National Clinical Cohort Collaborative (N3C): Translating Health Data Into Discovery and Knowledge



National Center for Advancing Translational Sciences

Electronic health records (EHRs) can further our understanding of many diseases, leading to better treatments. But EHR data are typically housed in information systems that are meant for clinical care and business practices, not research. Also, the systems often are incompatible with one another. These hurdles hinder the ease of using clinical data for effective research that improves patients' lives.

NIH has launched a unique effort with government, academic and industry partners to overcome these challenges. The National Clinical Cohort Collaborative (N3C) is a state-of-the-art data resource with a secure enclave of de-identified patient health records. N3C is available to support research on all diseases.

As the steward of N3C, the NIH National Center for Advancing Translational Sciences (NCATS) ensures strong safeguards to protect the privacy, security and integrity of data. These measures include broad access controls, strict governance rules, community partners, and standardized data transfer and use agreements.



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How N3C Works

Participating health systems nationwide regularly send data to the secure, cloud-based N3C Data Enclave. The enclave's robust data pipeline curates the data and harmonizes it into a single common data model for consistency.

The pipeline also uses privacy-preserving record linkage technology to connect data from outside sources, including Centers for Medicare & Medicaid Services claims, cancer and kidney registries, and publicly available data sets. The linkages give researchers a more complete view of patient health across different health care systems and communities, including those in rural areas, while maintaining the privacy of each patient through de-identification of their data.

N3C's advanced informatics and artificial intelligence tools help researchers find patterns and insights quickly among all the data, speeding up discoveries that can improve public health and patient care. Researchers can establish Data Use Agreements to access N3C. Contributing data to N3C is not required to access the data.

Learn More About N3C

- Data Transfer Agreement (DTA)
- Data Use Agreement (DUA)
- Data Linkage Honest Broker Agreement
- N3C Overview

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N3C is a partnership among NIH, the NIH-supported Clinical and Translational Science Awards (CTSA) Program institutions and the Institutional Development Award (IDeA) Program Networks for Clinical and Translational Research (IDeA-CTR).

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