Responses to Participants' Questions

This document provides responses to questions raised by seminar participants related to the following presentations:

- **Presentation 1: *Understanding Post-Covid Conditions***
  Sharon Saydah, PhD, Respiratory Viruses Branch, Division of Viral Diseases, Centers for Disease Control and Prevention
  Elizabeth (Beth) Unger, MD, PhD, Chief, Chronic Viral Disease Branch (CVDB), Division of High-Consequence Pathogens and Pathology, Centers for Disease Control and Prevention

- **Presentation 2: *RECOVER: Defining the Epidemiology and Pathogenesis of PASC (Long COVID) in Adults. Unanswered Questions and the Role of RECOVER in Advancing the Agenda***
  Steven Deeks, MD, Professor of Medicine, University of California, San Francisco

- **Presentation 3: *A Multi-Center Observational Study: The RECOVER Post-Acute Sequelae of SARS-CoV-2 Pediatric Cohort Study***
  Valerie Flaherman, MD, MPH, Professor of Pediatrics and Epidemiology and Biostatistics, University of California, San Francisco

Presentation 1: Questions and Responses

Q1. How is "severity of initial infection" defined? (Slide 16)

Response: Studies may vary in the definition of acute disease severity. But in general, the severity groups are operationalized based on the level of clinical care required during the acute illness. For example, patients may be grouped as hospitalized (severe) as compared with not hospitalized (less severe). The hospitalized group may be further subdivided by requirements for specialized care, such as intubation, extracorporeal membrane oxygenation, or admission to intensive care unit.

Q2. How are Long COVID cases being counted? And how will Long COVID disease burden be estimated now that CDC has moved away from an emphasis on case counts?

Response: COVID-19 case surveillance based on COVID-19 case reports shared from health departments to the CDC does not include information about Long COVID. It's not possible to count Long COVID cases in the same way that acute SARS-CoV-2 infections and COVID-19 hospitalizations are counted because there is no one diagnostic test and there are a wide variety of symptoms and conditions included in the broad term "Long COVID."

As of October 2021, there is an ICD-10 diagnosis code for post-COVID conditions that could help in monitoring. However, it's too early to know about the adoption and use of this code. The CDC will monitor post-COVID conditions with multiple surveillance methods, including surveys and studies as described by Saydah and colleagues in their commentary

Q3. *Does the data on returning to work include only hospitalized patients? How well do these findings apply to nonhospitalized patients?* (Slide 19)

Response: The data on return to work one-year post illness cited in Slides 6 and 10 are from a study by Huan et al. that included only hospitalized patients. We do not yet have similar information on nonhospitalized patients. This is an important question that will be addressed.

Q4. Why is dysautonomia not included on the Venn diagram, as it's present in a majority of Long COVID patients based on existing research? (Slide 22)

Response: The Venn diagram illustrates the concept that many different syndromes following acute illness share common features. All possible syndromes with overlap were not included. Dysautonomia is recognized as a problem experienced in many of the conditions listed.

Q5. ME/CFS is listed twice on the chart shown and dysautonomia is not listed at all. Dysautonomia in our internal data shows 66% have already been diagnosed with a form of dysautonomia and if only half of those suspected and pending testing also prove positive, we are looking at 80% of the Long COVID community developing a form of dysautonomia, with POTS being the most common.

Response: As noted in the response to Question 4, the Venn diagram illustrates the concept that many different syndromes following acute illness share common features. ME/CFS and post-viral fatigue syndrome are both listed, as these are viewed as different conditions by many investigators. Dysautonomia, including POTS, is recognized as a problem experienced in many of the conditions listed.

Q6. Does "diabetes" refer to diabetes insipidus or diabetes mellitus? If diabetes mellitus, does it refer to type 1 or 2? (Slide 14)

Response: The CDC study referenced on diabetes refers to diabetes mellitus. The report did not distinguish diabetes by type; however, both type 1 and type 2 diabetes are included in the results.

Presentation 2: Questions and Responses

Q7. People who self-identify as Asian American, Native Hawaiian, Pacific Islander, American Indian, or Alaska Native only make up 4% of the cohort, but nationwide they make up at least 7% of the population. Why are the recruitment targets so low? (Slide 3)

Response: The target demographics for RECOVER are based on the US population of individuals who became infected with SARS-CoV-2, which is different from the general US population. RECOVER is designed to reflect the pandemic in the US.

Q8: Will underlying health conditions be purposefully and well represented in the uninfected control group?

Response: RECOVER is not recruiting based on comorbid conditions.

Q9. The presentation lists "social determinants of health" as data being collected in the adult cohort. Please elaborate on what this encompasses for this study and how this will inform disparities research going forward.

Response: Questions assess education, the number of people in a household, homelessness, description of living place, community cohesion, primary language, fluency in English, birthplace, financial insecurity, employment, income, access to healthcare, health insurance, loss of insurance because of the COVID pandemic, hunger vital sign, discrimination, social support, and alcohol and substance use.

Presentation 3: Questions and Responses

Q10: Have any of the pediatric studies distinguished between the impact of the pandemic (e.g., stress, trauma) and the virus itself on mental health and neurocognitive outcomes?

Response: Yes, the study by Shuffrey et al. discussed in this presentation showed no difference in neurocognitive development between infants exposed to the virus and infants not exposed, but did show a profound impact of the pandemic on infant neurodevelopment.

Seminar Slides

To request a copy of the R3 seminar slides, please email RECOVER_ACC@rti.org.

To Learn More

- Information about RECOVER research and to volunteer for studies: https://recovercovid.org/research
- Frequently Asked Questions about RECOVER and PASC: https://recovercovid.org/faqs
- CDC information: Information for the general public and for healthcare providers about post-Covid conditions: https://www.cdc.gov/coronavirus/2019-ncov/long-term-effects/