With the ever-increasing volume of complex and fragmented health data that have the potential to revolutionize the efficiency and efficacy of healthcare, a challenge lies in identifying and utilizing these data to transform patient care and accelerate research discoveries. Translational research institutions across the country house a wealth of clinical data. However, these data, in addition to data generated by the healthcare system, other researchers, and personal tracking devices, are difficult to access, share, and use.

To realize the full potential of these data, the informatics community strives to build an infrastructure to unite the data ecosystem, enable innovative new analytics, and promote effective collaboration across the researcher-clinician spectrum. The National Center for Data to Health (CD2H), led by Oregon Health & Science University, was launched by NIH in the fall of 2017 to accelerate the translation of data into medical knowledge and improve patient outcomes.

The N3C is a partnership amongst CTSA hubs, distributed clinical data networks (PCORnet, OHDSI, ACT/i2b2, TriNetX), and other organizations. The N3C aims to improve the efficiency and accessibility of analyses with COVID-19 clinical data, expand our ability to analyze and understand COVID, and demonstrate a novel approach for collaborative pandemic data sharing.

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- Secure cloud-based data sharing for CTSA hubs
- Infrastructure for shared apps in the cloud
- Cloud-based Sandboxes for Natural Language Processing, Data Quality, and Machine Learning tools and Best practices
- DREAM challenges to bring algorithms to data
- Standard cloud-based DUA

- Ensure data protection and privacy
- Establish a Data Access Committee
- Build a secure data enclave and collaborative portal to deploy machine learning and other analytical tools
- Clinical scenarios & Data: Define key questions
- Tools & Resources: Deploy user interfaces and machine learning methods
- Dashboards: Track progress and matchmake participants