

Biomedical Informatics Grand Rounds
Wednesday, March 31, 2021 3:00 pm – 4:00 pm

The National COVID Cohort Collaborative: Clinical Characterization and Early Severity Prediction



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Remote Access

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Meeting ID: 956 1719 7636 Passcode: 924293

Bio: Dr. Moffitt received his B.S. and Ph.D. from the Department of Biomedical Engineering at Georgia Tech and Emory University, and completed his postdoctoral research in the Lineberger Cancer Center at the University of North Carolina. He joined the BMI department at Stony Brook University in 2017.

Abstract: The majority of U.S. reports of COVID-19 clinical characteristics, disease course, and treatments are from single health systems or focused on one domain. Here we report the creation of the National COVID Cohort Collaborative (N3C), a centralized, harmonized, high-granularity electronic health record repository that is the largest, most representative U.S. cohort of COVID-19 cases and controls to date. This multi-center dataset supports robust evidence-based development of predictive and diagnostic tools and informs critical care and policy. This is the first description of an ongoing longitudinal observational study of patients seen in diverse clinical settings and geographical regions and is the largest COVID-19 cohort in the United States. Such data are the foundation for machine learning models that can be the basis for generalizable clinical decision support tools. The N3C Data Enclave is unique in providing transparent, reproducible, easily shared, versioned, and fully auditable data and analytic provenance for national-scale patient-level EHR data. The N3C is built for intensive analyses by academic, industry, and citizen scientists internationally.

Educational Objects: Upon completion, participants should be able to:

- Learn of the scope of data available for use in the N3C database, and what quality control steps have been taken in its construction.
- Learn of trends in severity of US COVID-19 encounters over time, both within visits and across patients.
- Describe clinical features found to be predictive of poor outcomes for patients with COVID.

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