

Submission for the 2021 IAOS Prize for Young Statisticians

**Estimating excess mortality in Canada during the COVID-19 pandemic: Statistical methods adapted for rapid response in an evolving crisis**

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**Abstract**

This paper presents the approach adopted at Statistics Canada to produce timely and accurate estimates of excess mortality during the ongoing COVID-19 pandemic. It focuses primarily on the two models involved in the estimation of excess mortality: the model used to estimate the expected number of deaths in the absence of the pandemic (baseline mortality), and the model used to adjust provisional death counts for undercoverage. We describe both, including how the models were adapted to fit our specific criteria as well as the various limitations they both possess. We conclude by presenting selected results from Statistics Canada's official release of excess mortality estimates from February 8<sup>th</sup>, 2021.