributed to COVID-19 that occurred between January 1 and July 4, 2020, and cause-of-death information from the Provisional Vital Statistics—Death Database linked to the most recently available short-form census (2016). There are different ways to measure mortality due to the pandemic. This analysis uses death certificates where COVID-19 is listed as the underlying cause of death. Statistics Canada and provincial and territorial vital statistics agencies use two codes to identify COVID-19 reported as a cause of death: U071 for COVID-19 specified as confirmed by a positive test result, and U072 for COVID-19 described as "possible," "probable," or "pending a (positive) test result."

These results should not be used to estimate overall mortality due to COVID-19 because the analysis is intended to better understand differences in mortality between populations. More information on the linkage process and on the resulting de-identified death-linked analytic file is available upon request at STATCAN.infostats-infostats.STATCAN@canada.ca.

The COVID-19 data in this study are provisional, as they are not based on all deaths that occurred during the reference period because of reporting delays and because they do not include Yukon. A small portion of the deaths attributable to COVID-19 were not linked to the 2016 short-form census and were excluded from this study. Thus, data may not match figures from other sources (e.g., media reports), or from counts and estimates from provincial or territorial health authorities and other agencies. Collective dwellings are not included in these data; as a result, Canadians living in long-term care homes are excluded from the analysis.

Further caution should be used when interpreting the results because sociodemographic and socioeconomic information reported on the Census Day in 2016 may have changed over time. Household characteristics are a portrait of individuals' living arrangements on Census Day. Low income was measured with the adjusted household income compared with the low-income measure (LIM) threshold from the 2016 Census. Refer to the [2016 Census Dictionary](#) for detailed definitions of Census of Population concepts, variables, and geographic terms, as well as historical information.

Definitions, data sources and methods: survey numbers 3233 and 3901.

For more information, or to enquire about the concepts, methods or data quality of this release, contact us (toll-free 1-800-263-1136; 514-283-8300; STATCAN.infostats-infostats.STATCAN@canada.ca) or Media Relations (613-951-4636; STATCAN.mediahotline-ligneinfomedias.STATCAN@canada.ca).