

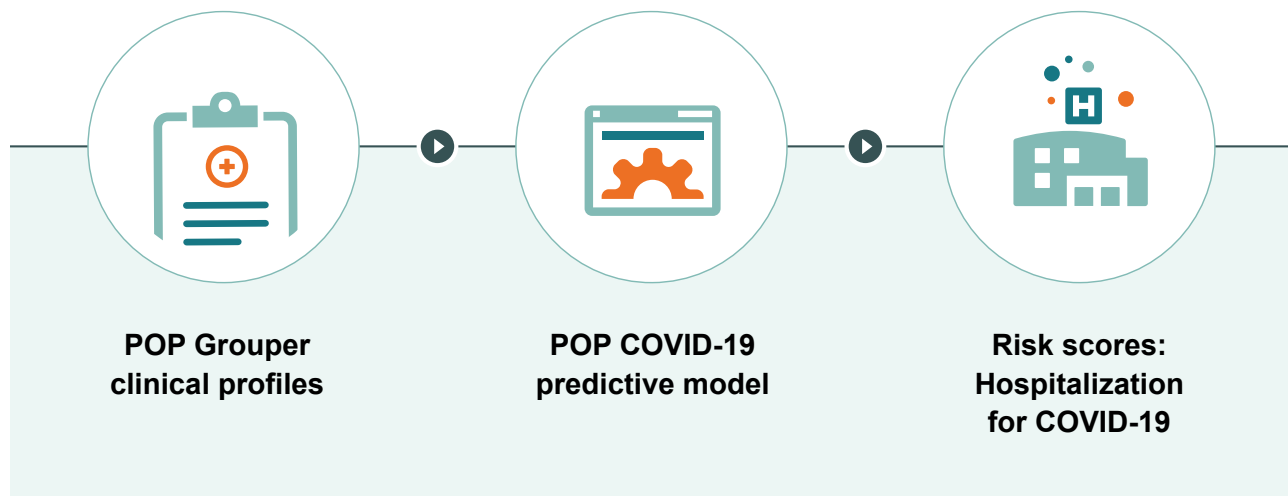
Predicting Risk of Hospitalization for COVID-19



The Canadian Institute for Health Information (CIHI) has developed a new model to help identify population cohorts at risk of hospitalization for severe respiratory illnesses (e.g., pneumonia) and COVID-19.

Overview of the model

This model is part of the Population Grouping Methodology (POP Grouper) suite of products. It uses demographic information (age and sex) and the health profiles generated from the POP Grouper to assign a risk score to every individual in the population.



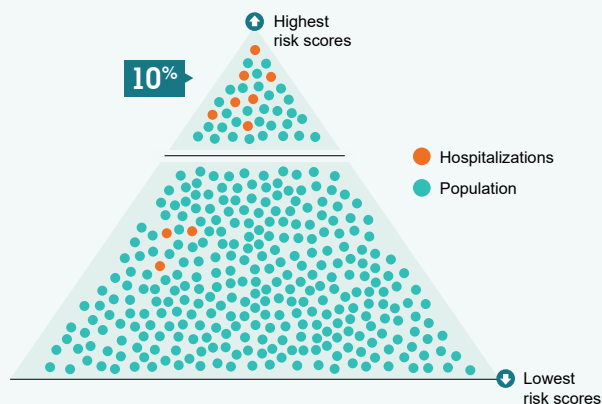
The first iteration of this model predicts an individual's risk of inpatient hospitalization for pneumonia or acute infectious respiratory disease (as a proxy for COVID-19). As record-level inpatient hospitalization data for COVID-19 cases becomes available, CIHI will be able to update the model to predict the risk of hospitalization for COVID-19.

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How the model supports health care planning

Model validation indicated that approximately 70% of individuals who will be hospitalized can be identified by **focusing on the 10% of the population with the highest risk scores**



Identifying cohorts at the greatest risk can help to



Support health system planners and policy-makers when making **decisions** about cohorts of the population that could be prioritized for **targeted monitoring, prevention and intervention strategies**



Profile individuals with the highest risk of hospitalization for COVID-19 (e.g., by understanding the variations in demographic and clinical profiles between those at highest risk — the top 10% — and the rest of the population)



Make comparisons across cohorts of interest (e.g., health regions, urban/rural, age groups) to **identify areas with** higher proportions of **individuals at risk of hospitalization** due to COVID-19

What you need to run the model

The model is provided to clients as a stand-alone module for stakeholders who are POP Grouper users.

To access this module, stakeholders must have

- A POP Grouper licence;
- POP Grouper output data (specifically, person-level demographic and clinical profiles, which are generated by running the POP Grouper code); and
- SAS (Statistical Analysis System) software.

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