

# Racial/Ethnic Disparities in Post-Acute Sequelae of SARS CoV-2 infection

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**RECOVER**

Researching COVID to Enhance Recovery

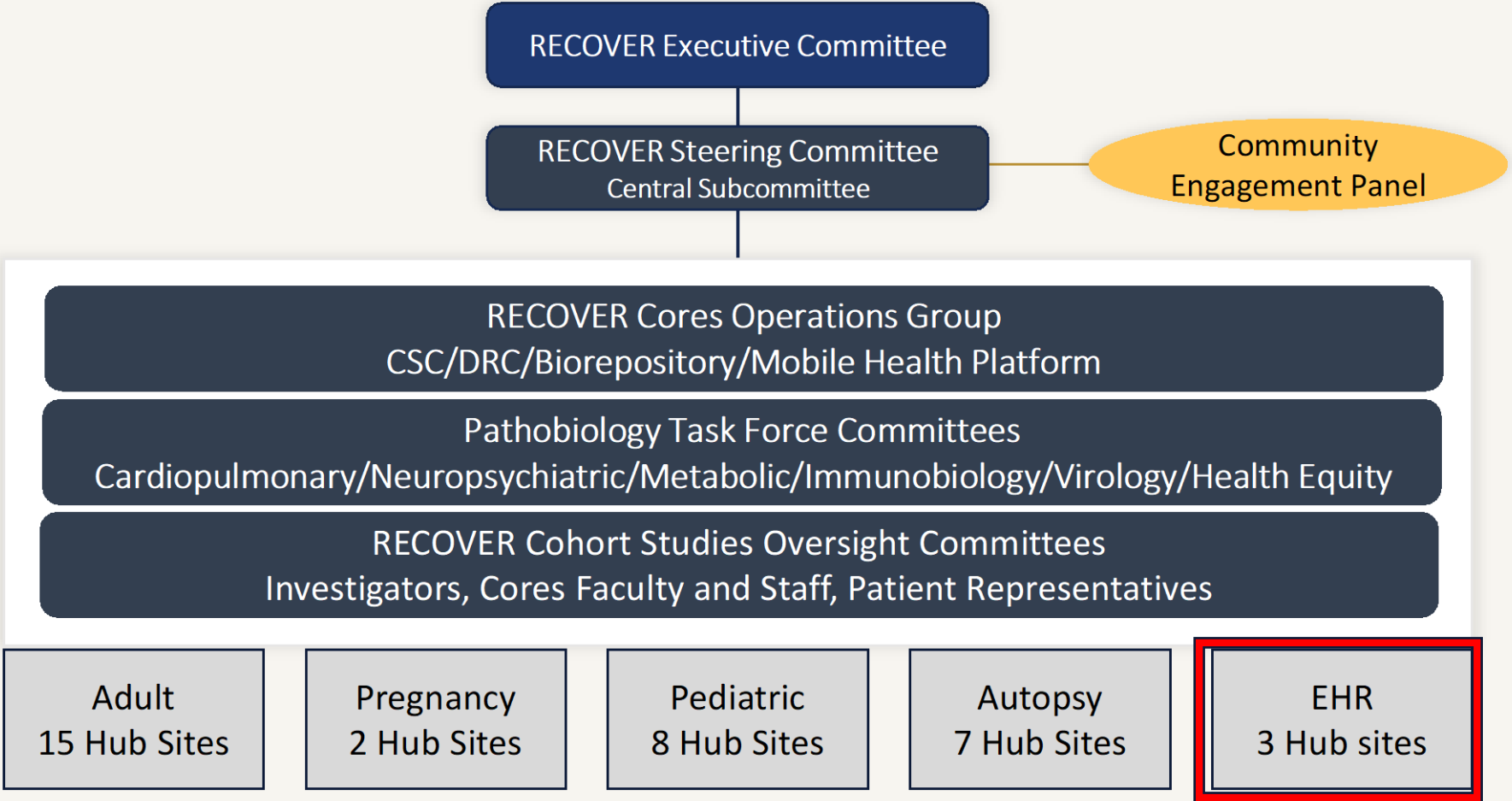
*An Initiative Funded by the National Institutes of Health*

# Disclosure

- Funding: OTA HL161847-01 (contract number EHR-01-21)

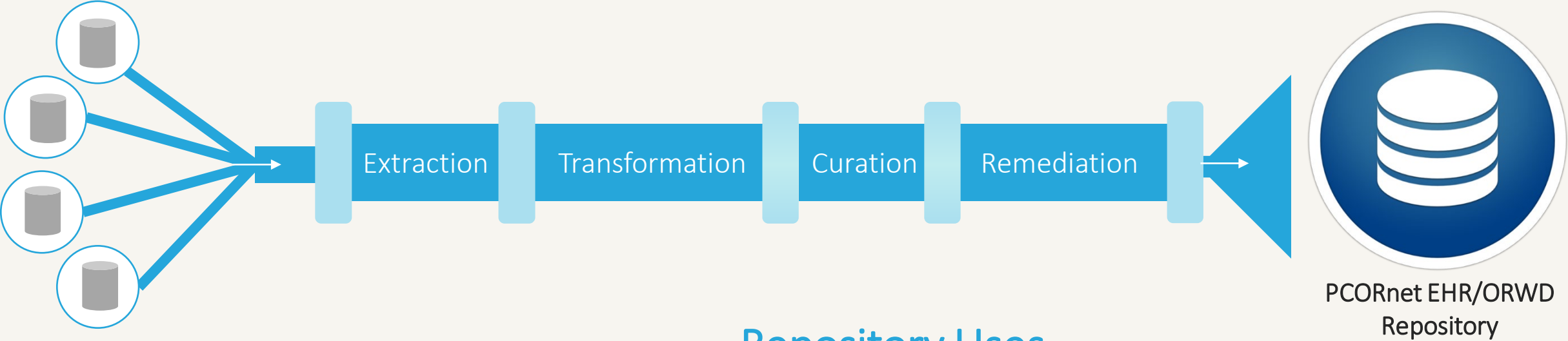


# NIH RECOVER Initiative

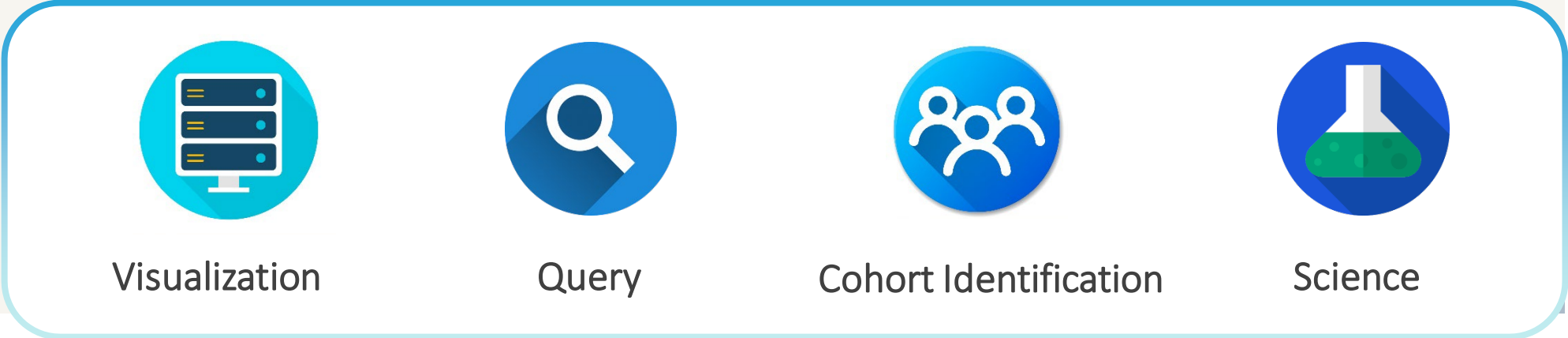


# PCORnet RECOVER EHR Repository

Data from 41 Health Systems in the PCORnet CDM Format



## Repository Uses



# Disparities in PASC: Background

- **Significant disparities in the acute phase of COVID-19 have been widely reported throughout the pandemic**
  - Patients from racial/ethnic minority groups were more likely to be infected, hospitalized following a positive test, and had higher mortality (Romano et al., 2021; Hooper et al., 2020; Mackey et al., 2021)
- **Do patients from racial/ethnic minority groups also have higher risk of developing PASC conditions and symptoms?**
  - Possible reasons:
    - Delayed treatment for acute COVID-19
    - Lower vaccination rates
    - Disadvantaged social conditions, including poorer access to medical care



# Disparities in PASC: Early Evidence and Gaps

- **Some early evidence on disparities in PASC**
  - **Yoo et al., (2022):** COVID-19 patients with **Medicaid coverage** are less likely to develop PASC conditions and no associations between **race/ethnicity and SDoH** and PASC conditions.
    - UCLA, ~1000 patients; patient responses on questionnaires
  - **Cohen et al., (2021): Black** COVID-19 patients in a Medicare Advantage plan are more likely to develop certain PASC conditions (e.g., respiratory failure and cardiac rhythm disorders) compared with white patients.
    - United HealthGroup administrative claims
  - **Xie et al., (2021): Black** veterans with COVID-19 have higher burden of certain PASC conditions (e.g., chest pain and shortness of breath) compared with white veterans.
    - ICD 10 codes in VA EHR database



## Disparities in PASC: Objective

- Examine racial/ethnic disparities in the incidence of the post-acute sequelae of SARS-CoV-2 infection (PASC) among COVID-19 patients



# Disparities in PASC: Sample

- **Patient cohort**

- Patients with a positive SARS-CoV-2 PCR/antigen test or a COVID-19 diagnosis between March 1st, 2020 and October 31st, 2021 in five health systems affiliated with INSIGHT CRN (N = 83,628).



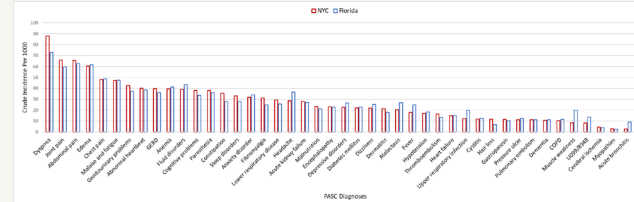


# Disparities in PASC: Defining PASC

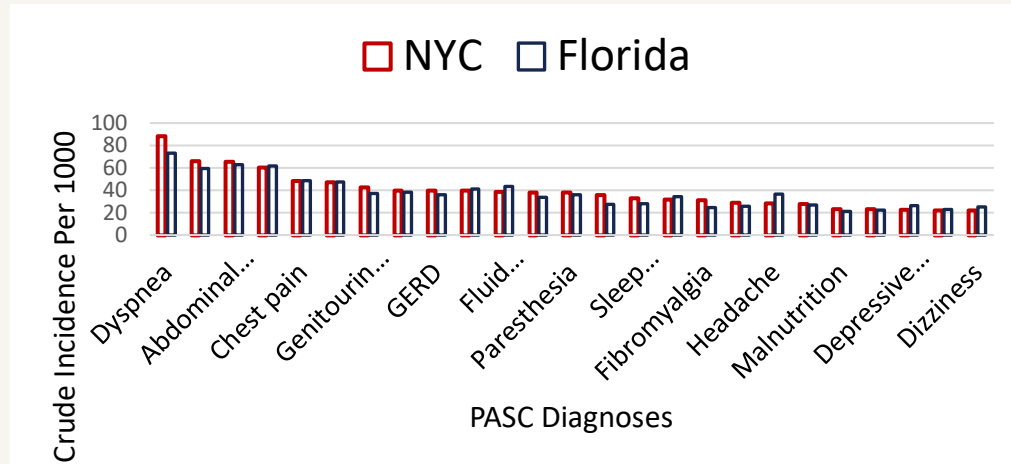
137 categories CCSR condition categories - From initial ~6,000 code list



■ HSR  
■ AI/ML  
■ Overlap  
■ Literature/clinician input



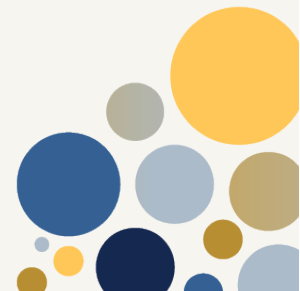
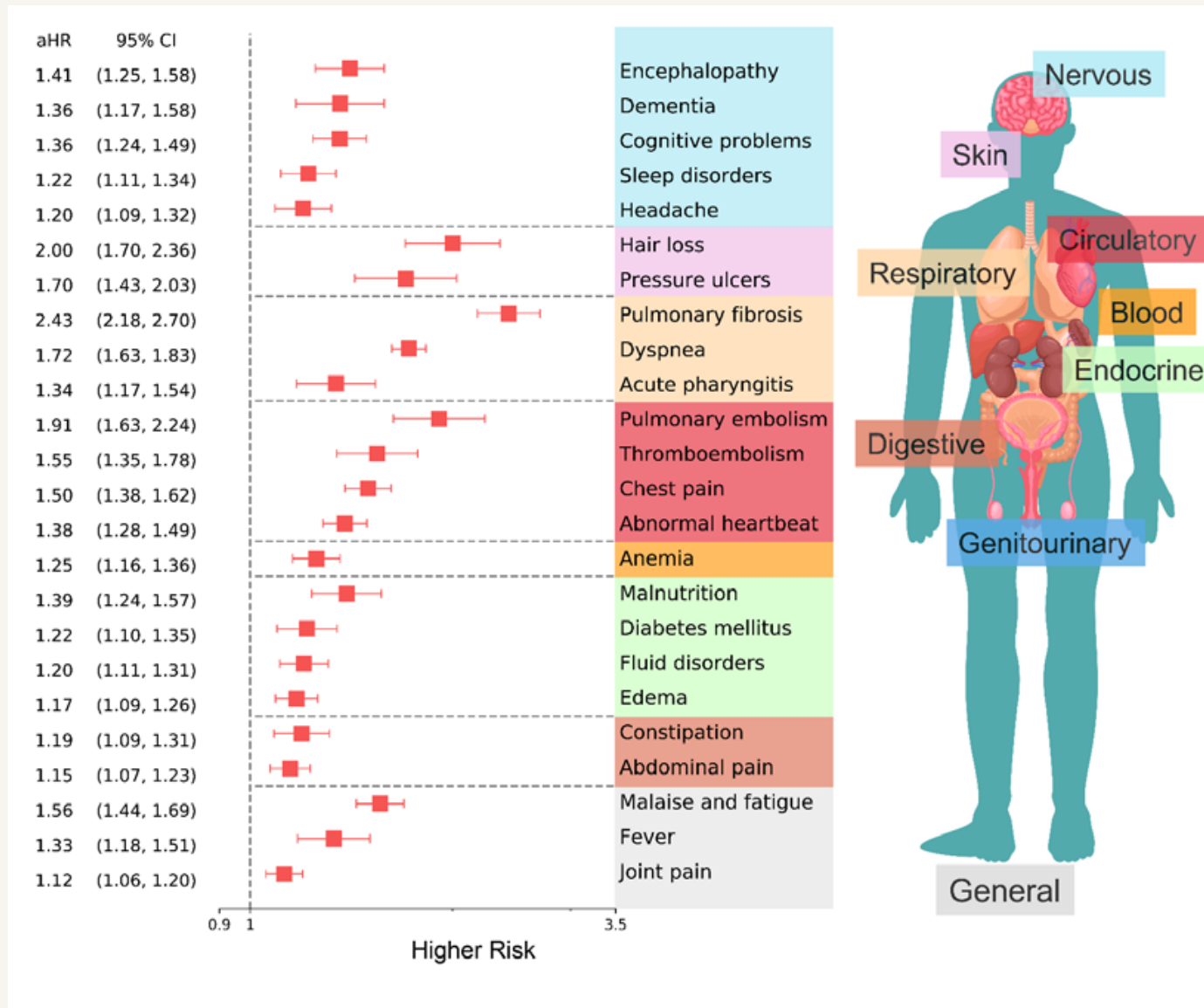
Selected 44 PASC categories with varying incidence and significance



Refined to narrow 25 condition list



# Disparities in PASC: Defining PASC



# Disparities in PASC: Variable of Interest

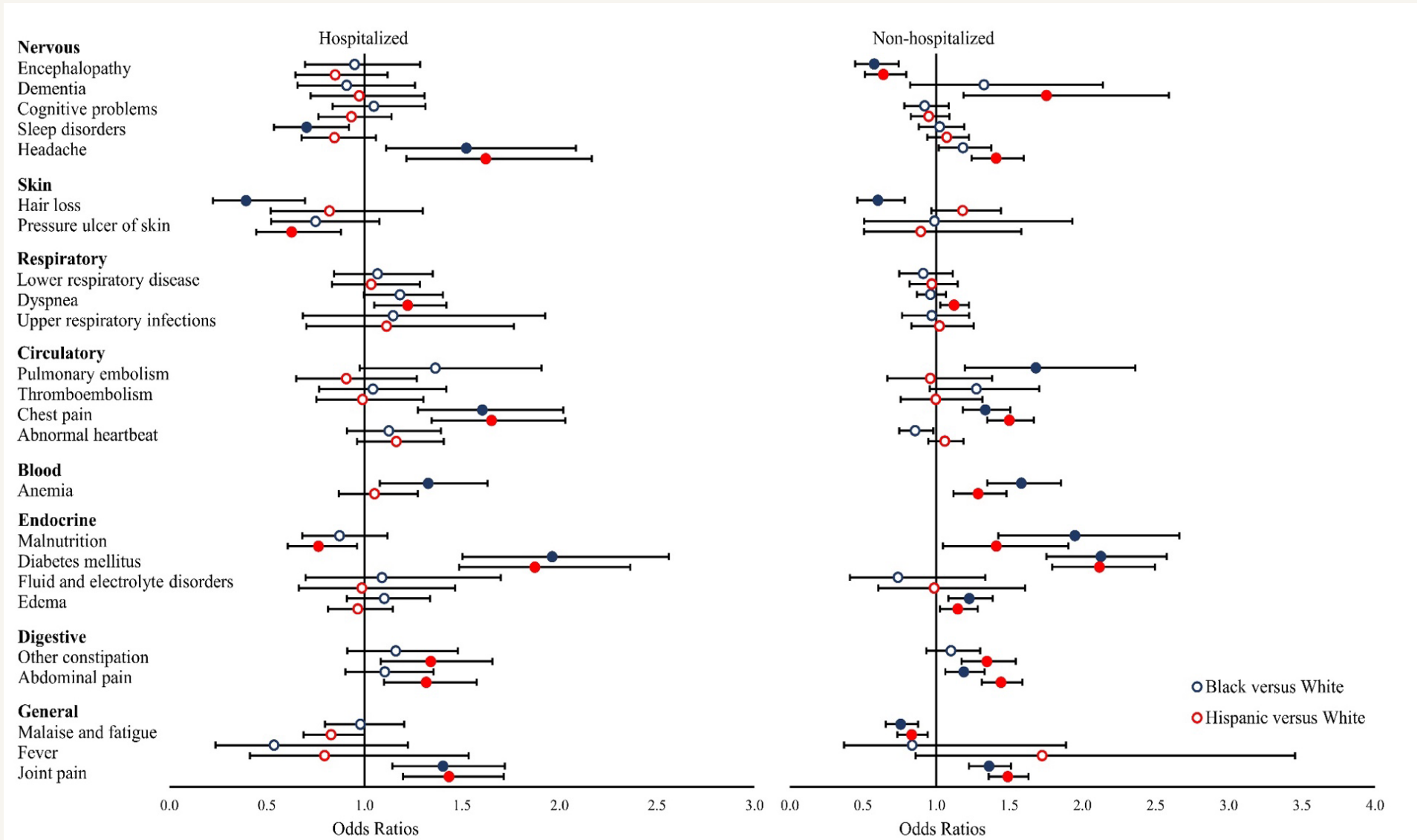
- **Key independent variables**

- Race/ethnicity

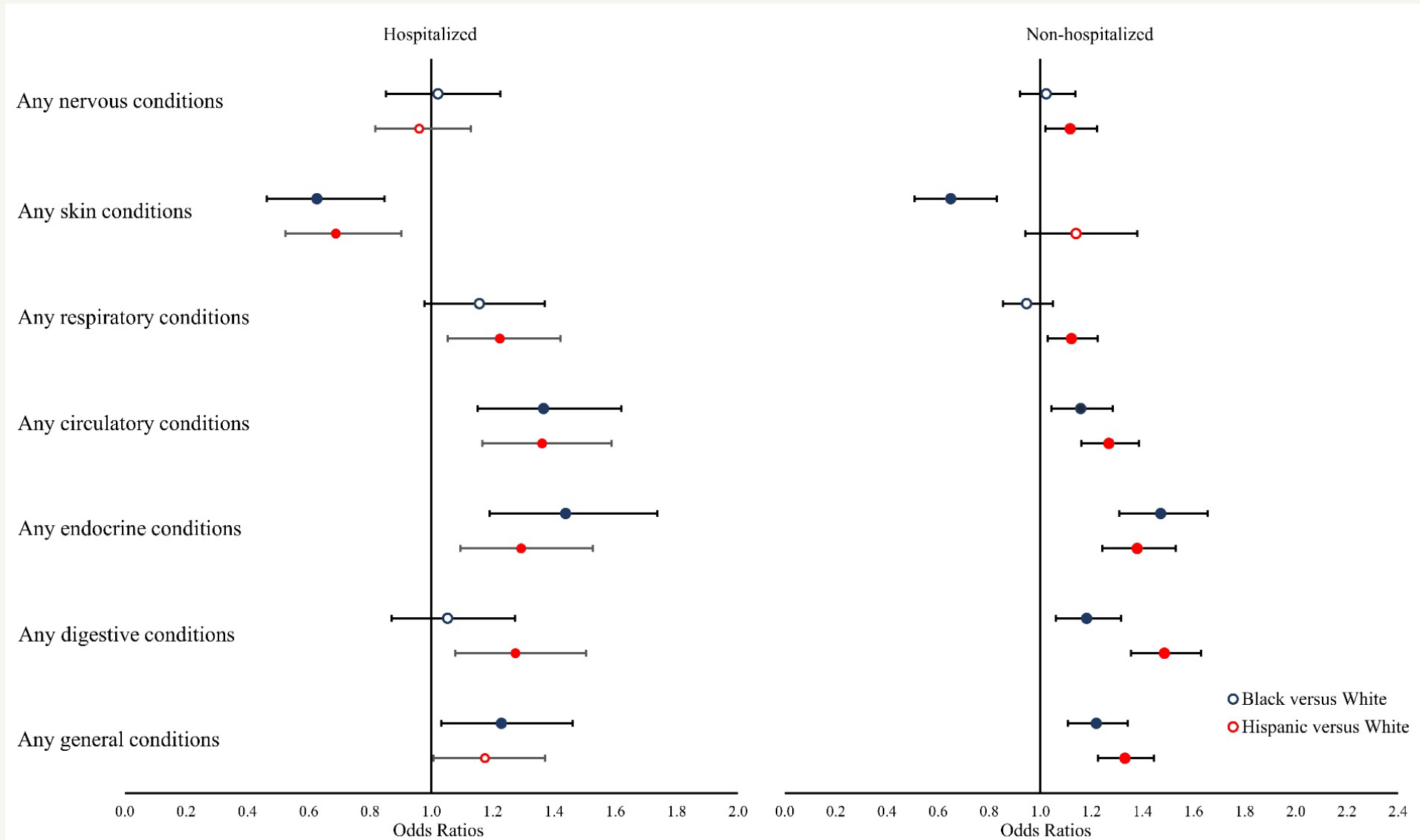
- Non-Hispanic White, Non-Hispanic Black, and Hispanic
- Other race/ethnicity groups have a small sample size and will be examined in the future when data from other sites are available



# Disparities in PASC: Key Findings



# Disparities in PASC: Key Findings



# Summary

- Evidence using a large and generable patient sample suggests disparities in PASC conditions by patient race/ethnicity
- The reasons for these disparities are unknown and warrant further examination
  - Vaccination
  - Timely treatment for acute COVID-19
- Other completed and ongoing projects:
  - The spatial and contextual exposome risk factors at more granular neighborhood level (e.g., census block group).



# Acknowledgement

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- OneFlorida CRN
- Fei Wang, Chengxi Zang, and others



# References

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