



Long COVID Questions in NHANES 2022

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Board of Scientific Counselors Meeting
October 24, 2022

NHANES 2021-2022



Background

- Annually, nationally representative sample of 5,000 persons/year of all ages
- 15 PSUs in each year
- No oversampling by race/ethnic groups, or income levels
- Higher selection probabilities for youth 19 years of age and younger as well as persons 60 years of age and older
- Field data collection: August 2021 - August 2023

NHANES 2021-2022



COVID-19 Data Collected

Questionnaire Data (all ages)

- Ever had COVID-19
- Severity of the symptoms
- Testing history for active or past infections
- Vaccinations (dose/manufacture/date)
- Overnight hospital stay
- Weakened immune system
- Household member infections
- Prescription medications used for prevention or treatment[†]
- Long COVID/Post-COVID conditions[†]

Lab Data (1+ years)

- Spike-based test detecting antibodies after vaccination and/or natural infection
- Nucleocapsid-based test detecting antibodies only after natural infection
- Quantitative test for IgG antibodies after vaccination and/or natural infection[‡]

[†] Started in 2022 data collection cycle

[‡] OMB/ERB approved, lab contracting in process

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Design Effort

- References from existing surveys, including:
 - NCHS's National Health Interview Survey (NHIS)
 - Census Bureau's Household Pulse Survey
 - CDC's Behavioral Risk Factor Surveillance System (BRFSS)
 - CDC collaborated Red Cross COVID-19 Survey and Porter Novelli Summer Styles Survey
 - UK's Office for National Statistics' COVID-19 Infection Survey (CIS)
- Inputs from:
 - CDC' National Center for Immunization and Respiratory Diseases, Division of Viral Diseases
 - DHANES Clinician Advisory Group

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Administration

- Be collected for all 15 PSUs in the 2022 data collection cycle
- Target: Participants of all ages who reported either:
 - Having been infected with COVID-19 or maybe have been infected; or
 - Having been tested positive for COVID-19 or still waiting for test results
- Telephone or in-person interview at home
- Updated information obtained in the MEC to better correlate with serology data

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Topic

- Experienced post-COVID conditions/symptoms
- The 3 most bothersome post-COVID symptoms
- Impact on day-to-day activities
- Current presence of post-COVID symptoms
- Total length of these symptoms

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Topic 1

- Experienced post-COVID conditions/symptoms

Reference

- [Long COVID or Post-COVID Conditions | CDC](#)
- Kompaniyets L, Bull-Otterson L, Boehmer TK, et al. MMWR 2022;71:993-999. DOI: <http://dx.doi.org/10.15585/mmwr.mm7131a3>

COQ.160 Turn to card COQ1. Did you experience any symptoms **four weeks or later** after being infected with COVID-19 or suspecting to have been infected with COVID-19? These symptoms can sometimes appear after recovering from the initial infection. Please look at card COQ1 for some examples of commonly reported post-COVID symptoms.

COQ1

Commonly reported post-COVID symptoms:

General symptoms

- Tiredness or fatigue that interferes with daily life
- Symptoms that get worse after physical or mental effort (also known as “post-exertional malaise”)
- Fever

Respiratory and heart symptoms

- Difficulty breathing or shortness of breath
- Cough
- Chest pain
- Fast-beating or pounding heart (also known as heart palpitations)

Neurological symptoms

- Difficulty thinking or concentrating (sometimes referred to as “brain fog”)
- Difficulty with memory
- Headache
- Sleep problems
- Dizziness when you stand up (lightheadedness)
- Pins-and-needles feelings
- Change or loss of smell or taste
- Depression or anxiety

Digestive symptoms

- Diarrhea
- Stomach pain

Other symptoms

- Joint or muscle pain
- Rash
- Changes in menstrual cycles

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Topic 2

- The 3 most bothersome post-COVID symptoms

COQ.170 Among all of the post-COVID symptoms that you have experienced, which ones bothered you **the most**? You can tell me up to three different symptoms. You can refer again to card COQ1 for some examples of commonly reported post-COVID symptoms. What is the {first/second/third} symptom that bothered you the most?

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Topic 3

- Impact on day-to-day activities

Reference

- UK's Office for National Statistics' [COVID-19 Infection Survey \(CIS\)](#)
- Census Household Pulse Survey

COQ.180 The next few questions refer to all of the post-COVID symptoms that you have experienced.

In the last 30 days, have **any** of these symptoms reduced your ability to carry out day-to-day activities compared with the time before you had COVID-19? Would you say...yes, a lot; yes, a little, or no, not at all?

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Topic 4

- Current presence of post-COVID symptoms

Reference

- National Health Interview Survey (NHIS) and Census Household Pulse Survey

COQ.190 Do you still experience **any** of these symptoms **now**?

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Topic 5

- Total length of these symptoms

Reference

- Red Cross COVID-19 Survey

COQ.200 How long have these symptoms lasted? Has it been...

1 month to less than 2 months, 2 months to less than 3 months, 3 months to less than 6 months, 6 months to less than 9 months, 9 months to less than 12 months, or 12 months or more?

Questions to the BSC



- What should be considered as the potential analytic priorities? With the long COVID questions and other related data in our survey, what are the research questions we should address first?

Preliminary, Unweighted Sample Sizes from 2021 Data Collection

	Total n (%)	0-4 years n (%)	5-11 years n (%)	12-17 years n (%)	18-59 years n (%)	60+ years n (%)
	5557	486	772	584	2121	1594
Ever had COVID-19: Yes/Maybe	1479 (27)	88 (18)	165 (21)	175 (30)	722 (34)	329 (21)
Ever tested positive for COVID-19*	1189 (21)	62 (13)	137 (18)	135 (23)	600 (28)	255 (16)

* Including those reported as “did not receive results”

Questions to the BSC (continue)

- What should be considered as the potential analytic priorities? With the long COVID questions and other related data in our survey, what are the research questions we should address first?
- Given that the characterization of the post-COVID conditions is still evolving, are there areas of Long COVID that you think we are missing and could be added?



Comments and Questions



Thank You

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

