

Using existing studies to generate new understandings of COVID-19

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Existing research may hold the key to treating and preventing COVID-19, suggests the work of a St. Michael's Hospital research team.

The Knowledge Translation (KT) Program of the Li Ka Shing Knowledge Institute has been working with organizations such as the Public Health Agency of Canada, Health Canada, Canadian Frailty Network, and the World Health Organization (WHO) to conduct rapid reviews of literature that could be helpful in efforts to understand and combat the virus. These collaborations are through two Canadian Institutes of Health Research initiatives, the Drug Safety and Effectiveness Network Methods and Applications Group for Indirect Comparisons and the Strategy for Patient-Oriented Research Evidence Alliance.

Rapid reviews are analyses completed quickly of all existing studies around one topic area—they capture a global picture of knowledge and categorize it all in one study.

"With a rapid review, we can summarize the evidence on what worked previously for coronaviruses such as SARS and MERS," said Dr. Andrea Tricco, Director and Scientist of the KT Program's Knowledge Synthesis Team. "We can also quickly analyze literature that is coming out now from all around the world—such as from Italy, China, Spain and Iran."

The Knowledge Synthesis Team at St. Michael's consists of 30 highly trained individuals who help with the coordination, screening, data abstraction and verification of results. They collaborate closely with clinicians at St. Michael's to ensure their results are relevant to patient care.

"By summarizing the results of multiple studies, we have more confidence in our conclusions and more statistical power to identify differences between treatments or tests," Dr. Tricco said.

So far the team has worked on one review to look at medications that could be used as countermeasures to COVID-19. Their analysis of 54

studies found that a medication that has commonly been studied in coronaviruses—ribavirin—has not had conclusive evidence to suggest its efficacy, and may cause negative outcomes. They are currently working with Health Canada to update this review to examine treatments for [coronavirus](#).

Another set of rapid reviews conducted by the team in partnership with the WHO looked at preventing respiratory illness in adults aged 60 and older living in long-term care. These rapid reviews (found [here](#) and [here](#)) identified limited evidence to provide guidance to the WHO based on the literature, which underscored that this was an underserved area. The team is now working on updating this rapid [review](#) for the Canadian Frailty Network and are working closely with Health Canada on additional potential reviews.

"The most interesting part of these reviews is that initially there wasn't a lot of evidence and now we're seeing new studies publishing daily," Dr. Tricco said. "This is a rapidly changing area—things change by the day and sometimes the hour."

To that end, the KT team is working to make all their published reviews 'living reviews' that will be updated at least every few days. They're ensuring that all materials are publicly available and accessible in plain-language 1-page summaries.

"We hope that our findings will help provide evidence to researchers, health care providers and policy makers on COVID-19 here in Canada, as well as globally, that can be used in their decision-making."

More information: Patricia Rios et al. Effectiveness and safety of antiviral or antibody treatments for coronavirus: A rapid review, *medrxiv* (2020). [DOI: 10.1101/2020.03.19.20039008](https://doi.org/10.1101/2020.03.19.20039008)

Patricia Rios et al. Guidelines for preventing respiratory illness in older adults aged 60 years and above living in long-term care: A rapid review of clinical practice guidelines, (2020). [DOI: 10.1101/2020.03.19.20039180](https://doi.org/10.1101/2020.03.19.20039180)

Patricia Rios et al. Preventing respiratory illness in older adults aged 60 years and above living in long-term care: A rapid overview of reviews, (2020). [DOI: 10.1101/2020.03.19.20039081](https://doi.org/10.1101/2020.03.19.20039081)

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