

# WELCOME!

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JULY 20

## IDENTIFICATION AND MANAGEMENT OF MENTAL HEALTH SYMPTOMS AND CONDITIONS ASSOCIATED WITH LONG COVID



BOLD  
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IMPACT



MHTTC

**SAMHSA**  
Substance Abuse and Mental Health  
Services Administration

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At the time of this presentation, Dr. Miriam E. Delphin-Rittmon served as Assistant Secretary for Mental Health and Substance Use in the U.S. Department of Health and Human Services (DHHS) and the Administrator of SAMHSA. The opinions expressed herein are the views of the speakers, and do not reflect the official position of DHHS or SAMHSA. No official support or endorsement of DHHS, SAMHSA, for the opinions described in this presentation is intended or should be inferred.

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PERSPECTIVES,  
AND EXPERIENCES

HEALING-CENTERED AND  
TRAUMA-RESPONSIVE

INVITING TO INDIVIDUALS  
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OWN JOURNEYS

PERSON-FIRST AND  
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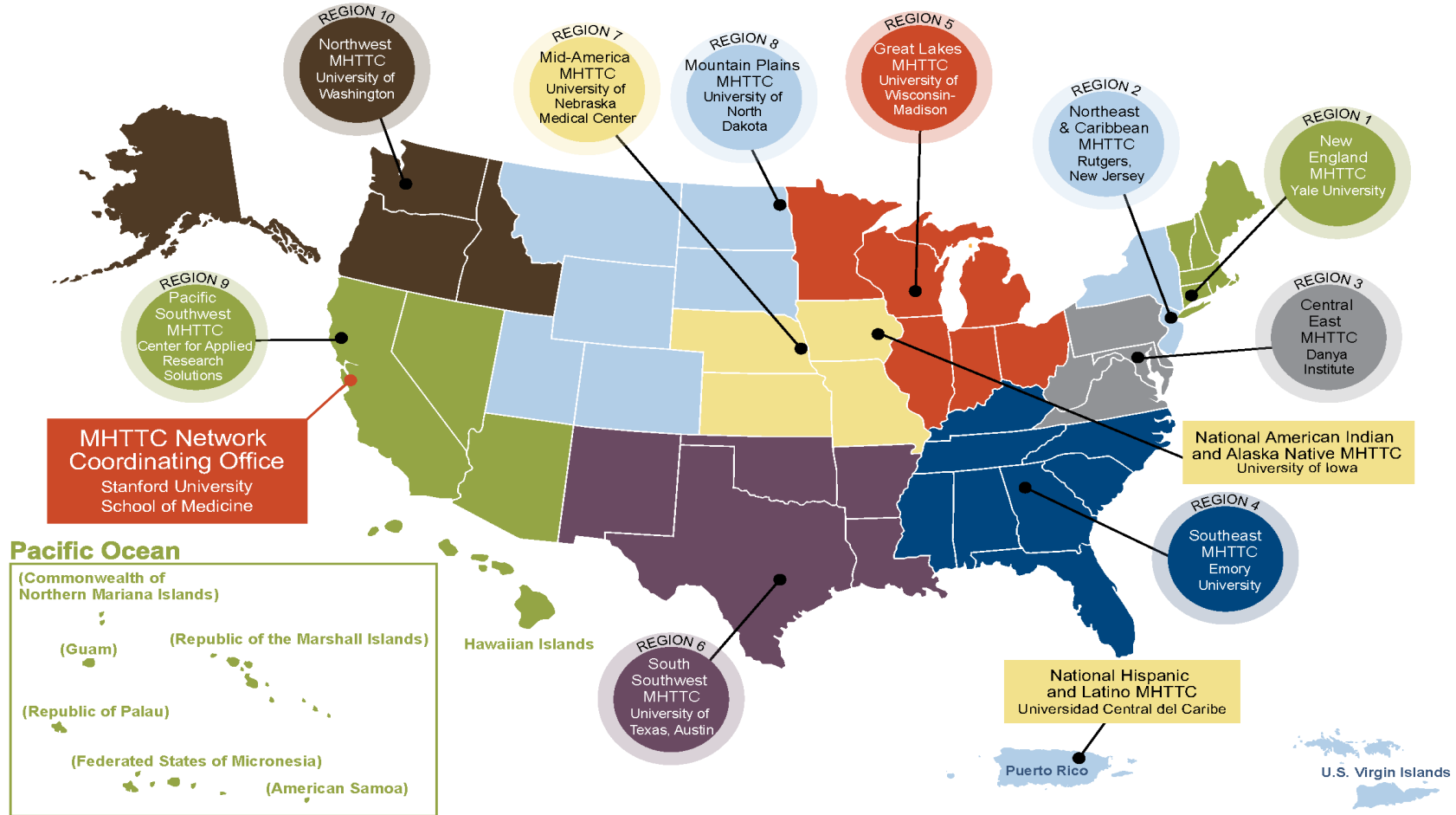
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**MHTTC**

Mental Health Technology Transfer Center Network  
Funded by Substance Abuse and Mental Health Services Administration

**MHTTC Network**



# National Mental Health and Substance Use Policy Laboratory

## Identification and Management of Mental Health Effects Associated With Long COVID

July 20, 2023



**SAMHSA**  
Substance Abuse and Mental Health  
Services Administration



# Welcome



**Molly Sanborn**  
Public Health Advisor  
SAMHSA

**SAMHSA**ADVISORY  
Substance Abuse and Mental Health  
Services Administration

JUNE 2023

**IDENTIFICATION AND MANAGEMENT  
OF MENTAL HEALTH SYMPTOMS AND  
CONDITIONS ASSOCIATED WITH LONG COVID**

The coronavirus disease of 2019 (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus (severe acute respiratory syndrome coronavirus 2) that has affected billions of people globally. By May 2023, countries across the world had reported over 767 million COVID-19 cases;<sup>2</sup> in the United States, over 104 million cases and 1.1 million deaths had occurred.<sup>3</sup> Some people who get COVID-19 experience long-term effects from the virus and health problems that can last or emerge weeks, months, or even years after infection.<sup>4</sup> These post-COVID conditions (PCC) are most commonly known as Long COVID. PCC that are primarily a result of the viral infection are also referred to as post-acute sequela of SARS CoV-2 infection (PASC).<sup>4</sup>

**Estimated Incidence of Long COVID  
Among Different Case Types<sup>1</sup>**

Vaccinated:	10–12 percent
Non-hospitalized:	10–30 percent
Hospitalized:	50–70 percent

From the start of the COVID-19 Public Health Emergency (PHE), primary care providers have been on the front line of care for individuals experiencing COVID-19 and have played a critical role in increasing our understanding of the disease. While the number of new cases continues to decrease, at least 10 percent of individuals may experience one or more symptoms of Long COVID.<sup>1</sup> Consequently, primary care providers can benefit from greater familiarity with Long COVID, and in particular, with its mental health conditions and related symptoms. These symptoms can include depression, anxiety, difficulty thinking or concentrating (sometimes referred to as “brain fog”), headache, sleep problems,<sup>4</sup> and psychosis.<sup>5</sup> In addition to these symptoms and conditions, pandemic-related stress and social isolation can increase the likelihood of alcohol consumption, substance use, and related deaths.<sup>6,7</sup>

This advisory discusses the epidemiology of mental health symptoms and conditions of Long COVID and provides evidence-based resources for their treatment. While Long COVID also affects children and adolescents, most research to date has focused on adults. The guidance in this document reflects this existing knowledge base.

# Welcome



- Rear Admiral and Assistant Surgeon General in the U.S. Public Health Service
- Deputy Assistant Secretary for Science and Medicine (DAS-S & M) in the Office of the Assistant Secretary of Health

**RADM Michael F. Iademarco, MD, MPH**



# Panelists



**RADM Michael F. Iademarco, MD,  
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Deputy Assistant Secretary for  
Science and Medicine (DAS-S & M),  
Office of the Assistant Secretary of  
Health



**Christopher (CJ) McKinney, PhD**  
Public Health Advisor  
Center for Mental Health  
Services,  
Substance Abuse and Mental  
Health Services Agency



**Cynthia Adinig**  
**Co-Founder BIPOC Equity Agency**  
Patient Advocate  
Member of SolveME and the CoRE  
Lived Experience Advisory Board at  
Mt. Sinai



**Elizabeth R. Unger, MD, PhD**  
Chief, Chronic Viral Diseases  
Branch  
Centers for Disease Control  
and Prevention

# Participant Poll



Have you or anyone you know experienced symptoms of Long COVID?

“Have you or anyone you know experienced symptoms of Long COVID?”

- Yes
  - I have experienced symptoms of Long COVID
  - I know someone who has experienced symptoms of Long COVID
  - I have experienced symptoms AND someone I know has experienced symptoms of Long COVID
- No
- I'm not sure

# Defining Long COVID

Signs, symptoms, and conditions that persist or develop after initial COVID-19 infection:

- 4+ weeks after the initial infection
- Multiple systems affected
- Pattern of relapse and remission and progression or worsening over time
- Possibility that severe and even life-threatening events may occur months after infection
- **Long COVID is not one condition. It represents many potentially overlapping entities, likely with different biological causes and sets of risk factors and outcomes.**

Office of the Assistant Secretary for Health. (2022). *National research action plan on Long COVID*. Department of Health and Human Services.

<https://www.COVID.gov/assets/files/National-Research-Action-Plan-on-Long-COVID-08012022.pdf>

## Long COVID has impacted mental health





# RATES OF MENTAL HEALTH CONDITIONS ARE HIGHER IN LONG COVID AMONG CERTAIN PEOPLE:

Hospitalized

More severe  
COVID-19 illness

Longer duration of  
COVID-19  
symptoms

Preexisting and  
comorbid  
psychiatric  
disorders

Black, Hispanic or  
Latino, and AI/AN  
people

Women







**Depression**



**Psychotic Disorder**



**Fatigue**



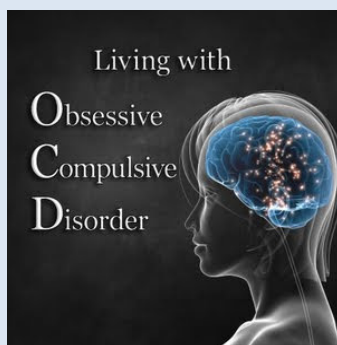
**Sleep Disorders**



**PTSD**



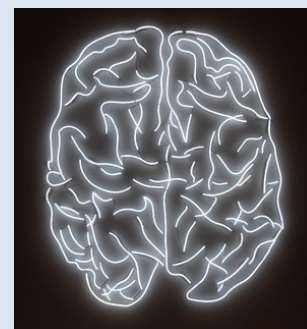
**Anxiety**



**OCD**



**Initial Onset of SUD**



**Brain Fog**

# MENTAL HEALTH SYMPTOMS AND CONDITIONS ASSOCIATED WITH LONG COVID

# Inequities in Long COVID Risk

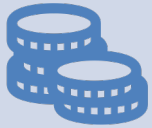
Racial and ethnic minority populations

Physical disabilities

Intellectual disabilities

LGBTQI+

# Social Determinants of Health and Long COVID



Economic stability



Healthcare access and quality



Neighborhood and built environment

# Assessing and Treating Mental Health Symptoms and Conditions

**Appendix B. Assessment Tools and Therapeutic Intervention Strategies by Functional Domain**

Assessment Tools and Therapeutic Strategies for Cognitive Deficits		
Domain	Patient Concerns	Assessment Tools
<b>Attention</b>	<ul style="list-style-type: none"> <li>Cognitive impairment or "brain fog"</li> <li>Difficulty concentrating on tasks</li> <li>Losing train of thought</li> <li>Misplacing objects</li> <li>Easily distracted</li> </ul>	<ul style="list-style-type: none"> <li>Digit Span</li> <li>The Mini-Mental State Exam</li> <li>Conspicuous Cognitive Assessment</li> <li>MoCA Cognitive Assessment</li> <li>MoCA Test</li> </ul>
<b>Processing speed</b>	<ul style="list-style-type: none"> <li>Slowed thought processes</li> <li>Difficulty following conversations</li> </ul>	<ul style="list-style-type: none"> <li>Continuous Performance Test (CPT)</li> <li>Oral Trail Making Test Part A</li> </ul>
<b>Motor function and speed</b>	<ul style="list-style-type: none"> <li>Slowed motor function</li> </ul>	<ul style="list-style-type: none"> <li>Grooved Peg Test</li> </ul>
<b>Language</b>	<ul style="list-style-type: none"> <li>Word-finding difficulty during conversation</li> <li>Grasping for words</li> <li>Verbal fluency</li> <li>Difficulty with comprehension of multiple step instructions</li> </ul>	<ul style="list-style-type: none"> <li>Boston Naming Test</li> <li>Neuropsychological Assessment Battery (NAB)</li> <li>Multilingual Examination</li> </ul>

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Assessment Tools and Therapeutic Strategies for Cognitive Deficits			
Domain	Patient Concerns	Assessment Tools	Therapeutic Interventions
<b>Mental fatigue</b>	<ul style="list-style-type: none"> <li>Mental exhaustion or brain fog due to sensory stimulation or after completing cognitive tests for extended periods without breaks</li> </ul>	<ul style="list-style-type: none"> <li>Mental Fatigue Scale (MFS)</li> </ul>	<ul style="list-style-type: none"> <li>Mindfulness stress reduction (MBSR),<sup>106</sup> and yoga</li> <li>Use of meditation and yoga to increase awareness of stress.</li> </ul>
<b>Executive function</b>	<ul style="list-style-type: none"> <li>Trouble planning, organizing, and sequencing (e.g., cooking, finances)</li> <li>Difficulty multi-tasking</li> </ul>	<ul style="list-style-type: none"> <li>Oral Trail Making Test Part B</li> <li>Executive Function Performance Test</li> <li>Wisconsin Card Sorting Inspired Task (WCST)</li> <li>Functional Assessment of Verbal Reasoning and Executive Strategies (FAVRES)</li> </ul>	<ul style="list-style-type: none"> <li>Training in strategies to self-awareness monitoring, and metacognition include goal-review, self-management, and executive strategies (stop-think-plan) perform techniques</li> </ul>

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Assessment Tools and Therapeutic Strategies in Mental Health			
Condition	Patient Concerns	Assessment Tools	Therapeutic Interventions
<b>Depression</b>	<ul style="list-style-type: none"> <li>Persistently depressed mood nearly every day for at least two weeks</li> <li>Loss of interest or pleasure in all or most activities</li> <li>Feelings of worthlessness or excessive or inappropriate guilt nearly every day</li> <li>Diminished ability to think or concentrate, or indecisiveness, nearly every day</li> <li>Symptoms cause significant distress or impairment in daily life</li> </ul>	<ul style="list-style-type: none"> <li>Beck Depression Inventory (BDI)</li> <li>Patient Health Questionnaire (PHQ-9)</li> </ul>	<ul style="list-style-type: none"> <li>Trauma-informed therapy<sup>107</sup></li> <li>Telehealth therapy options<sup>112</sup></li> <li>FDA-approved</li> </ul>
<b>Posttraumatic Stress Disorder (PTSD)</b>	<ul style="list-style-type: none"> <li>Recurrent, involuntary, and intrusive distressing memories</li> <li>Flashbacks or distressing dreams</li> <li>Hypervigilance</li> <li>Unable to sleep due to memories of traumatic experience</li> </ul>	<ul style="list-style-type: none"> <li>CAPS-5</li> <li>PTSD Checklist for DSM-5 (PCL-5)</li> <li>Using the PTSD Checklist for DSM-5 (PCL-5)</li> <li>PTSD Symptom Scale (PSS)</li> </ul>	

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Assessment Tools and Therapeutic Strategies in Mental Health			
Condition	Patient Concerns	Assessment Tools	Therapeutic Interventions
<b>Obsessive-Compulsive Disorder (OCD)</b>	<ul style="list-style-type: none"> <li>Recurrent, persistent intrusive thoughts, urges, or images</li> <li>Repeating actions or words to prevent or reduce anxiety or distress (e.g., ordering, checking, handwashing)</li> <li>Difficulty tolerating uncertainty</li> <li>Needing things orderly and symmetrical</li> </ul>	<ul style="list-style-type: none"> <li>Yale-Brown Obsessive Compulsive Scale (Y-BOCS)</li> </ul>	<ul style="list-style-type: none"> <li>Trauma-informed therapy<sup>107</sup></li> <li>Telehealth therapy options<sup>112</sup></li> <li>FDA-approved</li> </ul>
<b>Substance Use Disorder (SUD)</b>	<ul style="list-style-type: none"> <li>Consuming substances in larger amounts and for a longer time than intended</li> <li>Experiencing craving, a pressing desire to use the substance</li> <li>Impairment in ability to fulfill major obligations at work, school, or home</li> <li>Increasing tolerance to substances</li> <li>Withdrawal symptoms when substance use decreases</li> </ul>	<ul style="list-style-type: none"> <li>The Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST)</li> <li>Personal Drug Use Questionnaire (DAST-20)</li> <li>Fagerstrom Test for Nicotine Dependence</li> <li>Michigan Alcoholism Screening Test (MAST)</li> <li>Screening, Brief Intervention, and Referral to Treatment for Substance Use (SBIRT)</li> </ul>	<ul style="list-style-type: none"> <li>Trauma-informed therapy<sup>107</sup></li> <li>Telehealth therapy options<sup>112</sup></li> <li>FDA-approved</li> </ul>

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Assessment Tools and Therapeutic Strategies for Other Health Symptoms			
Condition	Patient Concerns	Assessment Tools	Therapeutic Interventions
<b>Psychological Stress</b>	<ul style="list-style-type: none"> <li>Crying spells or bursts of anger</li> <li>Difficulty eating</li> <li>Losing interest in daily activities</li> <li>Increasing physical distress symptoms, such as headaches or stomach pain</li> <li>Fatigue</li> <li>Feeling guilty, helpless, or hopeless</li> <li>Avoiding family and friends</li> <li>Difficulty coping with demands</li> <li>Chronic stress may lead to depression</li> </ul>	<ul style="list-style-type: none"> <li>Perceived Stress Scale (PSS)</li> <li>Keasler Psychological Distress Scale (K10)</li> </ul>	<ul style="list-style-type: none"> <li>Meditation<sup>111</sup></li> <li>Mindfulness-based stress reduction<sup>112</sup></li> <li>Yoga<sup>113</sup></li> <li>Stress-management techniques (guided imagery, progressive muscle relaxation, deep breathing)<sup>114</sup></li> </ul>
<b>Fatigue and Sleep Disorders</b>	<ul style="list-style-type: none"> <li>Excessive daytime sleepiness</li> <li>Falling asleep at inappropriate times</li> <li>Morning headaches</li> <li>Loud snoring</li> <li>Drowsy driving</li> <li>Sleep apnea</li> <li>Inability to fall asleep, "insomnia"</li> <li>Restless leg syndrome</li> </ul>	<ul style="list-style-type: none"> <li>The Epworth Sleepiness Scale (ESS) and The Epworth Sleepiness Scale for Children and Adolescents (ESS-CHAD)</li> <li>Pittsburgh Sleep Quality Index</li> <li>PSQI Scoring</li> </ul>	<ul style="list-style-type: none"> <li>Diet and lifestyle<sup>115</sup></li> <li>Pharmacology<sup>116</sup></li> <li>Chromotherapy and light therapy<sup>116</sup></li> <li>Surgery<sup>116</sup></li> </ul>

Note: Assessments and interventions in Appendix B have not been validated or studied with all demographic or racial/ethnic populations and some may be less effective for a variety of reasons, including language barriers or a failure to account for variations in dialect or stereotyping. This appendix is adapted from: Fine, J. S., Ambrose, A. F., Didehban, N., Fleming, T. K., Glashan, L., Longo, M., Merin, A., Ng, R., Nomi, G. J., Rubin, S., Silver, J. K., Terzic, C. M., Verdugo-Gutierrez, M., & Sampsel, S. (2022). Multi-disciplinary collaborative consensus statement on the assessment and treatment of cognitive symptoms in patients with post-acute sequelae of SARS-CoV-2 infection (PASC). *The Journal of Injury, Function, and Rehabilitation*, 14(1), 96-111. <https://online.liebertpub.com/doi/pdf/10.1002/jimr.12745>

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# Other Useful Resources: Appendix C



Patient Supports



Clinician Training Opportunities and Resources



Federal Resources



Trauma-Informed Approach



Professional Associations



# Roundtable Discussion



# Question One



**What are barriers patients face when seeking care for their Long COVID symptoms?**

## Question Two

**What are the best ways to connect resources to the people who need them?**



## Question Three

**What role have people with lived experience with Long COVID played in the government response and what role will they play moving forward?**





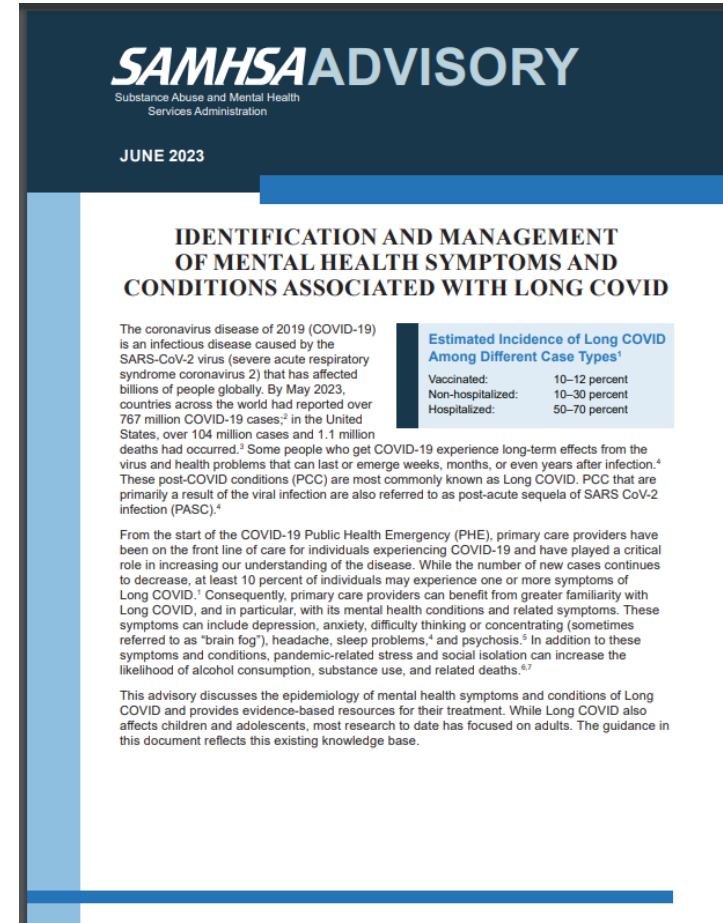
# Questions from Participants





# Long COVID Advisory

- The advisory is available on the SAMHSA Store:  
<https://www.samhsa.gov/resource/ebp/identification-management-mental-health-symptoms-conditions-associated-long-covid>
- For more information, contact [ebprc@samhsa.hhs.gov](mailto:ebprc@samhsa.hhs.gov)



# Next Steps

The MHTTC Network is funded through SAMHSA to provide this training. As part of receiving this funding we are required to submit data related to the quality of this event.

Please take a moment to complete a **brief** survey about today's training.

**Survey:** <https://ttc-gpra.org/P?s=990661>

## **Within a week:**

- The recording of today's session will be available on [mhttcnetwork.org](http://mhttcnetwork.org).
- Attendees will receive a follow-up email with instructions for downloading a certificate of completion.



The image is a 'THANK YOU' slide. It features a central blue square with diagonal stripes. The text 'THANK YOU' is centered in the blue square. The background is white with large, overlapping orange and peach-colored geometric shapes. A vertical bar on the left side is divided into three segments: orange, grey, and dark grey.

THANK  
YOU