

The unique mental health and brain impacts of COVID-19

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Credit: Kelly Sikkema/Unsplash

As COVID-19 infections spike around the globe, with no end in sight for months, questions are beginning to arise around the long-term effects of the pandemic on our mental health and brain health.

In a new paper published this week in *Trends in Neuroscience*, Judy Illes, neuroethicist and professor of neurology, and her team at UBC, examine the unique neurological impacts and neuroethical challenges posed by COVID-19, especially compared to other 21st century epidemics such as SARS, H1N1 and Zika virus.

What are the main observations of the COVID-19 pandemic outlined in your paper?

We found that some of the neurological impacts of COVID-19 have also occurred in past pandemics and epidemics. The most commonly occurring included headaches, changes in mental state and level of consciousness. A little less prevalent, but still common across some of the epidemics, were various types of cerebrovascular disease ([medical conditions](#) that affect the blood vessels of the brain), seizures and encephalitis (inflammation of the brain).

We also looked at public [health](#) responses and mitigation strategies, and how these have impacted the public's [mental health](#) and neurology. When health-care resources are delayed or diverted, it can have devastating effects on neurologic and neuropsychiatric conditions. For example, delays in treating strokes can lead to long-term disability or even death. People from marginalized, rural and remote communities who often have more co-morbidities (co-existing conditions) than other populations, are especially at risk.

Your paper also discusses how the mental health of frontline medical workers may be affected during the pandemic. What did you find?

It's well documented that frontline health-care workers have high rates of mental health issues. Post-traumatic stress among frontline medical

workers in previous epidemics is a well-known phenomenon. Additional anxiety associated with the ethical and moral complexities of caring for patients, triaging them during a pandemic, and anticipating surges in cases may be as detrimental to the mental well-being of frontline health care workers as post-traumatic stress.

Those in positions of authority can take steps to identify workers at high risk based on personal or occupational factors, direct them to care, and encourage positive coping mechanisms. In addition, they should aim to reduce, as much as possible, occupational stressors such as long working hours.

You mention the "COVID connectome"—what is it, and why is it a concern?

A unique element of the COVID-19 pandemic is that it struck at a time when [modern technology](#) enables people to remain socially connected. A connectome is a map of neural connections in the brain, and the ways in which we are using [digital technology](#) through the pandemic may be affecting our brains in ways that remain to be seen. While digital technology creates opportunities for social connection, which is important for mental health, it also raises ethical concerns and dilemmas.

For example, prior to the pandemic, the recommendations around [screen time](#) from the American Academy of Pediatrics were that toddlers aged two and younger should be discouraged from digital media entirely, and that [preschool children](#) should have no more than one hour per day of high-quality programming.

Now, those recommendations are shifting. The American Academy of Child and Adolescent Psychiatry has emphasized the use of media to strengthen connections across homes and schools. We don't yet know

how long hours of online engagement is going to impact children's development, nor how continuous screen time impacts those working remotely, in terms of their cognitive and executive function, such as attention, decision-making and speed of information processing.

What's next for you with this research?

We are continuing to delve into a number of questions around neuroethics as they relate to the pandemic. Some questions I want to look at are: What will be the long-term impact of stress on the mental well-being of frontline healthcare workers? What would be an adequate balance between the need for remote connectivity and managing screen time, to preserve and promote [brain health](#) in children and adults? And, finally, how can the work of neuroethicists contribute to the neuroscience of COVID-19? My hope is that by finding answers to these questions, we will be better prepared for the next [pandemic](#).

Provided by University of British Columbia

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