



National
COVID
Cohort
Collaborative

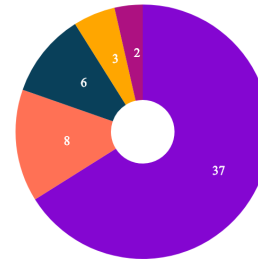
N3C Collaboration Profile: University of North Carolina at Chapel Hill

Users

78 N3C Enclave Users
17 Additional N3C Members

Collaborating Institutions

37 CTSA
8 UNAFFILIATED
6 GOV
3 COM
2 CTR

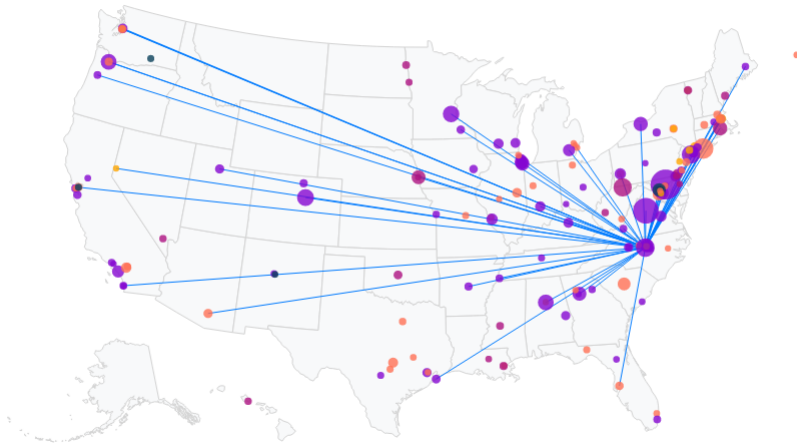


Grants mentioning N3C

1 awards
\$412,692 total amount
2 subcontracts

Sites collaborating with University of North Carolina at Chapel Hill

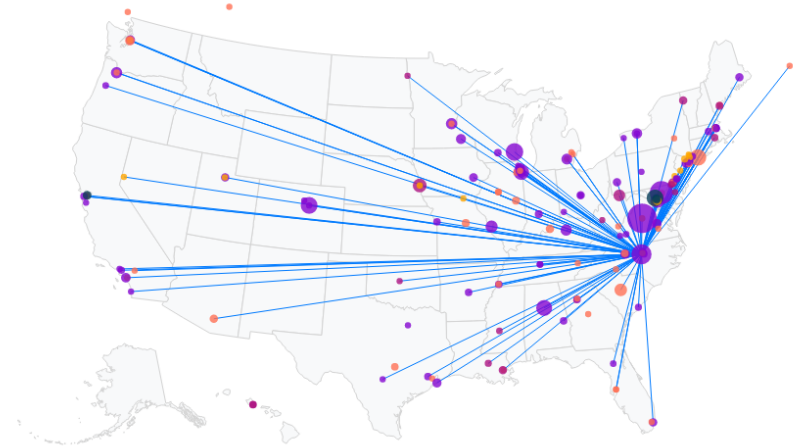
35 Local Investigators, 66 Project Memberships, 27 Enclave Projects



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Sites publishing with University of North Carolina at Chapel Hill

41 Local Authors, 59 Publications, 120 Authorships



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Note: these data are collected from multiple sources. Updates are welcome - please send to n3c@cuanschutz.edu.

NIH Grant Awards to University of North Carolina at Chapel Hill with Mentions of N3C:

Project Number	Title	IC	Contact PI	Fiscal Year	Award Amount
3UL1TR002489-03S4	ICEES+ COVID-19 Open Infrastructure to Democratize and Accelerate Cross-Institutional Clinical Data Sharing and Research	NCATS	BUSE, JOHN BERNARD	2020	\$412,692

N3C-related Subcontract Awards to University of North Carolina at Chapel Hill:

Project Number	Title	Primary Site
N3C_contract	N3C Contract	Colorado
RECOVER_RWD	RECOVER RWD	Colorado

Enclave Projects with Members from University of North Carolina at Chapel Hill:

Status	Title	Lead Investigator	Members From This Site	Collaborating Organizations (# investigators)
ACTIVE	Alzheimer's Disease	Ken Gersing (National Center for Advancing Translational Sciences)	<ul style="list-style-type: none"> • Abramowitz, Amy • Pfaff, Emily • Powers, John 	Johns Hopkins University (3), National Center for Advancing Translational Sciences (1), OCHIN (1), University of Nebraska Medical Center (1), University of Virginia (12)
ACTIVE	Association between GLP1 receptor agonist (GLP1-RA) and sodium glucose co-transporter 2 inhibitor (SGLT2i) use and COVID-19 outcomes: A national retrospective cohort study	Trine Julie Abrahamsen (Novo Nordisk)	<ul style="list-style-type: none"> • Buse, John • Robasky, Kimberly 	Graticule (2), Indiana University (1), Johns Hopkins University (1), Novo Nordisk (2), University of Minnesota (2)
ACTIVE	Characterization of long-COVID: definition, stratification, and multi-modal analysis	Melissa Haendel (University of Colorado Anschutz Medical Campus)	<ul style="list-style-type: none"> • Bhatia, Abhishek • Dard, Sofia • Jonsson • Funk, Michele • Kelly, Liz • Krishnamurthy, Ashok • Leese, Peter • McIntee, Tomas • Olawore, Oluwasolape • Petty, Taylor • Pfaff, Emily • Powers, John 	Columbia University (1), Covar (2), Emory University (3), Illinois State University (1), Indiana University (1), Johns Hopkins University (17), Lawrence Berkeley National Laboratory (2), Mayo Clinic (2), National Center for Advancing Translational Sciences (4), National Institute of Diabetes and Digestive and Kidney Diseases (2), Northeastern University (1), OCHIN (5), Oregon Health & Science University (3), Oregon State University (3), Palila Software (1), RTI International (10), Saint Joseph Mercy Health System (1), Stony Brook University (35), The Jackson Laboratory (2), The Scripps Research Institute (3), The University of Texas Medical Branch at Galveston (5), University of Arkansas for Medical Sciences (1), University of Colorado Anschutz Medical Campus (18), University of Iowa (1), University of Kentucky (1), University of Massachusetts Medical School (1), University of Minnesota (15), University of Nebraska Medical Center (1), University of Pittsburgh (1), University of Rochester (16), University of Tennessee Health Science Center (2), University of Virginia (7), University of Washington (1), Università degli Studi di Milano (1), Virginia Commonwealth University (1)
ACTIVE	Community and Individual Level Factors Associated with SARS-CoV-2 Infections and Outcomes in Patients Living in Rural Areas	Sharita Thomas (University of North Carolina at Chapel Hill)	<ul style="list-style-type: none"> • Thomas, Sharita 	
ACTIVE	Effect of SARS-CoV-2 vaccination on severity of disease in patients with T2-high immune profiling	Benjamin Sines (University of North Carolina at Chapel Hill)	<ul style="list-style-type: none"> • Sines, Benjamin 	

Status	Title	Lead Investigator	Members From This Site	Collaborating Organizations (# investigators)
		Hill)		
ACTIVE	Examining the dynamics in social determinants of health and environmental exposures with regards to differential COVID-19 incidence, morbidity, and mortality across the United States	Cavin Ward-Caviness (University of North Carolina at Chapel Hill)	<ul style="list-style-type: none"> • Narain, Morgan • Ward-Caviness, Cavin • Weaver, Anne 	Duke University (3), Harvard University (3), Johns Hopkins University (1), US Environmental Protection Agency (1), University of Rochester (1), University of Utah (1)
ACTIVE	Examining the dynamics in social determinants of health with regards to differential COVID-19 incidence across the United States	Charisse Madlock-Brown (University of Tennessee Health Science Center)	<ul style="list-style-type: none"> • Ward-Caviness, Cavin 	Boston University (2), Johns Hopkins University (6), Mayo Clinic (2), National Eye Institute (1), NorthShore University HealthSystem (1), Oregon Health & Science University (4), Oregon State University (1), Saint Joseph Mercy Health System (1), The University of Texas Medical Branch at Galveston (1), Tufts Medical Center (1), University of Georgia (1), University of Iowa (1), University of Kentucky (1), University of Massachusetts Medical School (1), University of Rochester (1), University of Tennessee Health Science Center (2), University of Utah (7), University of Virginia (1), University of Washington (1), Virginia Tech (1)
ACTIVE	External cohort validation of the ARC score for COVID-19 28-day mortality and escalation in O2 therapy in hospitalized patients	Benjamin Sines (University of North Carolina at Chapel Hill)	<ul style="list-style-type: none"> • Sines, Benjamin 	
ACTIVE	First Episode Psychosis (FEP) among COVID-19 patients: A Time to Event Survival Analysis using Data from the National COVID Cohort Collaborative (N3C)	Xiaoming Zeng (University of North Carolina at Chapel Hill)	<ul style="list-style-type: none"> • Xia, Kai • Zeng, Xiaoming 	
ACTIVE	N3C Cohort Characterization	Tell Bennett (University of Colorado Anschutz Medical Campus)	<ul style="list-style-type: none"> • Pfaff, Emily 	Emory University (3), Johns Hopkins University (3), Oregon Health & Science University (1), Oregon State University (2), Stony Brook University (12), University of Alabama at Birmingham (2), University of Arkansas for Medical Sciences (1), University of Colorado Anschutz Medical Campus (7), University of Kentucky (1), University of Michigan–Ann Arbor (1), University of Minnesota (1), University of Rochester (5), University of Virginia (1)
ACTIVE	N3C Diabetes and Obesity Domain Team level 2	John Buse (University of North Carolina at Chapel Hill)	<ul style="list-style-type: none"> • Buse, John • Dard, Sofia 	Brown University (1), Emory University (3), Food and Drug Administration (1), Indiana University (1), Johns Hopkins University (1), Lawrence Berkeley National Laboratory (1), National Institute of

Status	Title	Lead Investigator	Members From This Site	Collaborating Organizations (# investigators)
	request for data	Hill)	<ul style="list-style-type: none"> • Jonsson Funk, Michele • Krishnamurthy, Ashok • Pfaff, Emily • Robasky, Kimberly • Vielot, Nadja • Walters, Kellie 	Diabetes and Digestive and Kidney Diseases (1), Novo Nordisk (1), Stony Brook University (12), University of Minnesota (7), University of Pennsylvania (1), Università degli Studi di Milano (3)
ACTIVE	Post-recovery COVID and incident heart failure in the National COVID Cohort Collaborative (N3C) study	Melissa Caughey (University of North Carolina at Chapel Hill)	<ul style="list-style-type: none"> • Caughey, Melissa 	
ACTIVE	RADx Long COVID Prediction Challenge	Johanna Loomba (University of Virginia)	<ul style="list-style-type: none"> • Perkins, Diana 	Auburn University (1), Binghamton University (4), CANA LLC (1), Columbia University (1), Data-Automata LLC (1), Duke University (7), Emory University (8), Ensemble Group Holdings Inc (2), George Washington University (2), Georgia Institute of Technology (6), Harvard University (1), High Tech Analytics L.L.C. (1), IBM (6), Indiana University (2), Johns Hopkins University (5), Kalman & Company Inc (7), Kura Care Inc (2), Leidos (6), Mayo Clinic (2), Michigan Technological University (4), National Institute of Allergy and Infectious Diseases (2), Oregon State University (3), Pacific Northwest National Laboratory (2), Palila Software (1), Proof Positive Data Science (1), Purdue University (1), Rice University (2), Ruvos (2), Sage Bionetworks (1), Stanford University (1), Stony Brook University (6), Texas State University (7), The Ohio State University (3), The University of Texas Health Science Center at Houston (6), University of Arizona (3), University of Arkansas for Medical Sciences (3), University of California, Berkeley (9), University of California, Davis (1), University of California, Los Angeles (4), University of California, San Diego (1), University of Chicago (5), University of Florida (5), University of Georgia (1), University of Houston (1), University of Illinois at Chicago (3), University of Massachusetts Amherst (2), University of Massachusetts Lowell (1), University of Massachusetts Medical School (3), University of Michigan–Ann Arbor (2), University of Minnesota (4), University of Nebraska Medical Center (1), University of North Dakota (5), University of Pennsylvania (12), University of Pittsburgh (2), University of Tennessee Health Science Center (1), University of Vermont (3), University of Virginia (6), University of Washington (3), University of Wisconsin–Madison (9), Virginia Tech (1), Weill Cornell Medicine (1), nference, inc. (1)
ACTIVE	Renal Disease	Ken Gersing (National Center for Advancing Translational Sciences)	<ul style="list-style-type: none"> • Leese, Peter • McIntee, Tomas 	Emory University (3), Johns Hopkins University (4), National Center for Advancing Translational Sciences (1), OCHIN (1), Stony Brook University (4), University of Colorado Anschutz Medical Campus (1), University of Minnesota (1), University of Nebraska Medical Center (1), University of Virginia (3), University of Washington (1)

Status	Title	Lead Investigator	Members From This Site	Collaborating Organizations (# investigators)
ACTIVE	Sequelae of repeat COVID-19 infection	Benjamin Sines (University of North Carolina at Chapel Hill)	• Sines, Benjamin	
ACTIVE	Studying the effect and the risk of adverse outcomes of COVID-19 infection in pediatric and adult patients using statistical and machine learning methods	Corneliu Antonescu (University of Arizona)	• Robasky, Kimberly	Duke University (1), Harvard University (1), Lawrence Berkeley National Laboratory (1), University of Arizona (1), Università degli Studi di Milano (1)
ACTIVE	[N3C Operational] Collaborative Analytics	Ken Gersing (National Center for Advancing Translational Sciences)	• McIntee, Tomas	Duke University (1), Emory University (1), George Mason University (1), Indiana University (1), Johns Hopkins University (5), National Cancer Institute (1), National Center for Advancing Translational Sciences (5), National Human Genome Research Institute (2), National Institute of Diabetes and Digestive and Kidney Diseases (1), Oregon Health & Science University (1), Oregon State University (2), Stony Brook University (1), The Jackson Laboratory (2), University of Colorado Anschutz Medical Campus (3), University of Minnesota (1), University of Nebraska Medical Center (1), University of Virginia (1), Weill Cornell Medicine (1)
ACTIVE	[N3C Operational] Data Ingestion and Harmonization	Christopher Chute (Johns Hopkins University)	• Bhatia, Abhishek • Dard, Sofia • Kelly, Liz • Leese, Peter • Ye, Mengshuo	Columbia University (2), Emory University (1), Johns Hopkins University (18), National Center for Advancing Translational Sciences (3), National Institute of Diabetes and Digestive and Kidney Diseases (1), Oregon Health & Science University (2), Oregon State University (3), Sage Bionetworks (1), Stony Brook University (1), University of Colorado Anschutz Medical Campus (6), University of Minnesota (1), University of Virginia (3)
ACTIVE	[N3C Operational] Level 3 Logic Liaison Workspace	Johanna Loomba (University of Virginia)	• Leese, Peter	Emory University (1), Johns Hopkins University (3), Oregon Health & Science University (1), Stony Brook University (1), Tufts Medical Center (1), University of Colorado Anschutz Medical Campus (1), University of Massachusetts Medical School (1), University of Minnesota (1), University of Virginia (4), Virginia Commonwealth University (1)
ACTIVE	[N3C Operational] Phenotype and Data Acquisition Team Operations	Emily Pfaff (University of North Carolina at Chapel Hill)	• Clark, Marshall • Dard, Sofia • Pfaff, Emily • Walters, Kellie	
ACTIVE	[N3Clinical: Operational] Tenant Data Ingestion and Harmonization	Christopher Chute (Johns Hopkins University)	• Dard, Sofia • Pfaff, Emily	Johns Hopkins University (12), National Center for Advancing Translational Sciences (1), Oregon Health & Science University (2), Oregon State University (1), Stony Brook University (1), University of Colorado Anschutz Medical Campus (3), University of Iowa (1), University of Virginia (3)

Status	Title	Lead Investigator	Members From This Site	Collaborating Organizations (# investigators)
CLOSED	Air Quality and COVID19 via Synthetic Data set	Cavin Ward-Caviness (University of North Carolina at Chapel Hill)	• Ward-Caviness, Cavin	
CLOSED	Analysis of previous exposure to influenza vaccine and influenza virus to COVID-19 Patient Outcomes	Paul Grant (University of North Carolina at Chapel Hill)	• Grant, Paul • Man, Zhaohui	
CLOSED	Assessment and Impact of Augmented Renal Clearance in Patients with COVID19	Nicholas Nelson (University of Michigan–Ann Arbor)	• Nelson, Nicholas • Rhoney-Metzger, Denise	University of Michigan–Ann Arbor (1), Wake Forest University Health Sciences (1)
CLOSED	Effects of IL-4/ IL-13 inhibitor Dupilumab on COVID-19 outcome.	Jenna Donaldson (University of North Carolina at Chapel Hill)	• Ahmad, Asiyah • Donaldson, Jenna • Sines, Benjamin	
CLOSED	Factors affecting risk of poor outcomes for COVID-19 for patients with diabetes	Ashok Krishnamurthy (University of North Carolina at Chapel Hill)	• Krishnamurthy, Ashok	
CLOSED	Impacts of COVID -19 in Older Adults (Elder Impact Domain) Level 2	Soko Setoguchi Iwata (Rutgers, The State University of New Jersey)	• Islam, Jessica	Palila Software (1), Rutgers, The State University of New Jersey (6), Sage Bionetworks (1), The University of Texas Medical Branch at Galveston (1), University of Alabama at Birmingham (2), University of South Florida (1)
CLOSED	NCATS Investigation into drug efficacy of disease pathology and post-acute COVID-19 syndrome	Nathan Hotaling (National Center for Advancing Translational Sciences)	• Jonsson Funk, Michele • Pate, Virginia • Ponder, Madison • Su, I-Hsuan • Young, Jessica	Duke University (1), Graticule (1), Icahn School of Medicine at Mount Sinai (1), National Center for Advancing Translational Sciences (14), National Institute of Diabetes and Digestive and Kidney Diseases (1), Rutgers, The State University of New Jersey (1), University of Virginia (1), Yale University (1)
CLOSED	Pediatric Severity	Timothy	• Robasky, Kimberly	ARI Science (1), Arizona State University (18), Arkansas Children's Hospital (1), Bar-Ilan

Status	Title	Lead Investigator	Members From This Site	Collaborating Organizations (# investigators)
	Prediction Challenge	Bergquist (Sage Bionetworks)	• Yi, Hong	University (2), Beckman Coulter (1), Bialystok University of Technology (4), Bielefeld University (8), Brown University (1), CGD Health (1), Children's National Health System (4), Cincinnati Children's Hospital Medical Center (4), Clemson University (1), Columbia University (1), Computer Technology Associates (1), DH Diagnostics LLC (2), Duke University (1), Emory University (5), George Mason University (4), Georgia Institute of Technology (6), Harvard University (1), IBM (4), Icahn School of Medicine at Mount Sinai (1), Indiana University (1), Johns Hopkins University (5), Lawrence Berkeley National Laboratory (2), Massachusetts Institute of Technology (2), Medical University of South Carolina (1), National Center for Advancing Translational Sciences (1), National Human Genome Research Institute (1), National Institute of Diabetes and Digestive and Kidney Diseases (1), Nationwide Children's Hospital (2), Nemours (5), North Carolina State University (4), Office of the Assistant Secretary for Planning and Evaluation (1), Oregon Health & Science University (4), Oregon State University (2), Oslo University Hospital (18), Palila Software (1), Purdue University (1), Quantum Insights (1), Queensland University of Technology (5), Rutgers, The State University of New Jersey (4), Ruvos (1), Sage Bionetworks (1), Salish Research Group (1), Sandia National Laboratories (1), Stony Brook University (6), The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. (1), The Jackson Laboratory (1), The Ohio State University (2), University at Buffalo, State University of New York (2), University of Alabama at Birmingham (2), University of Arizona (3), University of Arkansas for Medical Sciences (3), University of California, Davis (1), University of California, Irvine (3), University of California, San Diego (4), University of Cincinnati (1), University of Colorado Anschutz Medical Campus (4), University of Delaware (7), University of Florida (1), University of Houston (2), University of Illinois at Chicago (5), University of Illinois at Urbana Champaign (7), University of Kansas Medical Center (1), University of Kentucky (4), University of Maryland, Baltimore County (2), University of Massachusetts Medical School (2), University of Michigan–Ann Arbor (4), University of Minnesota (4), University of Mississippi Medical Center (1), University of Missouri (5), University of Nebraska Medical Center (2), University of New Mexico (5), University of North Dakota (6), University of Texas Southwestern Medical Center (1), University of Utah (2), University of Virginia (2), University of Washington (4), University of Wisconsin–Madison (3), Università degli Studi di Milano (6), Vanderbilt University Medical Center (1), Vir Biotechnology Inc (1), Virginia Tech (1), Wake Forest Baptist Medical Center (1), Wake Forest University Health Sciences (1), Washington University in St. Louis (7), Wayne State University (2), West Virginia University (1), Wind City Applied Research (1)
CLOSED	The RADx Long COVID Prediction Challenge - organizers	Timothy Bergquist (Sage Bionetworks)	• Pfaff, Emily	Sage Bionetworks (1), University of Virginia (1)
CLOSED	Using N3C to Apply	Jessica Young	• Jonsson	National Institute of Diabetes and Digestive and Kidney Diseases (1)

Status	Title	Lead Investigator	Members From This Site	Collaborating Organizations (# investigators)
	Pharmacoepidemiologic Methods to Answer Questions about COVID-19 Treatment	(University of North Carolina at Chapel Hill)	Funk, Michele <ul style="list-style-type: none"> • Pate, Virginia • Ponder, Madison • Su, I-Hsuan • Young, Jessica 	

Publications with Authors from University of North Carolina at Chapel Hill:

Title	Local Authors
Hormone Replacement Therapy and COVID-19 Outcomes in Solid Organ Transplant Recipients Compared with the General Population American Journal of Transplantation, 2023, doi: 10.1016/j.ajt.2023.04.020	<ul style="list-style-type: none"> • Lee, Adam • Pfaff, Emily • Buse, John • Walters, Kellie • Clark, Marshall
Risk for stillbirth among pregnant individuals with SARS-CoV-2 infection varied by gestational age American Journal of Obstetrics and Gynecology, 2023, doi: 10.1016/j.ajog.2023.02.022	<ul style="list-style-type: none"> • Lee, Adam • Pfaff, Emily • Buse, John • Walters, Kellie • Clark, Marshall
Long COVID Risk and Pre-COVID Vaccination: An EHR-Based Cohort Study from the RECOVER Program (preprint) doi: 10.1101.2022.10.06.22280795	<ul style="list-style-type: none"> • Leese, Peter • Funk, Michele • Pfaff, Emily
A method for comparing multiple imputation techniques: a case study on the US National COVID Cohort Collaborative (preprint)	<ul style="list-style-type: none"> • Buse, John • Sturmer, Til • Pfaff, Emily • Robaski, Kimberly
Data quality considerations for evaluating COVID-19 treatments using real world data: learnings from the National COVID Cohort Collaborative (N3C) BMC medical research methodology, 2023, doi: 10.1186/s12874-023-01839-2	<ul style="list-style-type: none"> • Funk, Michele
N3C and RECOVER Consortia Long COVID Risk and Pre-COVID Vaccination: An EHR-Based Cohort Study from the RECOVER Program. medRxiv, 2022	<ul style="list-style-type: none"> • Leese, PJ • Funk, MJ • Pfaff, ER
Characterizing Long COVID: Deep Phenotype of a Complex Condition. EBioMedicine. 2021; 74: 103722 doi: 10.1016/j.ebiom.2021.103722	<ul style="list-style-type: none"> • Pfaff, E
Risk of post-acute sequelae of SARS-CoV-2 infection associated with pre-coronavirus disease obstructive sleep apnea diagnoses: an electronic health record-based analysis from ... Sleep, 2023, doi: 10.1093/sleep/zsad126	<ul style="list-style-type: none"> • Pfaff, Emily
Effect of Nirmatrelvir/Ritonavir (Paxlovid) on Hospitalization among Adults with COVID-19: an EHR-based Target Trial Emulation from N3C medRxiv, 2023, doi: 10.1101/2023.05.03.23289084	<ul style="list-style-type: none"> • Bhatia, Abhishek • Pfaff, Emily
A continuously benchmarked and crowdsourced challenge for rapid development and evaluation of models to predict COVID-19 diagnosis and hospitalization JAMA Network Open, 2021, doi: 10.1001/jamanetworkopen.2021.24946	<ul style="list-style-type: none"> • Dobbins, Nicholas
An open natural language processing (NLP) framework for EHR-based clinical research: a case demonstration using the National COVID Cohort	<ul style="list-style-type: none"> • Pfaff, Emily

Title	Local Authors
Collaborative (N3C) Journal of the American Medical Informatics Association, 2023, doi: 10.1093/jamia/ocad134	
De-black-boxing health AI: demonstrating reproducible machine learning computable phenotypes using the N3C-RECOVER Long COVID model in the All of Us data repository Journal of the American Medical Informatics Association, 2023, doi: 10.1093/jamia/ocad077	• Pfaff, Emily
Characterizing long COVID: deep phenotype of a complex condition. EBioMedicine. 2021 Dec; 74: 103722. doi: 10.1016/j.ebiom. 2021.103722 doi: 10.1016/j.ebiom.2021.103722	• Pfaff, E
Coding long COVID: characterizing a new disease through an ICD-10 lens BMC medicine, 2023, doi: 10.1186/s12916-023-02737-6	• Pfaff, Emily • Baratta, John • Bhatia, Abhishek • Kelly, Elizabeth
A method for comparing multiple imputation techniques: a case study on the US National COVID Cohort Collaborative Journal of Biomedical Informatics, 2023, doi: 10.1016/j.jbi.2023.104295	• Buse, John • Stürmer, Til
SARS-CoV-2 Reinfection is Preceded by Unique Biomarkers and Related to Initial Infection Timing and Severity: an N3C RECOVER EHR-Based Cohort Study medRxiv, 2023, doi: 10.1101/2023.01.03.22284042	• Pfaff, Emily
Pre-existing autoimmunity is associated with increased severity of COVID-19: A retrospective cohort study using data from the National COVID Cohort Collaborative (N3C) medRxiv, 2023, doi: 10.1101/2023.02.02.23285353	• Pfaff, Emily
Are fewer cases of diabetes mellitus diagnosed in the months after SARS-CoV-2 infection? medRxiv, 2022, doi: 10.1101/2022.12.02.22283029	• Stürmer, Til • Buse, John
Diabetes medications and associations with Covid-19 outcomes in the N3C database: A national retrospective cohort study PLoS One, 2022, doi: 10.1371/journal.pone.0271574	• Kahkoska, Anna • Stürmer, Til • Buse, John
Effect of SARS-CoV-2 Infection and Infection Severity on Longer-Term Glycemic Control and Weight in People With Type 2 Diabetes Diabetes care, 2022, doi: 10.2337/dc22-0730	• Stürmer, Til • Buse, John
Clinical encounter heterogeneity and methods for resolving in networked EHR data: A study from N3C and RECOVER programs medRxiv, 2022, doi: 10.1101/2022.10.14.22281106	• Leese, Peter • Pfaff, Emily
Breakthrough SARSCoV2 infection outcomes in vaccinated patients with chronic liver disease and cirrhosis: A National COVID Cohort Collaborative study Hepatology, 2022, doi: 10.1002/hep.32780	• Pfaff, Emily • Leese, Peter
Identifying who has long COVID in the USA: a machine learning approach using N3C data The Lancet Digital Health, 2022, doi: 10.1016/S2589-7500(22)00048-6	• Pfaff, Emily • Bhatia, Abhishek
Harmonizing units and values of quantitative data elements in a very large nationally pooled electronic health record (EHR) dataset Journal of the American Medical Informatics Association, 2022, doi: 10.1093/jamia/ocac054	• Pfaff, Emily

Title	Local Authors
A Methodological Framework for the Comparative Evaluation of Multiple Imputation Methods: Multiple Imputation of Race, Ethnicity and Body Mass Index in the US National COVID ... arXiv preprint arXiv:2206.06444, 2022, doi: 10.48550/arXiv.2206.06444	<ul style="list-style-type: none"> • Buse, John • Sturmer, Til • Pfaff, Emily • Robaski, Kimberly
Glycemic control and clinical outcomes in US patients with COVID-19: data from the National COVID Cohort Collaborative (N3C) database Diabetes care, 2022, doi: 10.2337/dc21-2186	<ul style="list-style-type: none"> • Buse, John
Racial disparities in COVID-19 test positivity among people living with HIV in the United States. Int J STD AIDS, 2022, doi: 10.1177/09564624221074468	<ul style="list-style-type: none"> • N, Franceschini
Synergies between centralized and federated approaches to data quality: a report from the national COVID cohort collaborative Journal of the American Medical Informatics Association, 2022, doi: 10.1093/jamia/ocab217	<ul style="list-style-type: none"> • Pfaff, Emily • Walters, Kellie
Association of early aspirin use with in-hospital mortality in patients with moderate COVID-19 JAMA network open, 2022, doi: 10.1001/jamanetworkopen.2022.3890	<ul style="list-style-type: none"> • Clark, Marshall • Lee, Adam • Pfaff, Emily • Walters, Kellie
Association between immune dysfunction and COVID-19 breakthrough infection after SARS-CoV-2 vaccination in the US JAMA internal medicine, 2022, doi: 10.1001/jamainternmed.2021.7024	<ul style="list-style-type: none"> • Franceschini, Nora
Characteristics, outcomes, and severity risk factors associated with SARS-CoV-2 infection among children in the US national COVID cohort collaborative JAMA network open, 2022, doi: 10.1001/jamanetworkopen.2021.43151	<ul style="list-style-type: none"> • Pfaff, Emily
Long COVID Risk and Pre-COVID Vaccination: An EHR-Based Cohort Study from the RECOVER Program medRxiv, 2022, doi: 10.1101/2022.10.06.22280795	<ul style="list-style-type: none"> • Leese, Peter • Funk, Michele • Pfaff, Emily
Risk factors associated with post-acute sequelae of sars-cov-2 in an ehr cohort: A national covid cohort collaborative (n3c) analysis as part of the nih recover program medRxiv, 2022, doi: 10.1101/2022.08.15.22278603	<ul style="list-style-type: none"> • Pfaff, Emily
Characterizing long COVID: deep phenotype of a complex condition doi: 10.1016/j.ebiom.2021.103722	<ul style="list-style-type: none"> • Pfaff, Emily
Associations between HIV infection and clinical spectrum of COVID-19: a population level analysis based on US National COVID Cohort Collaborative (N3C) data The Lancet HIV, 2021, doi: 10.1016/S2352-3018(21)00239-3	<ul style="list-style-type: none"> • Franceschini, Nora
Enabling Longitudinal Exploratory Analysis of Clinical COVID Data doi: 10.1109/VAHC53616.2021.00008	<ul style="list-style-type: none"> • Borland, David • Brain, Irena • Fecho, Karamarie • Pfaff, Emily • Xu, Hao

Title	Local Authors
	<ul style="list-style-type: none"> • Champion, James • Bizon, Chris • Gotz, David
Who has long-COVID? A big data approach doi: 10.1101/2021.10.18.21265168	<ul style="list-style-type: none"> • Pfaff, Emily • Bhatia, Abhishek
An open natural language processing development framework for EHR-based clinical research: a case demonstration using the national COVID cohort collaborative (N3C) arXiv preprint arXiv:2110.10780, 2021, doi: 10.48550/arXiv.2110.10780	<ul style="list-style-type: none"> • Pfaff, Emily
COVID-19 disease severity among people with HIV infection or solid organ transplant in the United States: a nationally-representative, multicenter, observational cohort study Medrxiv, 2021, doi: 10.1101/2021.07.26.21261028	<ul style="list-style-type: none"> • Franceschini, Nora
Children with SARS-CoV-2 in the National COVID Cohort Collaborative (N3C) Medrxiv, 2021, doi: 10.1101/2021.07.19.21260767	<ul style="list-style-type: none"> • Pfaff, Emily
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