

00526 Development of Data Discovery Systems for Research in Singhealth – “Google” for Research

Ang Boon Yew¹, Lam Shao Wei Sean¹, Ragavendran Narayanan¹, Ong Eng Hock Marcus²

¹SingHealth, ²Singapore General Hospital

Aims: In the data discovery process, Principal Investigators (PIs) and researchers can search de-identified data in a research preparatory phase while developing a research or clinical trial proposal. The purpose of this process is to determine the feasibility of conducting a study based on the target population through calculated sample sizes and characteristics before initiating a formal study. The aim of this project is to assess the potential of data discovery systems in facilitating this process in the SingHealth environment using two pilot data discovery systems.

Methodology: Two pilot data discovery systems, DEDUCES (Duke Enterprise Data Unified Content Explorer for SingHealth) and TriNetX were set up in order to assess the feasibility and value of such systems for preparatory research. DEDUCES is a web-based query system developed by Duke University Health and Technology Solutions (DHTS) and customized for SingHealth. TriNetX is a global, federated research network used by healthcare providers, pharmaceutical companies and Contract Research Organizations (CROs). It allows healthcare providers to use the platform to conduct cohort feasibility studies, form collaborative networks with other members to enhance research capabilities, and address the data discovery needs for internal researchers.

Result: Data discovery systems for research leverages on existing data sources to allow cohort feasibility studies to be done easily and effectively. These systems provide PIs and pharmaceutical companies to improve clinical trial design and site selection through more accurate estimations of patient cohort size and characteristics. It also allows for cohort feasibility studies for health services research as well as real-world evidence studies to be done effectively through their aggregation functions.

Conclusion: The use of data discovery systems can support research studies and the development of clinical trial protocols in SingHealth. When coupled with existing data sources, these systems have the potential to be used to facilitate internal research clinical trial development processes.