

BACKGROUNDER

Government of Canada invests \$27M in coronavirus research – including \$250K in a genomics-based project

To contribute to global efforts to address the 2019 Novel Coronavirus outbreak, on February 10, 2020, the Government of Canada launched a rapid research funding competition. Canada's researchers were quick to respond, submitting hundreds of applications in just a week. Many other researchers volunteered their expertise to peer review the applications received so that the funding competition could be completed in record time. The result is that the Government has been able to fund 47 research projects that will provide new evidence on how to address COVID-19.

The Government of Canada is providing the funding for this research through the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council of Canada (NSERC), the Social Sciences and Humanities Research Council (SSHRC), the Canada Research Coordinating Committee (CRCC) through the New Frontiers in Research Fund (NFRF), the International Development Research Centre (IDRC), and Genome Canada (GC).

- CIHR is contributing \$16.4M
- NSERC is contributing \$700,000
- SSHRC is contributing \$900,000
- CRCC through NFRF is providing \$7M
- IDRC is providing \$1.5M to researchers and/or collaborators from research institutions based in low- and middle-income countries
- Genome Canada is contributing up to \$250,000

The total investment for this research is \$26.8M.

The investment will support 47 projects across two research areas to ensure a balanced research response:

- Medical countermeasures research, e.g., transmission and zoonotic source of the 2019-nCov, development and evaluation of diagnostic tools for early case detection and surveillance, and development and evaluation of candidate vaccines, among other areas; and
- Social and policy countermeasures research, e.g., examining how individuals and communities understand and react to the disease, and developing strategies to combat misinformation, stigma, and fear, among other areas.

Funds from Genome Canada – through the Genome Alberta regional centre – will support University of Calgary researcher Dr. Dylan Pillai, who is leading a medical countermeasures

project in diagnostics. Faced with the threat of a viral pandemic combined with today's ease of international travel, his research focuses on creating tools to rapidly identify and test for the virus. The test his team is developing will be bedside portable to patients who are under quarantine, helping ensure that infected individuals cannot further transmit the virus in hospitals and public places.

Title: Development and implementation of rapid metagenomic sequencing coupled with isothermal amplification point of care testing for viral diagnostics

Project Leader: Dylan R Pillai (University of Calgary)

Genome Centre: Genome Alberta

Total funding: \$957,700 with \$250,000 from Genome Canada

Pandemic viral threats recur periodically as infectious agents recombine and disseminate in populations. SARS, MERS, and 2019 novel coronavirus pandemics have demonstrated the pace and scale at which these viruses spread in human populations. Rapid identification of viral genome sequences is required to develop targeted diagnostic tests. Using genomic tools, the team will validate the detection of coronaviruses in clinical samples and then develop assays for point of care testing (POCT) of the virus. The goal is to develop a portable test that can be taken to the bedside where patients are quarantined so that these individuals do not further transmit viruses in our hospitals and public places.