

New Symptoms and Health Conditions After Having COVID

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This research at a glance

Main Questions

Were adults and children who had COVID more likely to get new symptoms afterwards?

Were adults and children who had COVID more likely to be diagnosed with new health conditions afterwards?

Answers

Yes. The researchers found that adults and children who had COVID were more likely to get certain new symptoms 1 to 5 months afterwards than those who did not have COVID.

Yes. The researchers found that adults and children who were hospitalized with COVID were more likely to be diagnosed with type 2 diabetes than those who did not have COVID.

Researchers found that having COVID raised the chance of adults and children getting certain new symptoms and health conditions 1 to 5 months afterwards, especially trouble breathing, unusual heart rates, and type 2 diabetes. The chance of getting certain, new symptoms and conditions went up if they were hospitalized with COVID.



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Why was this research needed?

Researchers want to learn more about new symptoms and health conditions people get after having COVID. These symptoms and health conditions could be Long COVID. **Long COVID** is a condition in which a person is sick many months after getting COVID. It can cause new, repeating (comes and goes), or ongoing symptoms and problems with certain organs, such as the heart or kidneys.

Researchers also want to know which groups of people are more likely to get new symptoms and conditions after having COVID based on their age and if they were hospitalized. Learning if people are more likely to get new symptoms and conditions after COVID may help doctors to better diagnose and treat Long COVID.

The goal of this research was to answer these questions:

- Were adults and children who had COVID more likely to get new symptoms afterwards?
- Were adults and children who had COVID more likely to be diagnosed with new health conditions afterwards?



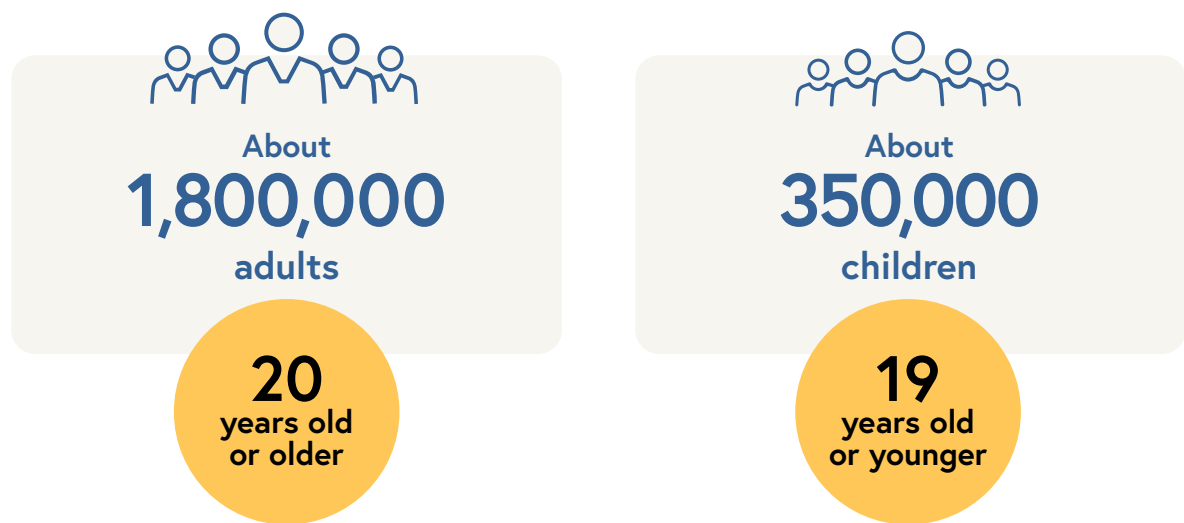
What happened during this research?

Researchers used data from electronic health records (EHRs) from PCORnet, the National Patient-Centered Clinical Research Network. EHRs are digital versions of patients' medical records. Researchers reviewed EHRs from about 12 million people who had a COVID test.

The researchers looked at certain new symptoms and conditions that happened 1 to 5 months after each person's COVID test. **New symptoms and conditions** meant that they were not in the person's EHR in the 18 months before their COVID test.

Whose data was included in this research?

Researchers used EHR data from 40 health systems across the United States in PCORnet. They looked at data from people who had a COVID test between March and December 2020, which included:



The researchers grouped the adults and children by if they:

- Did or did not have COVID (tested positive or negative)
- Were or were not hospitalized when they had COVID









What were the main results?

Were adults and children who had COVID more likely to get new symptoms afterwards?

Yes. The researchers found that adults and children who had COVID were more likely to get certain new symptoms 1 to 5 months afterwards than those who did not have COVID. The chance of getting new symptoms was higher for those who were hospitalized when they had COVID.

New symptoms after having COVID

Compared to adults and children who did not have COVID, those who had COVID were more likely to get these new symptoms:

If they were hospitalized with COVID	adults	children
 Trouble breathing (shortness of breath)	✓	✓
 Unusual heart rates (slow, fast, or fluttering heart rate)	✓	✓
 Feeling weak and tired (fatigue)	✓	
 Problems sleeping (sleep disorders)	✓	
 Certain problems that can affect thinking (cognitive dysfunction, also known as "brain fog")	✓	
If they were not hospitalized with COVID		
 Trouble breathing (shortness of breath)	✓	✓

Were adults and children who had COVID more likely to be diagnosed with new health conditions afterwards?

Yes. The researchers found that adults and children who were hospitalized with COVID were more likely to be diagnosed with type 2 diabetes than those who did not have COVID. **Type 2 diabetes** is a long-term health condition that causes high blood sugar (glucose). It happens when the body doesn't use insulin as it should. Insulin is a hormone (a chemical the body makes) that helps the body turn glucose into energy to keep glucose at a healthy level.

Compared to adults who did not have COVID, adults who were not hospitalized were not more likely to be diagnosed with any health conditions.

Compared to children who did not have COVID, children who were not hospitalized were more likely to be diagnosed with anxiety or depression.

New health conditions diagnosed after having COVID

Compared to adults and children who did not have COVID, those who had COVID were more likely to be diagnosed with these health conditions:

If they were hospitalized with COVID	adults	children
Type 2 Diabetes	✓	✓
If they were not hospitalized with COVID		
Anxiety		✓
Depression		✓



How has this research helped?

This research helped to learn if adults and children who had COVID were diagnosed with more symptoms and health conditions 1 to 5 months afterwards compared to those who didn't have COVID.

Researchers found having COVID raised the chance of getting certain new symptoms and health conditions, especially trouble breathing, unusual heart rates, and type 2 diabetes. The chance of getting certain, new symptoms and conditions went up if people were hospitalized with COVID.

These results may help doctors be more aware of new symptoms and health conditions people may get after having COVID, especially if they were hospitalized. This could help doctors to better diagnose and treat people with Long COVID.



Where can I learn more about this research?

Read the full paper published in the Journal of the American Medical Association on February 4, 2022, at

<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2788641>

Full paper title:

Prevalence of Select New Symptoms and Conditions Among Persons Aged Younger Than 20 Years and 20 Years or Older at 31 to 150 Days After Testing Positive or Negative for SARS-CoV-2

Authors: Alfonso C. Hernandez-Romieu, Thomas W. Carton, Sharon Saydah, Eduardo Azziz-Baumgartner, Tegan K. Boehmer, Nedra Y. Garret, L. Charles Bailey, Lindsay G. Cowell, Christine Draper, Kenneth H. Mayer, Kshema Nagavedu, Jon E. Puro, Sonja A. Rasmussen, William E. Trick, Valentine Wanga, Jennifer R. Chevinsky, Brendan R. Jackson, Alyson B. Goodman, Jennifer R. Cope, Adi V. Gundlapalli, and Jason P. Block

About RECOVER

RECOVER is a research project that aims to learn about the long-term health effects of COVID. We're hopeful that this project will help us better prevent and treat Long COVID in the future. RECOVER is paid for by the National Institutes of Health (NIH).

Learn more at: RECOVERcovid.org