# RESILIENT RESEARCH

Bev Holmes and Sharon Straus | August 17, 2020

*COVID-19 is testing the ability of Canada's health research system to deliver relevant, usable and much-needed evidence quickly. It's also providing a unique opportunity to strengthen the system for the future.*

COVID-19 is testing Canadian society on many levels, revealing our strengths and weaknesses as individuals and communities, and those of our public systems.
As a clinician-researcher and funder-researcher who study evidence production and use, we're paying attention to how Canada's health research system is standing up to the COVID-19 challenge.

A health research system, according to the World Health Organization, is the people, institutions and activities that generate high quality knowledge to promote, restore or maintain health. The importance of these systems is clear during health crises, when we need ongoing, rapid production of evidence on diagnostics, treatments, public health measures and vaccines for urgent decision-making.

So how is Canada's health research system – a complex, distributed array of institutions, networks and federal and provincial government ministries – measuring up during COVID-19? There's both cause for celebration and need for improvement. Compared to many countries, Canada generally holds evidence – the available body of facts or information indicating whether a belief or proposition is true or valid – in high regard. But that high regard is not matched by a recognition of what's needed to produce and use evidence effectively.
A number of commentaries have focused on the poor quality of some COVID-19-related evidence, partly due to the speed with which it is being produced and circulated. The pandemic has underscored two other research system challenges: lack of connection between those who produce evidence and those who use it, and the resilience of the research system itself, including development of the scientists who advance knowledge in critical areas.

### *We need to better connect health evidence generation and use*

The development of relevant – and most important, usable – evidence requires, among other things, input from the people who will use it. This input in turn depends on a confluence of factors including established relationships, time, funding, appropriate incentives and infrastructure.

In recent years, Canada has made progress on connecting researchers and research users. We have pan-Canadian agencies, such as the Canadian Agency for Drugs and Technologies in Health, and the Drug Safety and Effectiveness Network, that synthesize knowledge in response to queries from clinicians and decision-makers. We have a network of federal and provincial funders that emphasize the importance of research proposals whose results will be relevant and applicable. We also have increasing mechanisms for public and patient involvement in research.

The Canadian research response to COVID-19 is benefiting from this progress, and revealing some gaps. For example, while rapid response funding at the federal and provincial levels has catalyzed important

studies, it's not always clear how research questions are being developed and prioritized, and by whom. Certainly, we've heard that patients and caregivers have requested more involvement in COVID-19 research. There is also unnecessary duplication of some studies – including many knowledge syntheses on the same potential COVID-19 interventions – and lack of studies in some important areas, including unintended consequences of public health measures on specific populations, such as those in long-term care and who are homeless.

It's important to note that these type of gaps are not unique to COVID-19, but more generally due to addressable issues in our current research system.

For example, researchers are promoted for publishing papers and securing grants, not for establishing the long-term relationships with decision-makers and communities that lead to relevant, usable research. Similarly, clinicians and health system decision-makers are not always encouraged to engage in research – this despite increasing evidence that research done alongside practice improves care. We need to better connect researchers and decision-makers across and within provinces and territories, to involve affected or interested communities – especially during health crises – and to support health systems to study and improve patient care.

### *We need to build resilience into our research system*

Canada has excellent universities and research institutes, world-class researchers and talented trainees, supportive federal and provincial funders, and research-receptive governments and citizens. We can be proud of our collective research response to COVID-19 which, thanks to these assets, is pursuing answers to vital pandemic-related questions.

Unfortunately, the very strengths enabling this response are under threat. The shutdown of many non-COVID-19 studies – ordered by the Federal government effective March 15 – has halted the advancement of knowledge in critical areas and severely reduced an important source of research revenue. It has also compromised the talent that's foundational to a research system: an estimated 80 percent of research staff in some institutes – including basic scientists who can't work remotely, and clinical and community researchers who rely on face-to-face contact with people – have been unable to pursue their studies. The shutdown has been particularly hard on women researchers with caregiving responsibilities: studies show they are publishing less and submitting fewer grants than their male counterparts. The careers of thousands of graduate students and new investigators – who are dedicating their futures to improving health – are on hold. The impact on clinician scientists, in particular those at the early career stage, has been significant due to increased clinical demands.

These are unusual times, and the research shutdown was without question undertaken for the right reasons. Measures are being put in place by universities, governments and funders to mitigate the fallout. It is now critical to examine what we're doing right and what could have been done differently, and to fully consider the implications of COVID-19 on Canada's health research system for the future.

### *Time for action*

A number of excellent reports over the last few years have explored evidence use, health research system resilience, and other elements of Canada's research system. Among their recommendations are better provincial-federal-territorial coordination of research; recognition of engagement with decision-makers in researchers' promotion; funding strategies that support researchers at different stages of their careers; and science policy that addresses people, infrastructure, research, science culture, and knowledge mobilization. The strategies that stem from these recommendations are well-supported and actionable.

We – that is, all of us in a position to influence and strengthen Canada's research system – need to reexamine existing recommendations on research talent, processes and infrastructure in light of the pandemic, and act on them not only for the sake of our health research system, but for the health of Canadians.

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