

Integrating and Harmonizing Electronic Health Records across Hospitals to Support National Biobank Consortium Taiwan (NBCT) – a Use Case from the Taiwan Gateway to Health Data Platform

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The recent launch of “Taiwan Gateway to Health Data” 「台灣健康大數據整合服務平台」 (<http://www.ghd.tw>) is a government funded project with a mission to provide an integrated service platform of health data information to connect data custodians and data users. One of the most influential service interfaces operated by the platform is a web-based data portal. GHD TW gathers all the essential information of major health databases and biobanks in Taiwan and aims for connecting data providers and users to promote data utilization. GHD TW provides a wide range of information regarding to the collected health data, researchers and all the potential data users can browse and search on the portal website to find essential and fit-for-purpose datasets for their studies of public health, pharmacoepidemiology, precision medicine, *etc.* **Dr. Shih-Cheng CHEN** will elaborate the functions of www.ghd.tw for participants to get hands-on experience of Taiwan Gateway to Health Data, the web portal of health data in Taiwan.

We aim to support and collaborate with government, industry, and academic stakeholders, to facilitate fit-for-use data integration, and to deliver data foundations across innovation community. To achieve FAIR (Findable, Accessible, Interoperable, Re-usable) consists of several essential issues for sustainability of database construction. **Professor Yi-Hsin YANG** will discuss existing challenges for maintaining a research database in terms of FAIR.

The National Biobank Consortium of Taiwan (NBCT) is a government funded project, and currently managed by the National Health Research Institutes. The NBCT collaborates with 34 biobanks in Taiwan, including 29 hospital biobanks and 5 institutes. The GHD TW team supports the NBCT Central office to design and implement the NBCT CDM (common data model) system for accumulating standardized clinical data across hospitals. We design a distributed system to harmonize medical data including in-depth patient journey clinical information. We work with hospitals to generate hospitals’ EHRs data into our common data model, and further to provide clinical data for applications. Our goals are to assemble a set of common oncology data elements, to maintain sufficient cancer data quality, and to facilitate interoperability of medical data for patient care and research across institutes of NBCT. **Dr. Hsiu-An LEE** will share our experience in the process of achieving our goals.

A comprehensive understanding of genetics, phenotypes, disease variation as well as treatment responses is crucial to fulfill the needs of real-world data studies, which potentially would lead to personalized treatment and drug development. In this session, our team of GHD TW will share our efforts and accomplishments in our innovative data platform.