



National
COVID
Cohort
Collaborative

Assessing the Impact of COVID-19 on Immunocompromised Persons

N3C ImmunoSuppressed/Compromised Clinical Domain Team

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Research Questions

The National COVID Cohort Collaborative (N3C) is an innovative approach to integrate real-world clinical observations into a harmonized database. With data from over 1M patients nationwide, we aim to assess the impact of COVID-19 on those with suppressed or compromised immune systems by studying the following:

- What is the **incidence of COVID-19** infection in subsets of the ISC population?
- Is there an association between ISC populations and **severity of COVID-19** infection?
- Does the **type, class, or duration of immunosuppressive drug** correlate with severity of COVID-19 infection?
- What are the **outcomes of ISC patients** after treatment for COVID-19 within those that are hospitalized (e.g. ventilator, LOS, death)?

COVID-19 Positive Cohort: N3C COVID+ is defined by EITHER a COVID-19 positive test result (PCR, antigen, antibody, or ambiguous) OR a diagnosis code U07.1 'COVID-19, virus identified'.

Subdomains

Immunosuppressed/
Compromised (ISC)
Clinical Domain Team

Human Immunodeficiency Virus

Solid Organ Transplant**

Autoimmune Skin Disorders**

Chronic Immunosuppression
Collaboration with the pharmacoepi team

****looking for epidemiologists!**



New teams welcome!

Key initial findings*

*All initial findings are preliminary and may change as we refine our cohorts.
See doi.org/10.5281/zenodo.4156288 for the current version of this poster

N3C Cohort

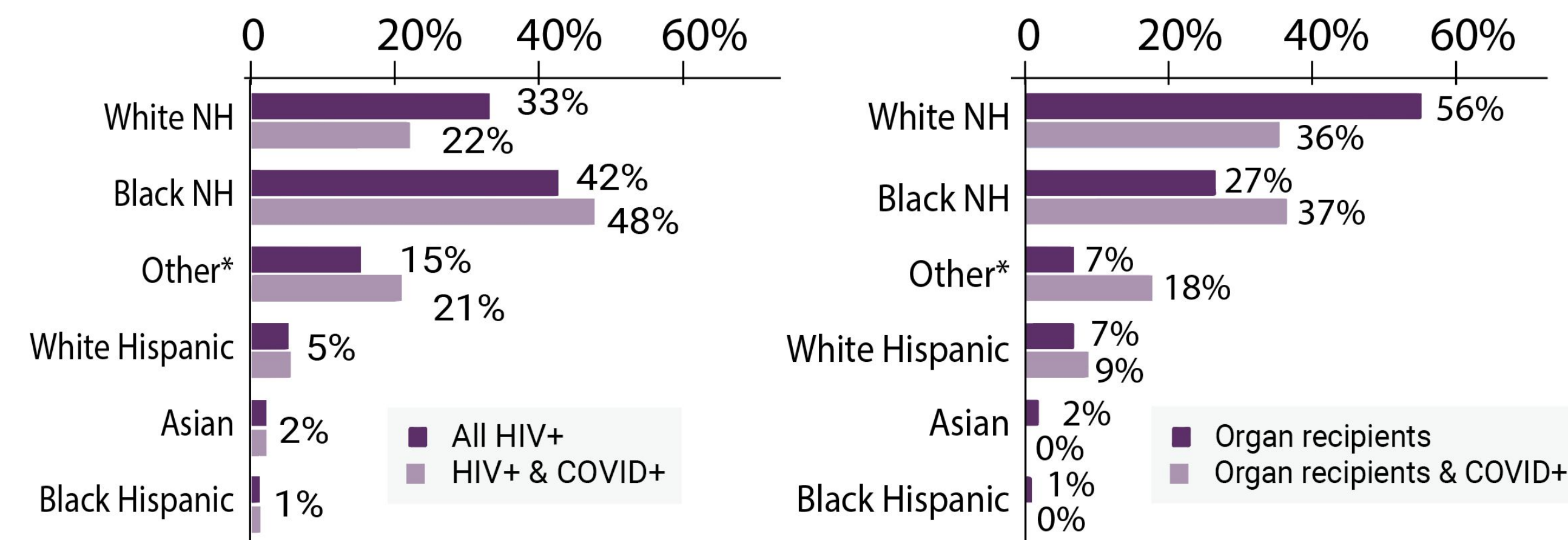
(n = 1,094,385)

8,476 (0.8%) of all
N3C patients are HIV+

7,021 (0.6%) of all
N3C patients are solid
organ recipients

COVID-19 +
n = 1,009 (11.9%)

COVID-19 +
n = 750 (10.7%)



African American patients are disproportionately represented in the COVID+ and HIV+ patients or transplant recipients.

6% of N3C patients hospitalized for COVID-19 had an immunosuppressive drug exposure before or at the time of SARS-CoV-2 infection.

Next steps

The ISC team is in the initial stages of analyzing N3C patient data; we will continue to:

- Refine cohort definitions, including COVID+
- Construct analytic dataset(s)
- Define study designs and analytic approaches
- Build subdomain dashboards
- Initiate collaboration with other, overlapping Clinical Domain Teams
- Draft and submit manuscripts with key findings
- Submit an IRB for access to N3C's Level 3 limited data set to investigate questions that require location and true date information.

Ways to engage



Register for access to the Enclave:
covid.cd2h.org



Attend ISC meetings
Alternate Fridays 11am ET/8am PT
covid.cd2h.org/N3C_calendar



Join a subdomain team or
launch a new one!
covid.cd2h.org/node/341

These analyses were conducted with data or tools accessed through the NCATS N3C Data Enclave covid.cd2h.org and supported by NCATS U24 TR002306. ALO and EF were supported by CTSA award No. UL1TR002649, and EL by UL1TR003096. This research was possible because of the patients whose information is included within the data and the organizations and scientists who have contributed to the ongoing development of this community resource: [doi:10.1093/jamia/ocaa196/5893482](https://doi.org/10.1093/jamia/ocaa196/5893482).

