

NIH Workshop on Post Acute Sequelae of COVID-19: Lessons Learned

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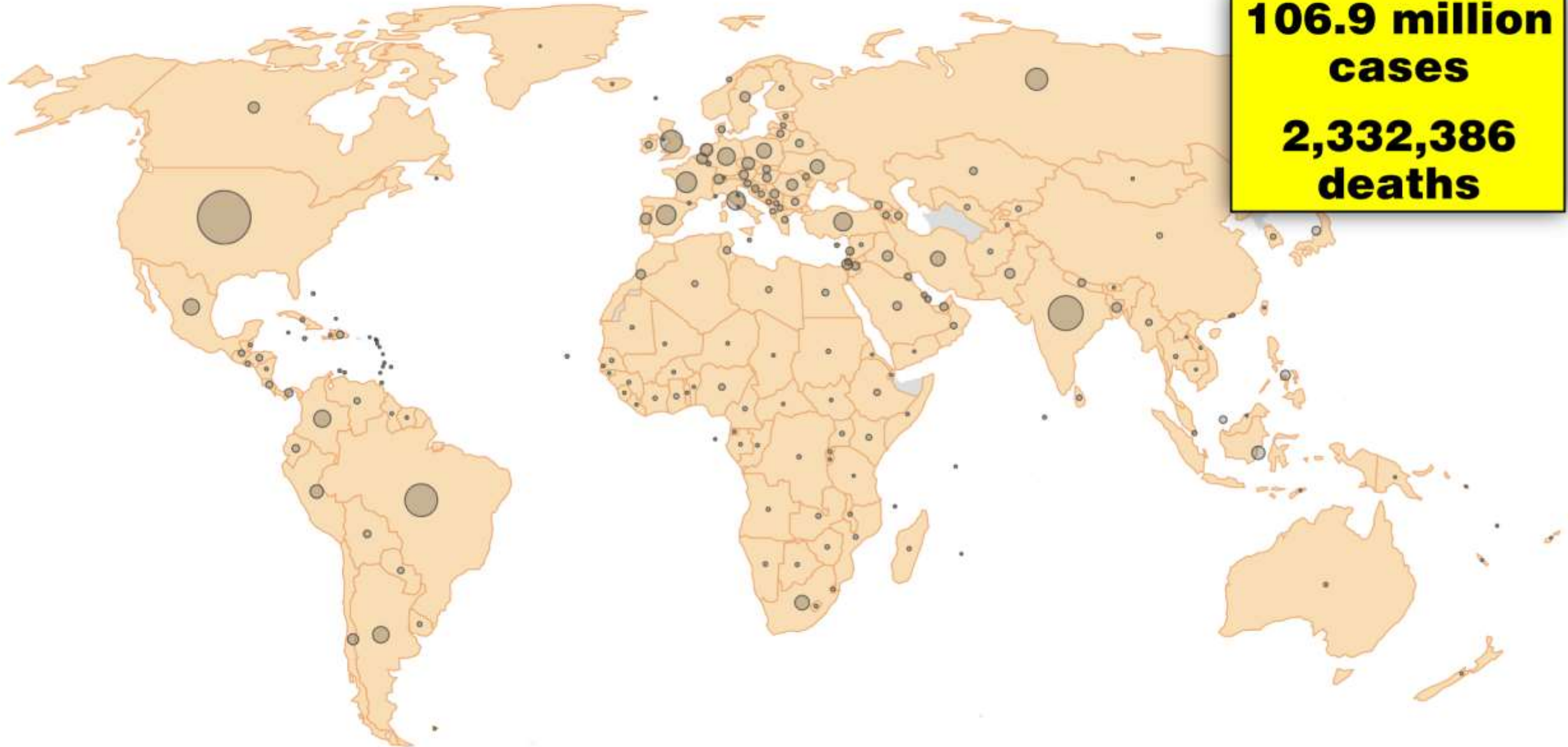
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National Institutes of Health

2/9/21

COVID-19 Globally



Sources: NPR.org; Worldometer. Data as of 2/8/2021

Rationale for Workshop and Further Study:

- Enormous global burden of SARS-CoV-2 infection
 - Even a small proportion with persistent 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 persistent effects of other known and suspected viral infections

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The Journal of the
American Medical Association

Persistent Symptoms in Patients After Acute COVID-19

A Carfi, R Bernabei and F Landi for the Gemelli Against
COVID-19 Post-Acute Care Study Group



Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

July 31, 2020

Morbidity and Mortality Weekly Report (MMWR)

Symptom Duration and Risk Factors for Delayed Return to Usual Health Among Outpatients with COVID-19 in a Multistate Health Care Systems Network — United States, March–June 2020

MW Tenforde, LR Feldstein et al. for the IVY Network Investigators
and CDC COVID-19 Response Team

JOURNAL OF

July 30, 2020

MEDICAL VIROLOGY

Postdischarge Symptoms and Rehabilitation Needs in Survivors of COVID-19 Infection: A Cross-Sectional Evaluation

SJ Halpin, C McIvor, M Sivan et al.

JOURNAL OF

August 24, 2020

INFECTION

Post-Discharge Persistent Symptoms and Health-Related Quality of Life After Hospitalization for COVID-19

E Garrigues, Y Nguyen et al.

NIH Workshop on Post-Acute Sequelae of COVID-19, Dec. 3-4, 2020

- **Workshop goal:**

To summarize knowledge on post-acute manifestations of COVID-19 and to identify key knowledge gaps necessary to fill

- **Workshop co-chairs:**

Dr. Emily Erbelding (NIAID/NIH)

Dr. Adaora Adimora (University of North Carolina)

Workshop Structure:

- **Day 1:**
 - Clinical observations
 - Viral pathogenic features and host immune response
 - Perspectives

- **Day 2: Breakout sessions**
 1. Neurologic/Psychiatric
 2. Cardiovascular
 3. Pulmonary
 4. Renal/GI/Metabolic
 5. Immunologic/Rheumatologic
 6. Pediatric



Charge:

- Identify key knowledge gaps and questions that need to be answered in each focus area and discuss potential approaches/considerations for filling these gaps

Key Takeaways: Clinical

- Presenters from post-COVID clinics reported:
 - Common: cognitive impairment and mental health concerns
 - Disproportionate representation from racial/ethnic minorities (US)
 - Lack of healthcare coverage, certain social issues are frequent barriers to care (US)
- Multiple phenotypes likely present including but not limited to:
 - Post-ICU syndrome: well characterized
 - “Long COVID”: persistent symptoms after both severe and non-severe illness, needs further study
- WHO case reporting form, ICD-10 code (U09: Post-COVID Condition)

Key Takeaways: Virus and Host

- Immune responses to SARS-CoV-2 may play a role in post-acute manifestations but much is unknown
 - Potential impact of:
 - Autoantibodies
 - Antibody and T cell responses
 - viral dynamics
 - host genetics
- MIS-C is associated with certain immune phenotypes compared with pediatric COVID
- Preclinical study: animal models, *in vitro* models

Fundamental Gaps/Needs:

- Need common vocabulary/terminology and case definitions
- Define epidemiology (including incidence and prevalence of various phenotypes in full spectrum of patients and in diverse communities)
- Describe the various phenotypes of this condition, their clinical spectra, and their natural histories

Fundamental Gaps/Needs:

- What are the pathophysiologic mechanisms of disease?
 - Viral factors, host factors
- Identify risk factors (including comorbidities, severity of initial disease, viral and host genetics, host immune response)
- How do therapeutics given during early disease and vaccines alter outcomes?
- Engagement and partnership with community and equity must be a priority.

Steps Forward

- Writing up proceedings of workshop
- Continue to engage with key stakeholders (including WHO, CDC, clinicians, patient community)
- Facilitate ongoing collaboration and knowledge sharing between workshop participants
- NIH has issued a Notice of Intent to Publish Research Opportunity Announcements:
<https://covid19.nih.gov/sites/default/files/2021-02/PASC-Pre-Notice.pdf>

