

# CDC/IDSA COVID-19 Clinician Call

May 22, 2021

## Welcome & Introduction

Dana Wollins, DrPH, MGC  
Vice President, Clinical Affairs & Guidelines  
IDSA

- 67<sup>th</sup> in a series of weekly calls, initiated by CDC as a forum for information sharing among frontline clinicians caring for patients with COVID-19
- The views and opinions expressed here are those of the presenters and do not necessarily reflect the official policy or position of the CDC or IDSA. Involvement of CDC and IDSA should not be viewed as endorsement of any entity or individual involved.
- This webinar is being recorded and can be found online at [www.idsociety.org/cliniciancalls](http://www.idsociety.org/cliniciancalls).

# TODAY'S TOPIC: Post-COVID Conditions: What's the Latest?



## ***A Clinician's Experience***

**Michael Saag, MD**

Professor of Medicine and Infectious Diseases,  
University of Alabama at Birmingham School of Medicine



## ***Health Care Utilization & Clinical Characteristics of Non-Hospitalized Adults In an Integrated Health Care System 28–180 Days After COVID-19 Diagnosis***

**Alfonso Claudio Hernandez-Romieu, MD, MPH**

LCDR, U.S. Public Health Service

Post-COVID Conditions Unit and Epidemic Intelligence Service  
Centers for Disease Control and Prevention



## ***Characteristics of Post-COVID Patients Referred for Care in Outpatient Rehabilitation Clinics***

**Jessica R. Brown, PhD, MPH**

CDC COVID-19 Response Clinical Team and Post-COVID Conditions Unit  
Centers for Disease Control and Prevention



## ***Interim Guidance for Healthcare Professionals Evaluating & Caring for Patients with Post-COVID Conditions***

**Jennifer Chevinsky, MD, MPH**

Post-COVID Conditions Unit and Epidemic Intelligence Service  
Centers for Disease Control and Prevention



## ***Research Initiatives Underway***

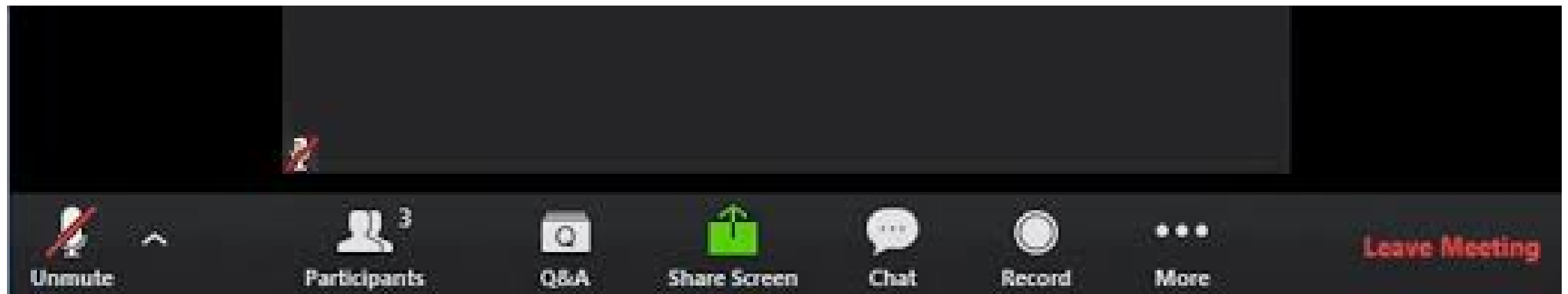
**Andrea M. Lerner, MD, MS**

Medical Officer in the Office of the Director  
National Institute Allergy and Infectious Diseases, National Institutes of Health

Question?  
Use the "Q&A" Button



Comment?  
Use the "Chat" Button



# A Clinician's Experience

**Michael Saag, MD**

Professor of Medicine and Infectious Diseases

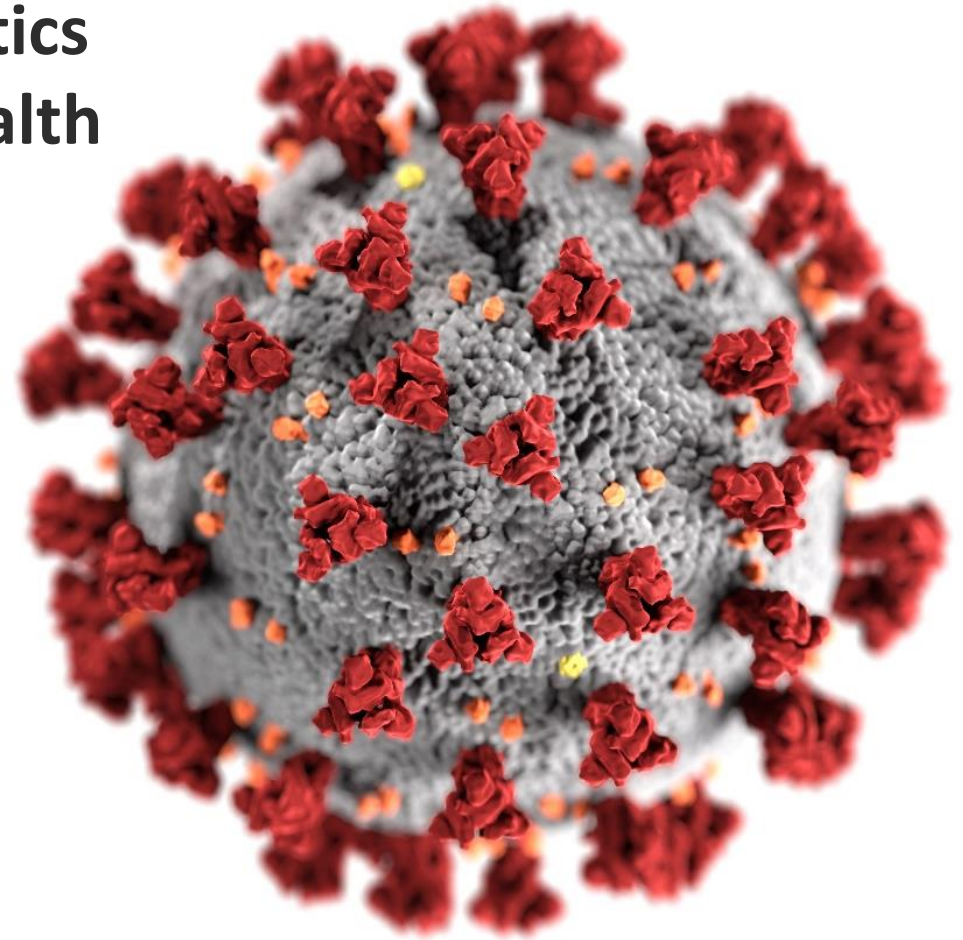
University of Alabama at Birmingham School of Medicine



# Health Care Utilization and Clinical Characteristics of Non-hospitalized Adults in an Integrated Health Care System 28–180 Days After COVID-19 Diagnosis — Georgia, May 2020–March 2021

Alfonso C. Hernandez, MD MPH  
Post-Covid Conditions Unit  
Epidemic Intelligence Service, CDC

IDSA/CDC COVID-19 Clinician Call, May 22, 2021



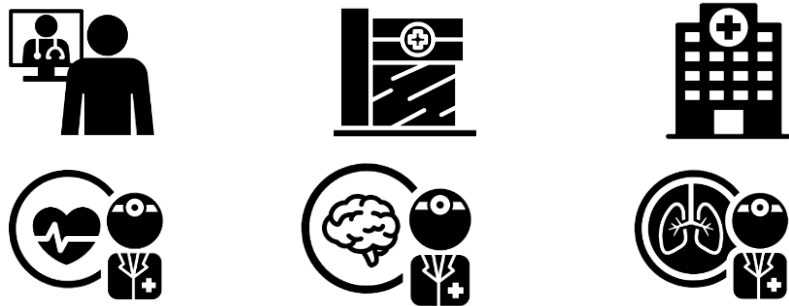
[cdc.gov/coronavirus](https://cdc.gov/coronavirus)

# Background

Health care utilization months after COVID-19 diagnosis among non-hospitalized adults **has not been well characterized.**

## Objectives

- Healthcare utilization



Number and type of visits, hospitalizations and common specialty referrals

- Visit diagnoses



Common new symptoms and conditions

# Methods

- **Data:**
  - Kaiser Permanente GA (KPGA) electronic health care records of 4,646 adults who tested positive for SARS-CoV-2 April 2020–March 2021
- **Inclusion criteria:**
  - Laboratory-confirmed SARS-CoV-2 infected **non-pregnant** adults **not hospitalized** in first 28 days after initial diagnosis (n = 3,171)
  - **Continuous enrollment** in KPGA in the 12 months prior to **AND** 180 days after first positive SARS-CoV-2 test
- **Diagnoses:**
  - 3-letter **ICD-10 diagnostic codes**
  - 12-month (prior to date of diagnosis) retrospective review to determine which ICD-10 codes were new

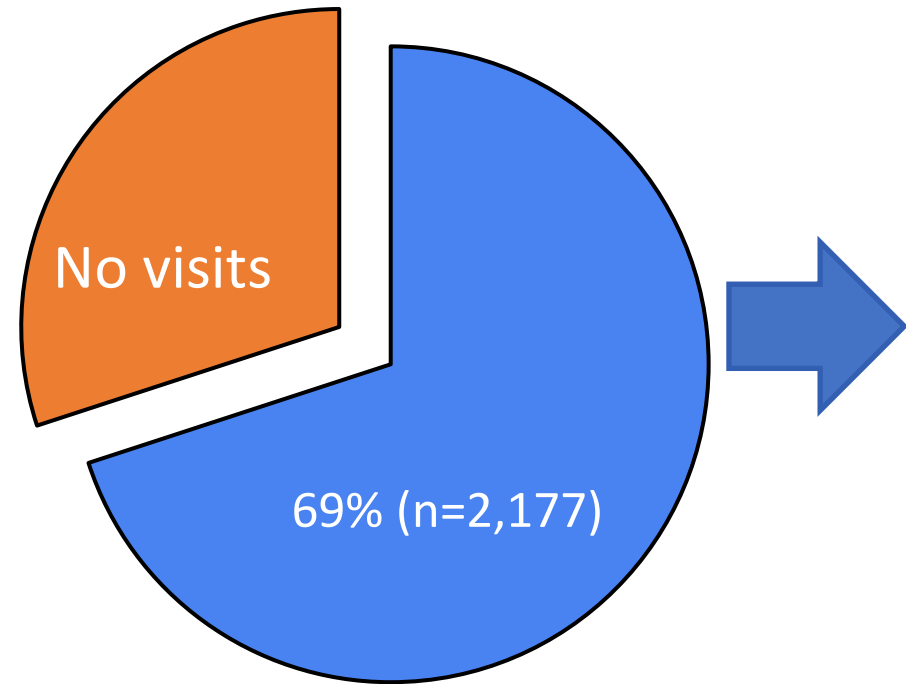
# Methods

- **Analysis:**
  - Health care utilization related to pre-existing (underlying conditions) or new diagnoses in 1–6 months after SARS-CoV-2 infection
    - New problem visit (based on primary visit diagnosis)
    - New specialist visit (based on 12-month retrospective lookback)
  - Frequency of pre-existing and new diagnoses (ICD-10 codes), and diagnosis visit rates over time
    - COVID-19-related
    - Symptoms potentially related to COVID-19
    - Other conditions



# Results

Among 3,171 non-hospitalized adults, **69% had  $\geq 1$  outpatient visits** 1–6 months after infection.



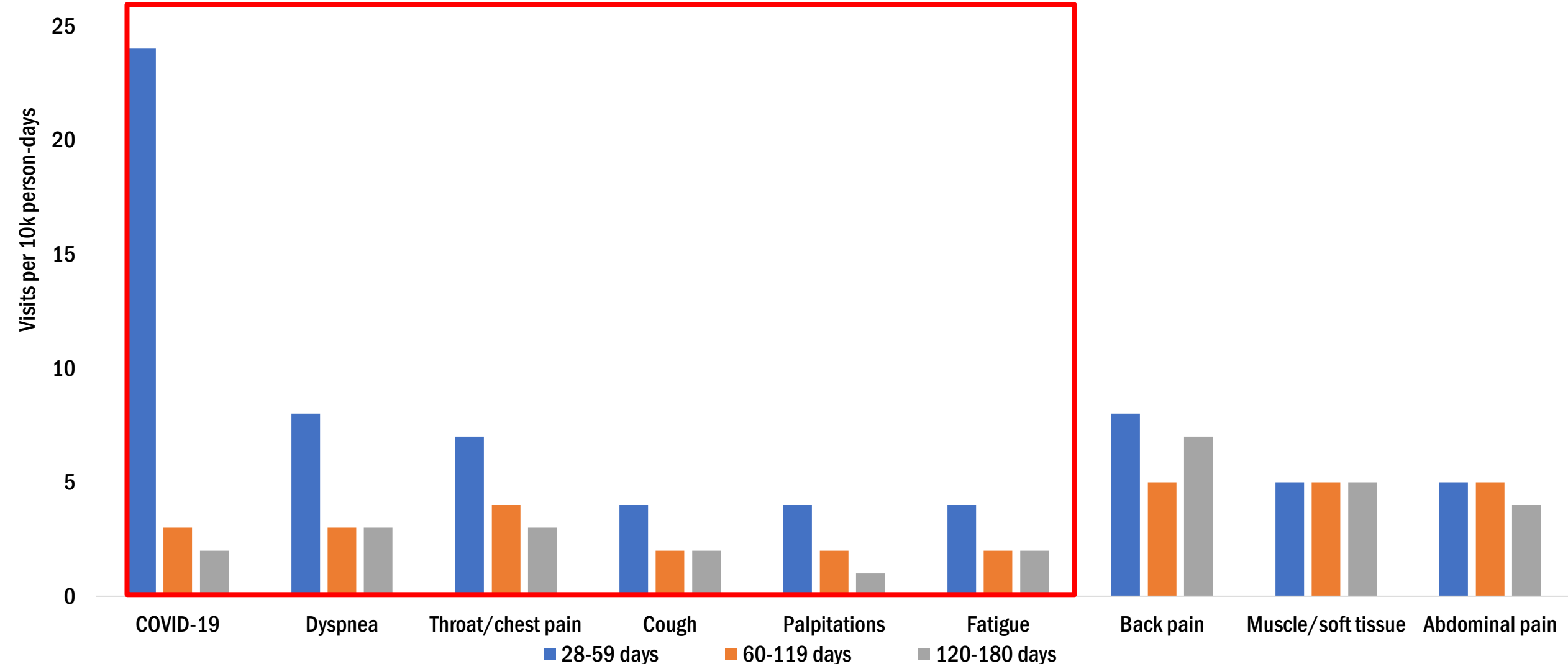
The proportion of adults with  $\geq 1$  visit was **significantly higher among those:**

- **aged  $\geq 65$  years (88%)** vs. 18–49 years (66%)
- **women (76%)** vs. men (59%)
- **non-Hispanic Black adults (71%)** vs. adults of any other race/ethnicity (68%)
- **$\geq 3$  underlying health conditions (83%)** vs no underlying conditions (60%) and 1–2 (69%) underlying conditions

Among adults with outpatient visits, **68% had a new primary diagnosis visit** and **38% had a new specialist referral**.

- Median visits 2 (interquartile range 1–4)
- 1.5% hospitalized  $\geq 28$  days after diagnosis (for any reason)
- 75% evaluated by primary care
- Common potentially COVID-related specialty visits: dermatology, behavioral health, gastroenterology, cardiology, pulmonology

Visit rates **decreased during the 28–180-day period for COVID-19 and symptoms potentially related to COVID-19** and remained stable for other common conditions.



# Patients, clinicians, and health systems should be aware of potential for post-COVID conditions, also known as long COVID

- Adults not initially hospitalized for COVID-19 may present months after diagnosis for symptoms potentially related to COVID-19
- Awareness among clinicians and health systems is important to ensure patient needs are met
  - Validating patient experience
  - Monitoring for improvement and new conditions or complications
- More research needed regarding risk factors
  - Include diverse racial/ethnic groups and examine differences by sex and race/ethnicity to guide health care planning and estimates of health care utilization

## Resources

- [Health Care Utilization and Clinical Characteristics of Nonhospitalized Adults in an Integrated Health Care System 28–180 Days After COVID-19 Diagnosis — Georgia, May 2020–March 2021 | MMWR \(cdc.gov\)](#)

## More resources on post-COVID conditions, or long COVID

Information for the public:

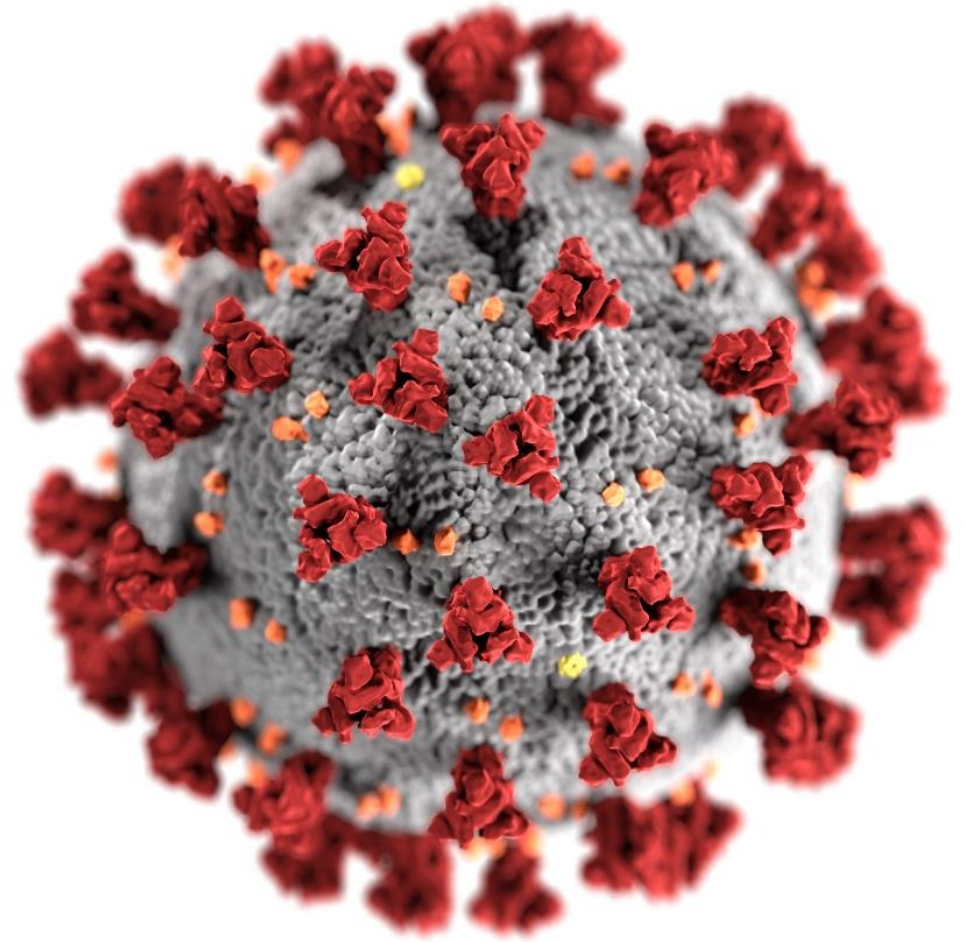
<https://www.cdc.gov/coronavirus/2019-ncov/long-term-effects.html>

Information for Healthcare Providers:

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-care/post-covid-conditions.html>

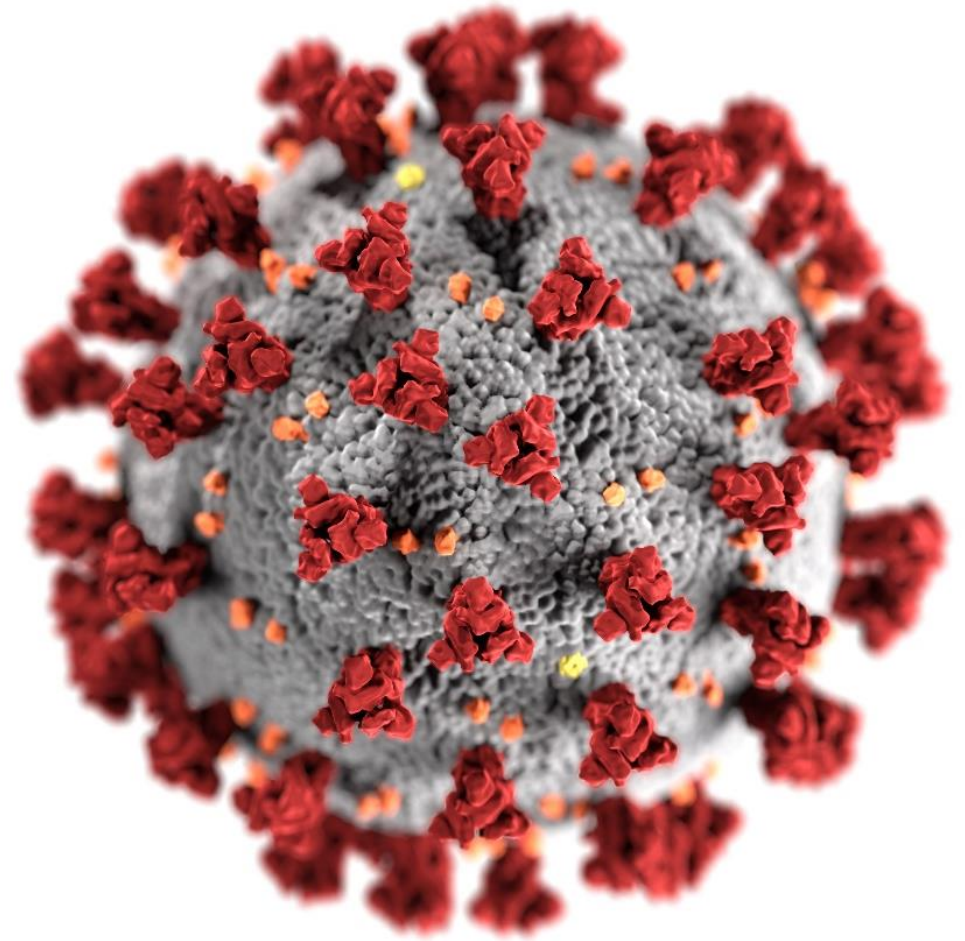
For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

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.



# Outcomes among patients referred for care in outpatient rehabilitation clinics following COVID-19 diagnosis — 36 States and the District of Columbia, January 2020-March 2021

Jessica S. Rogers-Brown, PhD, MPH  
CDC COVID-19 Response Clinical Team  
Post-COVID Conditions Unit

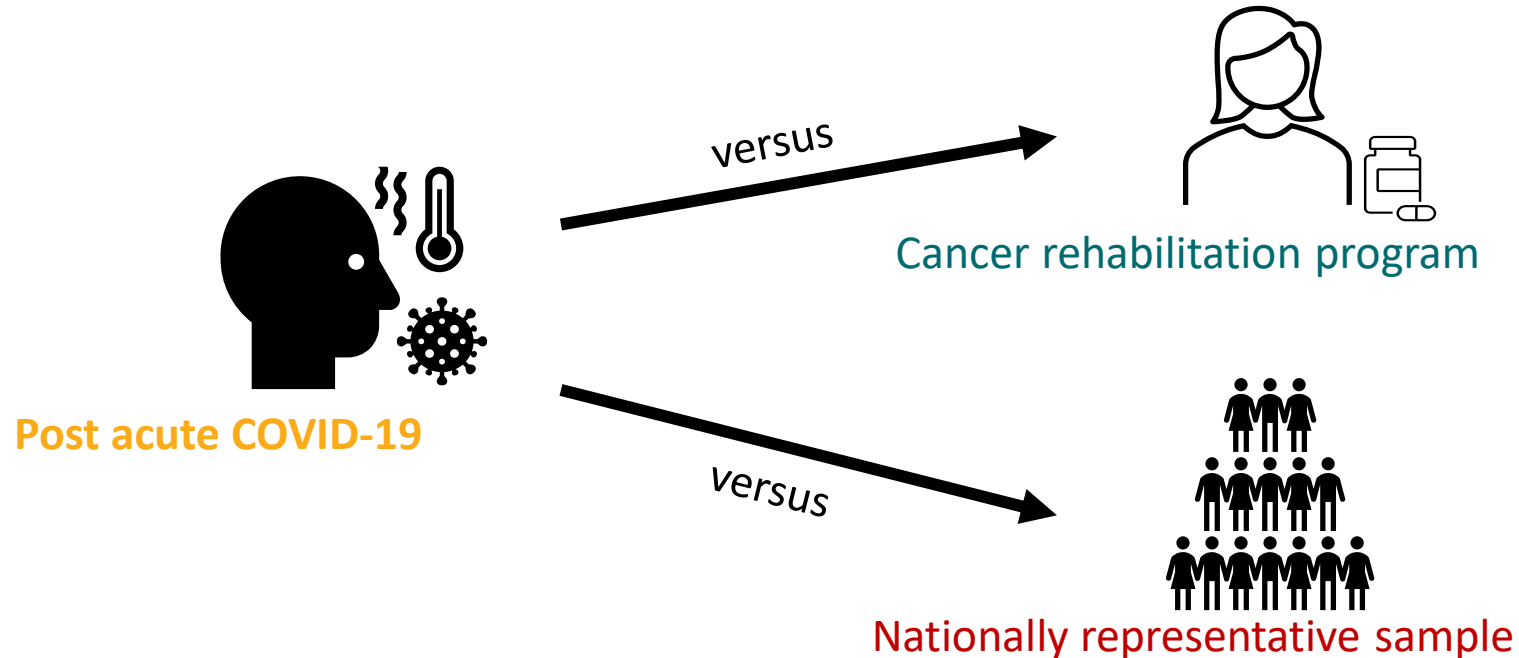


For more information: [www.cdc.gov/COVID19](https://www.cdc.gov/COVID19)



# Research Question and Methods

- What are the **rehabilitation needs** and **physical function** following acute illness with COVID-19?
- **Measures:** mental health, physical health, physical function, social participation, cognition

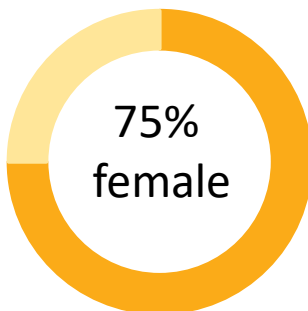




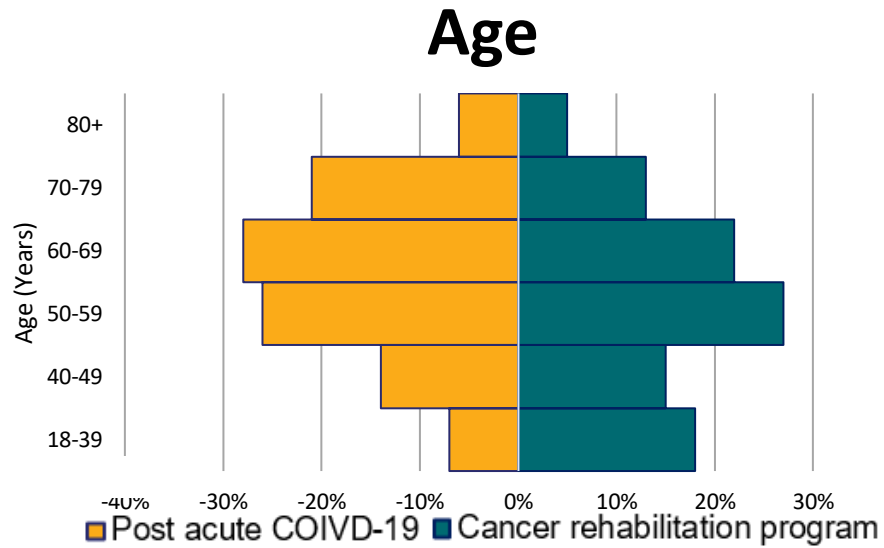
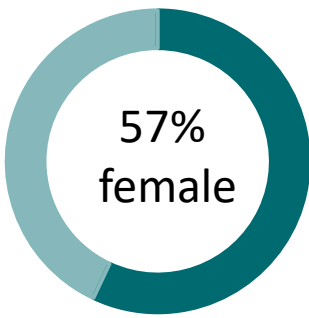
# Demographics

## Sex

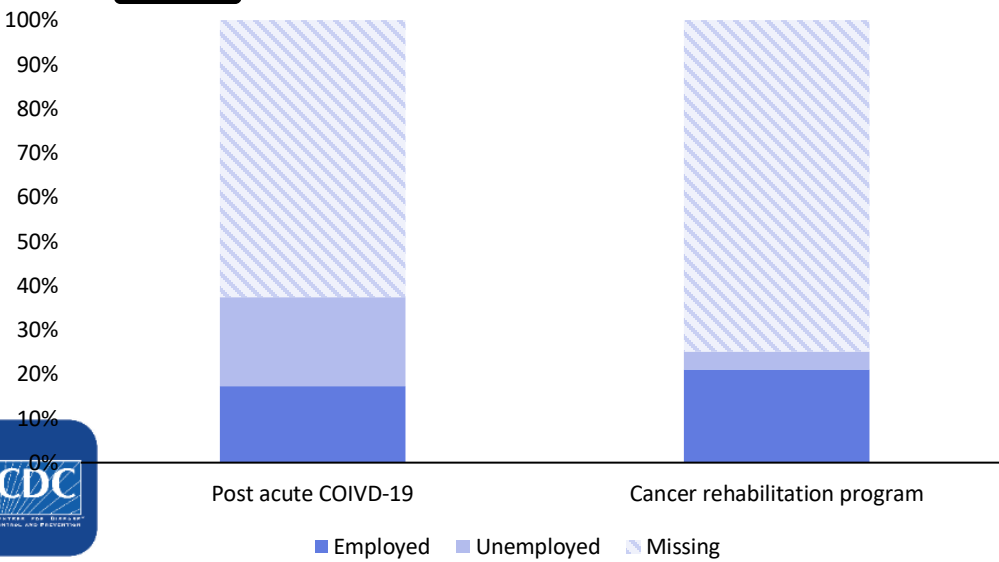
Post acute COVID-19



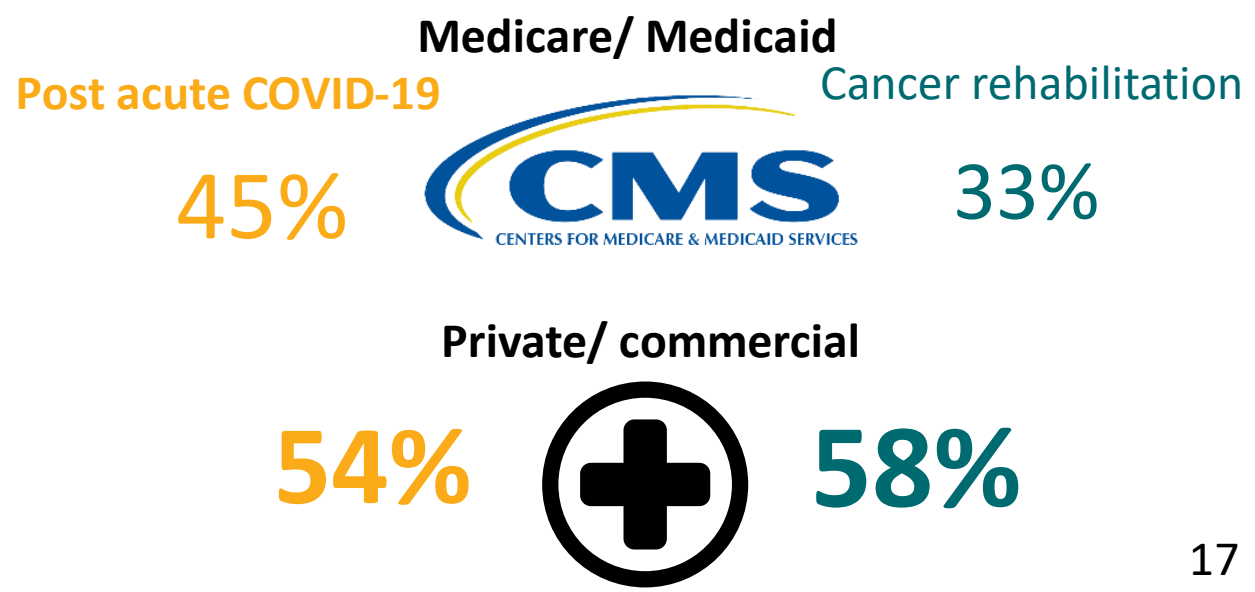
Cancer rehabilitation



## Employment Status



## Health Insurance



# Findings: Promis GLOBAL Mental and Physical Health

- Post acute COVID-19 patients had **poorer general, mental and physical health** than cancer rehabilitation patients and the general population



## General health

aOR=1.6 (1.3-2.0)

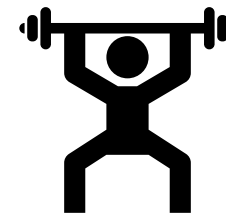
33%, 25%, 20%



## Mental health

aOR=1.3 (1.0-1.7)

19%, 15%, 11%



## Physical health

aOR=1.8 (1.4-2.2)

44%, 33%, 21%

# Findings: PROMIS Global Mental and Physical Health

- Post acute COVID-19 patients had **more difficulty with physical activities** and **more pain** than cancer rehabilitation patients and the general population



## Physical activities

aOR=1.6 (1.3-2.0)

32%, 24%, 5%



## Pain

aOR=2.3 (1.9-2.8)

40%, 25%, 10%

# Findings: PROMIS Physical Function Ability

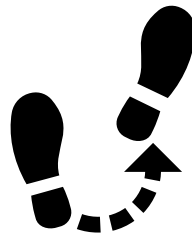
- Post acute COVID-19 patients were more likely to report difficulty with **completing chores, navigating stairs, walking for 15 minutes, and running errands/shopping** than cancer rehabilitation patients



**Completing chores**

aOR=2.2(1.4-3.4)

**38%, 25%**



**Navigating stairs**

aOR=4.1 (2.6-6.5)

**40%, 18%**



**15-minute walk**

aOR=4.6 (2.9-7.3)

**38%, 17%**



**Run errands and shop**

aOR=3.4 (2.2-5.4)

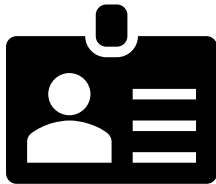
**34%, 16%**



**Post acute COVID-19 patients, Cancer rehabilitation patients**

# Findings: PROMIS Social Participation Ability

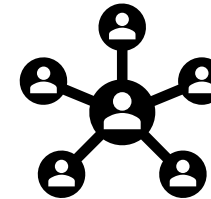
- Post acute COVID-19 patients were more likely to report **difficulty with doing all usual work** and **activities with friends** than cancer rehabilitation patients



**Completing usual work**

aOR=2.4 (1.5-3.8)

**37%**, 20%



**Activities with friends**

aOR=2.3 (1.4-3.6)

**33%**, 19%

# Findings: Six-minute Walk Test

- Post acute COVID-19 patients demonstrated **reduced walking ability** compared to cancer rehabilitation patients



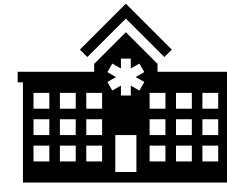
**303 meters**  
(277-329 meters)

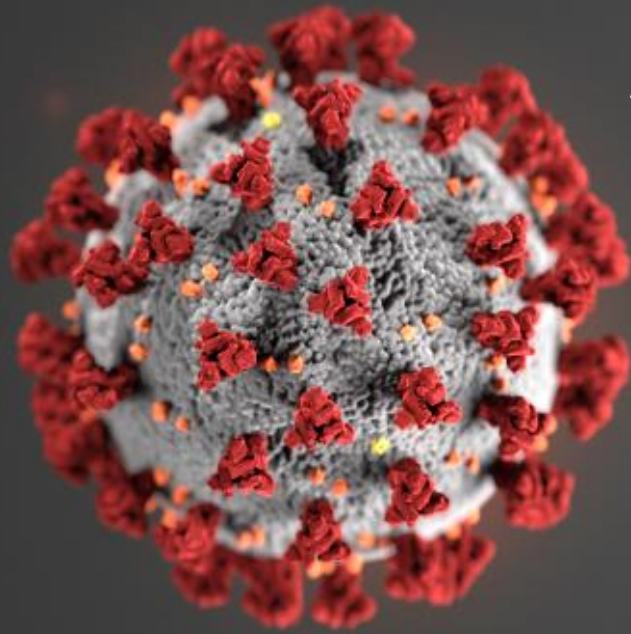


**377 meters**  
(360-395 meters)

# Takeaways and Implications

- Post acute COVID-19 patients may experience **continued poor health** and require **additional support** and tailored **physical** and **mental health** rehabilitation services
- **Healthcare systems** need to **recognize and meet the needs** of this patient population





#### Acknowledgements:

- Megan Gerdes, MPH, PCCU, CDC
- Post-COVID Conditions Unit, CDC
- Clinical Disease and Health Systems Team, COVID-19 Response, CDC

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

Clinicians can reach the Late Sequelae Unit at  
[EOCevent513@cdc.gov](mailto:EOCevent513@cdc.gov)

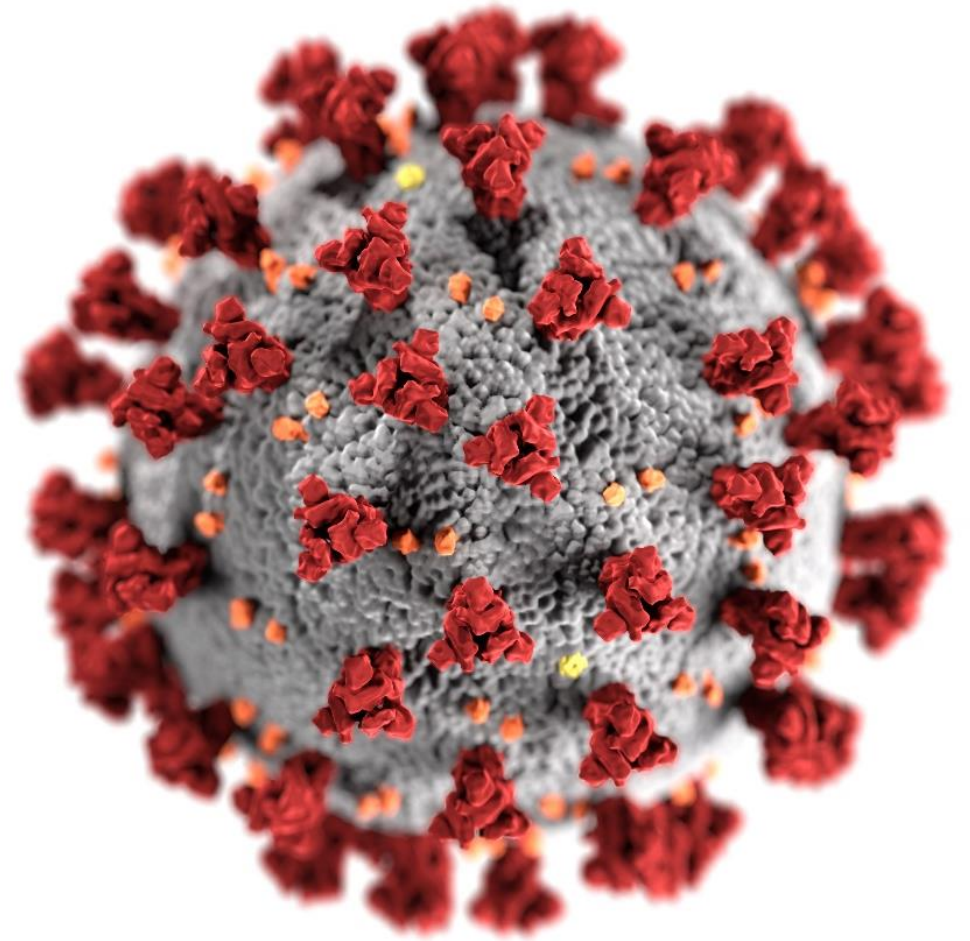
The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.





# Update: Interim Guidance for Healthcare Professionals Evaluating and Caring for Patients with Post- COVID Conditions

Jennifer R. Chevinsky, MD, MPH  
Post-COVID Conditions Unit, CDC



[cdc.gov/coronavirus](https://cdc.gov/coronavirus)

# Post-COVID Conditions Interim Guidance: Background

- Post-COVID conditions are associated with a spectrum of physical, social, and psychological consequences, as well as functional limitations
- Post-COVID conditions present significant challenges to patient wellness and quality of life
- Audience for interim guidance: Healthcare professionals (primary care)



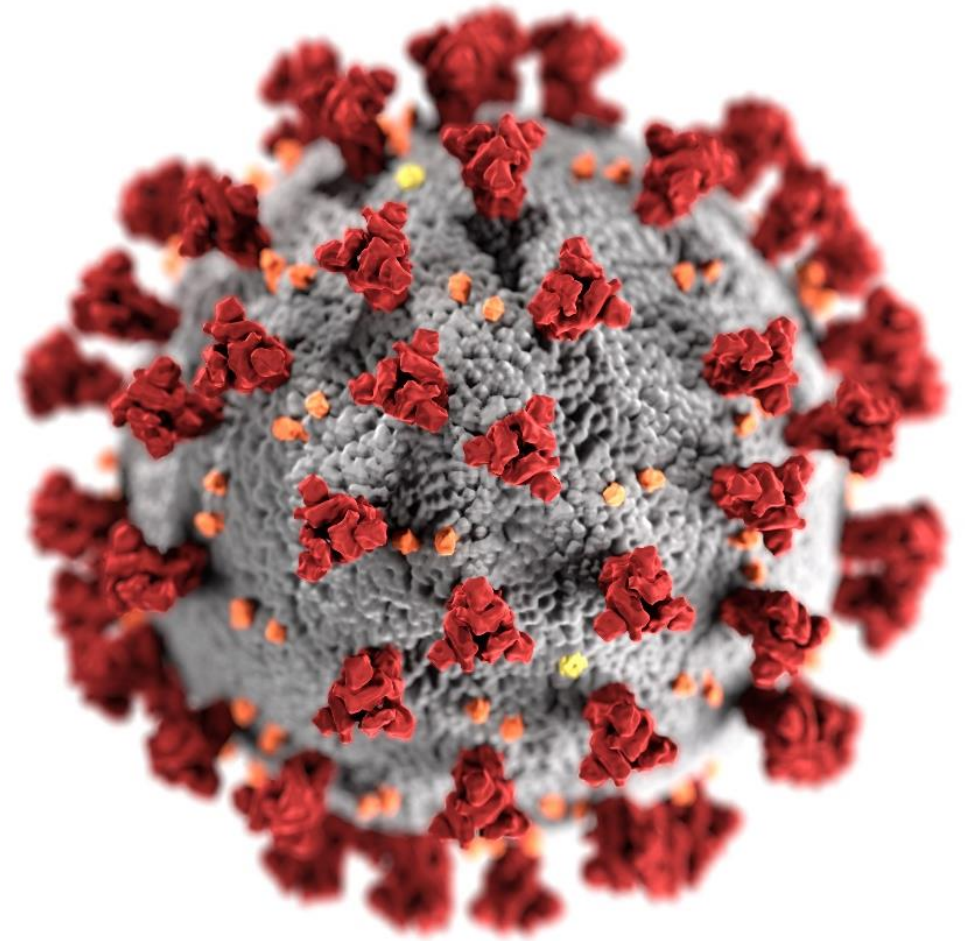
# Post-COVID Conditions Interim Guidance

- Post-COVID conditions is an umbrella term for the wide range of physical and mental health consequences that are present four or more weeks after SARS-CoV-2 infection
- Interim guidance includes:
  - General care considerations
  - Evaluation and workup
  - Management
  - Public health recommendations
- Anticipated release: Early June



# Thank you!

Post-COVID Conditions  
Unit can be contacted at  
**[eocevent513@cdc.gov](mailto:eocevent513@cdc.gov)**



**[cdc.gov/coronavirus](https://cdc.gov/coronavirus)**

# **SARS-CoV-2 Recovery Research: A View from NIH**

Andrea Lerner, MD

Medical Officer

Office of the Director

National Institute of Allergy and Infectious Diseases

National Institutes of Health

5/22/21

# Post Acute Sequelae of SARS-CoV-2: Rationale for Further Study

- Enormous global burden of SARS-CoV-2 infection
  - Even a small proportion with longer term effects represents a significant public health issue
- Distinct opportunity to understand longitudinal effects following known SARS-CoV-2 infection
- Potential to lend insights towards understanding the persistent effects of other known and suspected viral infections

# NIH Recovery (PASC) Initiative

**February 2021:** First Research Opportunity Announcements (ROAs) released

## SARS-CoV-2 Recovery Studies

- Clinical Recovery Cohort Studies
- Autopsy Cohort Studies
- EHR- and Other Real-World Data-based Studies

## Cores

- Clinical Science Core
- Data Resource Core
- Biorepository Core

❖ Additional ROAs anticipated in future

❖ Investigators will form a consortium and collaborate/share data across studies

# Key questions/gaps include:

- Characterization of epidemiology
- Description of various phenotypes, clinical spectrums, and natural histories
  - in people across initial disease severities
  - across lifespan
  - in diverse communities
- What are the pathophysiologic mechanisms of disease?
- What are risk or protective factors?
- Does SARS-CoV-2 infection trigger changes in the body that increase the risk of other conditions?



# Additional ongoing research

- **A Longitudinal Study of COVID-19 Sequelae and Immunity (NCT04411147)**
  - COVID survivors/close contacts; seen at NIH Clinical Center
  - Longitudinal clinical, mental health, immunological assessments over 3 years
- **Natural History of Post-COVID-19 Convalescence (NCT04573062)**
  - COVID-19 survivors; seen at NIH Clinical Center
  - Longitudinal assessments to characterize the long-term neurological manifestations
    - i.e. MRI/ PET scanning, neurocognitive testing, CSF, immune and viral studies, autonomic studies

# Additional ongoing research

- **Immunophenotyping Assessment in a COVID-19 Cohort (IMPACC)**
  - n= up to 2000 adults hospitalized with COVID, multiple sites
  - Longitudinal clinical assessments, immunophenotyping over 1 year
- **COVID-19 Observational Study (CORAL)**
  - **BLUE (Biology and Longitudinal Epidemiology) CORAL substudy**
    - Prospective, observational, longitudinal study of adults hospitalized with COVID (n=1500), multiple sites
    - Collection of data/biospecimens during hospitalization
    - Post-hospital telephone follow-up at 1, 3, and 6 months to assess health related QOL, disability, frailty, financial strain, cardiopulmonary symptoms, depression, anxiety, cognitive function, and health care utilization

**Thank you!**

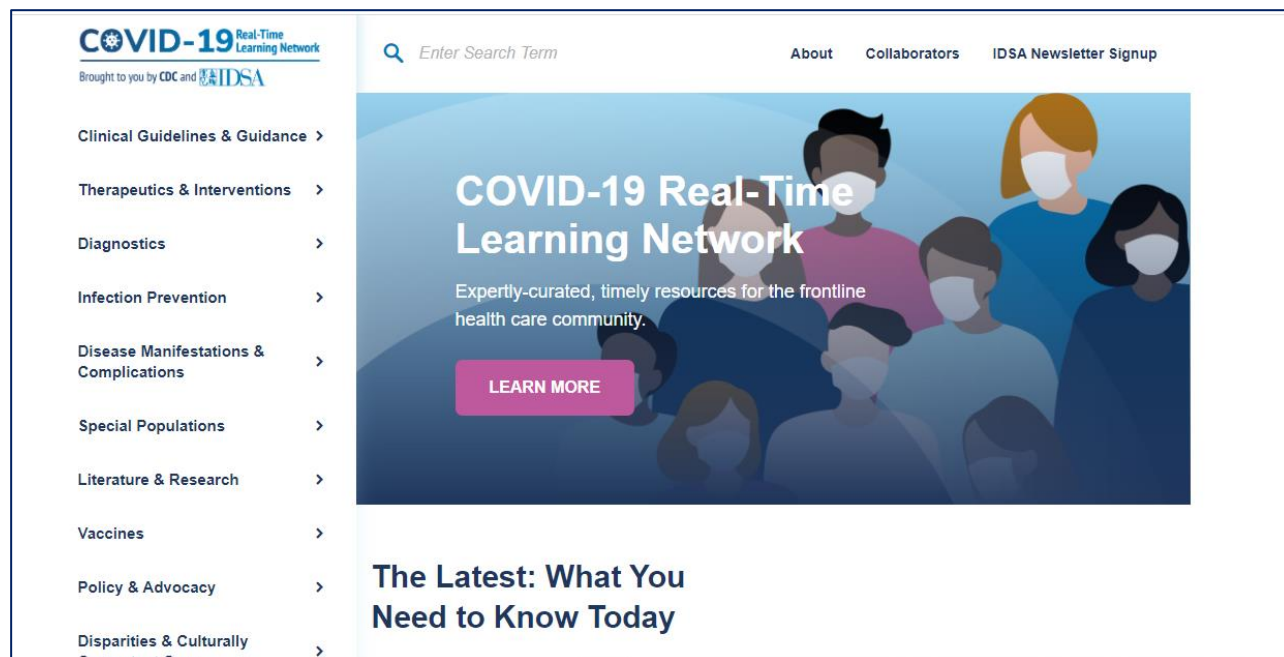
# Links and Resources

- Slide 13 - Health Care Utilization and Clinical Characteristics of Non-hospitalized Adults in an Integrated Health Care System 28–180 Days After COVID-19 Diagnosis: <https://www.cdc.gov/mmwr/volumes/70/wr/mm7017e3.htm>
- Slide 15 – Post-Covid Conditions Information for the Public: <https://www.cdc.gov/coronavirus/2019-ncov/long-term-effects.html>
- Slide 15 - Post-Covid Information for Healthcare Providers: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-care/post-covid-conditions.html>
- Slide 21 - Post COVID Conditions Unit Email: [eocevent513@cdc.gov](mailto:eocevent513@cdc.gov)

# COVID-19 Real-Time Learning Network

Brought to you by CDC and IDSA

*An online community bringing together information and opportunities for discussion on latest research, guidelines, tools and resources from a variety of medical subspecialties around the world.*



## Specialty Society Collaborators

American Academy of Family Physicians  
 American Academy of Pediatrics  
 American College of Emergency Physicians  
 American College of Physicians  
 American Geriatrics Society  
 American Thoracic Society  
 Pediatric Infectious Diseases Society  
 Society for Critical Care Medicine  
 Society for Healthcare Epidemiology of America  
 Society of Hospital Medicine  
 Society of Infectious Diseases Pharmacists

[www.COVID19LearningNetwork.org](http://www.COVID19LearningNetwork.org)

@RealTimeCOVID19

#RealTimeCOVID19

# CDC-IDSA Partnership: Clinical Management Call Support

## FOR WHOM?

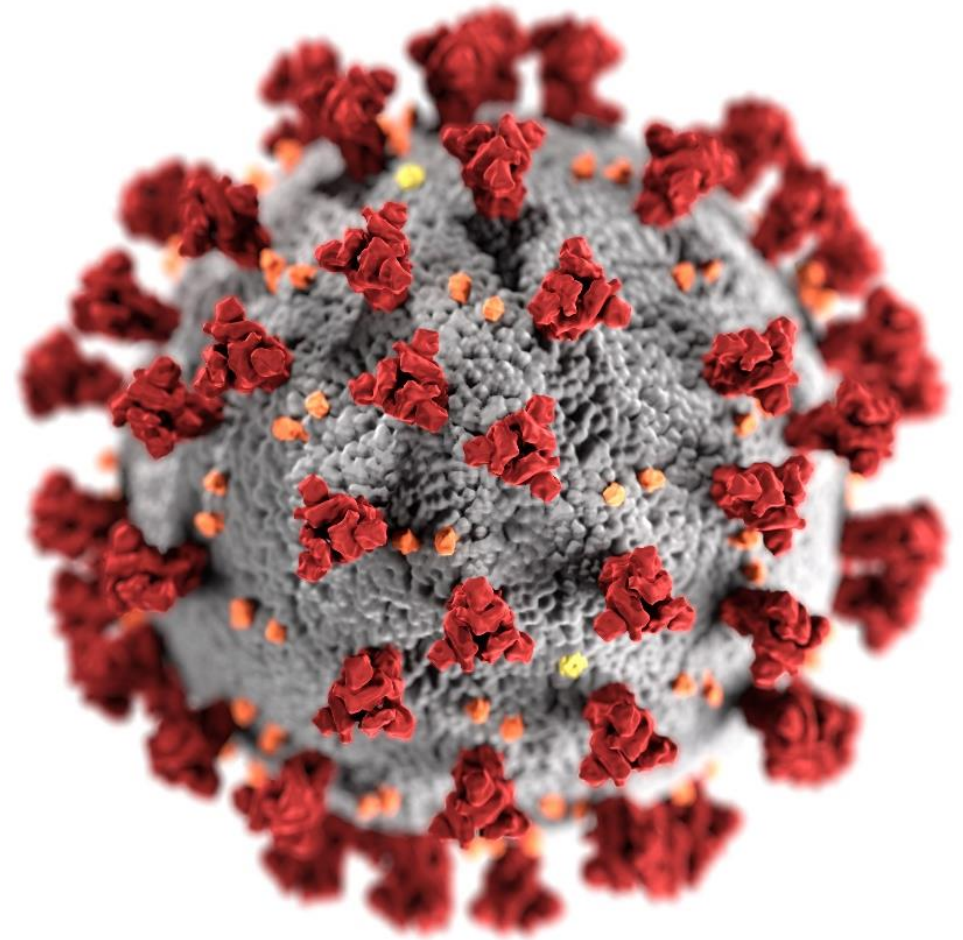
- Clinicians who have questions about the clinical management of COVID-19

## WHAT?

- Calls from clinicians will be triaged by CDC to a group of IDSA volunteer clinicians for peer-to-peer support

## HOW?

- Clinicians may call the main CDC information line at 800-CDC-INFO (800-232-4636)
- To submit your question in writing, go to [www.cdc.gov/cdc-info](http://www.cdc.gov/cdc-info) and click on Contact Form



**IDSA**  
Infectious Diseases Society of America

[cdc.gov/coronavirus](http://cdc.gov/coronavirus)



**idweek.org**  
**Virtual Conference**



**Save the Date**  
**Sept. 29 – Oct. 3, 2021**

***Attend, Learn & Collaborate.***  
**Advancing Science, Improving Care**

### **Important Dates:**

- Registration Opens Soon
- Abstract Submission Deadline – June 9
- Case Submission Deadline – June 9



Continue the  
conversation on Twitter

@RealTimeCOVID19  
#RealTimeCOVID19



We want to hear from you!  
Please complete the post-call survey.

**No Call May 29 - Memorial Day Weekend**

**Upcoming Calls:**

**Saturday, June 5**

**Saturday, June 19**

A recording of this call will be posted at

**[www.idsociety.org/cliniciancalls](http://www.idsociety.org/cliniciancalls)**

*-- library of all past calls available --*

**Contact Us:**

Dana Wollins ([dwillins@idsociety.org](mailto:dwillins@idsociety.org))

Deirdre Lewis ([dlewis@idsociety.org](mailto:dlewis@idsociety.org))