

Unpacking “long COVID”

■ Cite as: *CMAJ* 2021 March 1;193:E318-9. doi: 10.1503/cmaj.1095923

Posted on cmajnews.com on February 11, 2021

Experts at a recent World Health Organization meeting warned that the long-term complications of COVID-19, known as “long COVID” or post-COVID-19 condition, may become a crisis within a crisis for health systems already stretched thin by the pandemic.

If 10%–20% of people with COVID-19 experience long-term symptoms, as a growing body of evidence suggests, “we’ve got 10–20 million cases out there to manage,” said Dr. Daniel Altmann, a professor of immunology at Imperial College London.

According to Dr. Gail Carson, a researcher at the University of Oxford,

“long COVID could become a pandemic of the pandemic.”

The meeting was the first in a series aimed at developing a global consensus on the case definition, diagnosis, and prevention and management of post-COVID-19 condition. But according to Dr. Margaret Herridge, a professor of medicine at the University of Toronto who chaired the case definition working group, the four-hour meeting wasn’t enough time to make much progress on those points.

“You need to put all of these people in a room for a week and you’d have a fighting chance of getting somewhere,”

she told *CMAJ*, noting that the WHO meeting was just a first step.

Part of the challenge will be working with incomplete evidence. Despite increasing recognition of the long-term complications of COVID-19, WHO director general Tedros Ghebreyesus said there still isn’t enough research on post-COVID-19 condition. He also urged countries to put a greater emphasis on rehabilitation in their pandemic response. “Long COVID should not fall through the cracks,” he said.

Several researchers also noted that research on long COVID has so far excluded children and pregnant women.



Experts met recently to define the long-term consequences of COVID-19, but a global consensus may take time to pin down.

Dr. John Marshall, a professor of surgery at the University of Toronto who chaired the diagnostics working group, said he hopes to collaborate with others who presented data at the meeting to pool information on their cohorts with long-term complications.

“That way, we could come up with a much more reproducible description of what the syndrome looks like and explore how it differs between, say, Brazil and China and the United Kingdom,” Marshall said. Pooling data “is going to be necessary before coming to any sensible conclusions about diagnosis, treatment or even an adequate description.”

The complexity of long COVID poses another challenge. One survey of more than 3700 patients with illness lasting more than a month turned up 205 symptoms affecting 10 organ systems, including neurocognitive, mental health, cardiac and pulmonary symptom clusters. Most patients had not returned to previous levels of work after six months, at which point the most common symptoms were fatigue, post-exertional malaise and cognitive dysfunction.

According to Marshall, these most common symptoms seemed to “disproportionately affect people who didn’t have severe COVID-19, but had milder cases and might not have been managed in a hospital setting,” and so there may be little documentation of their illness.

On the other hand, in patients who had severe disease, it can be difficult to distinguish the long-term effects of COVID-19 from those related to intensive care interventions. “Those of us who do post-ICU outcomes work know that these folks have lots of problems, but now we’ve got a whole world of them,” said Herridge.

However, it’s not the first time a pandemic has been linked to debilitating, long-term sequelae. The literature is replete with reports of similar long-term effects following the “Russian” flu pandemic of 1889–90, the “Spanish” flu pandemic of 1918–19, and the H1N1 pandemic in 2009, as well as outbreaks of chikungunya and Zika virus.

In the *Lancet*, Mark Honigsbaum and Lakshmi Krishnan noted that historical accounts of past pandemics “remind us of the limitations of narrow biomedical models and the importance of listening to patients’ narratives of illness.”

Getting a better handle on the manifestations of long COVID is important not just for clinical care and public health — it’s also going to be important for health resource planning.

According to Altmann, “we don’t know if this is a condition that lasts for months, years or is lifelong,” which could have “massive ramifications” on patients and health systems.

He estimates the number of people potentially affected by long COVID in the U.K. “is roughly equivalent to the number of rheumatoid arthritis patients,” who account for a substantial percentage of the National Health Service budget. “That’s an awful lot of hospital clinics, doctors, nurses and training that we really haven’t factored in.”

Terry Murray, Toronto, Ont.

Content licence: This is an Open Access article distributed in accordance with the terms of the Creative Commons Attribution (CC BY-NC-ND 4.0) licence, which permits use, distribution and reproduction in any medium, provided that the original publication is properly cited, the use is noncommercial (i.e., research or educational use), and no modifications or adaptations are made. See: <https://creativecommons.org/licenses/by-nc-nd/4.0/>