ABSTRACT

The National COVID Cohort Collaborative (N3C) is one of the largest electronic health record databases in the United States, integrating data from over 23 million patients across 84 sites. This project outlines the research process within the N3C platform and demonstrates its capacity to address complex clinical questions about COVID-19 in historically underrepresented populations in research, such as individuals with neurodevelopmental disorders. A case study example is delivered which examines the relationship between changes in body mass index and mental health diagnoses following the COVID-19 lockdown among transitional-age youth with autism spectrum disorder and attention-deficit/hyperactivity disorder. This project also delivers a training guide and introductory session—developed in collaboration with the Clinical Research Informatics Team at the Southern California Clinical and Translational Science Institute—to help researchers at the University of Southern California and Children's Hospital Los Angeles leverage N3C for their own investigations, with consideration for the responsible use of patient data when studying marginalized communities.

Plain Language Summary

The National COVID Cohort Collaborative (N3C) is one of the largest, national electronic health record databases. It provides a unique opportunity to study how the COVID-19 pandemic affected people who are often left out of research. In this project, I show how N3C can be used to explore important questions about these underrepresented groups by:

1. **A case study example** about how changes in body mass index relate to mental health diagnoses after the COVID-19 lockdown in young adults with Autism and ADHD.

2. **Sharing resources I created** to help other researchers at the University of Southern California and Children's Hospital Los Angeles start their own N3C projects.