



# Cross Border Federated Analytics with HUTCH

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# HDRUK-MOH-A\*STAR MOU



(From left) Permanent Secretary for National Research and Development Professor Tan Chorh Chuan, DPM Heng Swee Keat, Health Data Research UK chair Julie Moore and HDR UK director Andrew Morris at the signing of an MOU. PHOTO: MDDI

- Signing of agreement between between Singapore's National Research Foundation (NRF) and British national institute for health data science Health Data Research UK (HDR UK) for health data research in October 2024.



# Cross Border Federated Analytics with HUTCH

A researcher



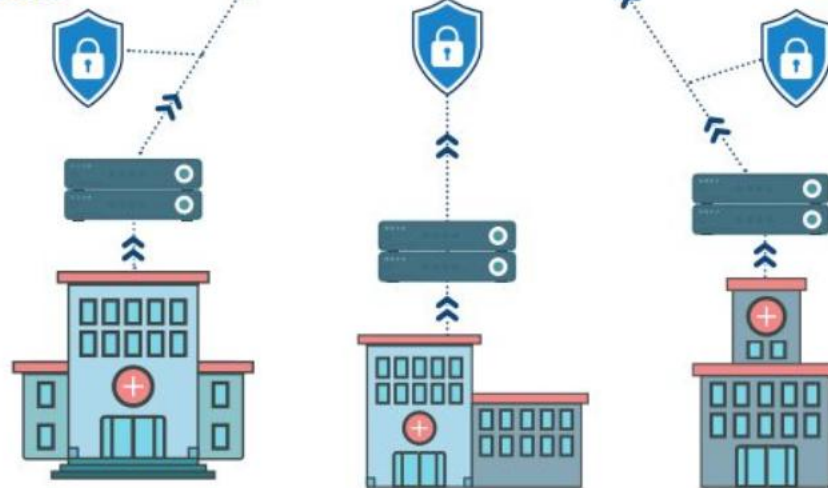
TRE



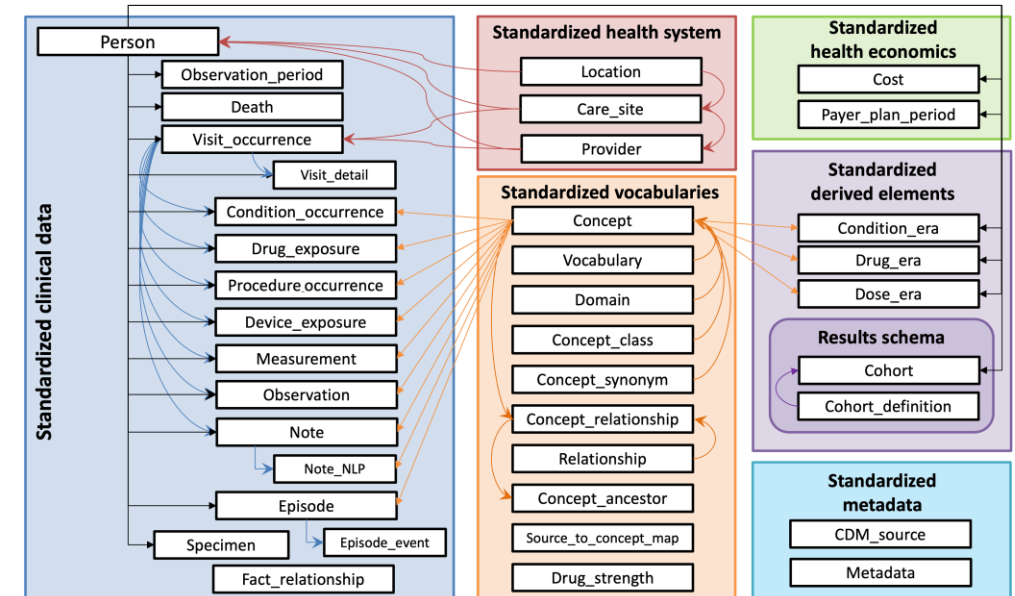
Safety checks

Safety checks

Secure file transfer of data



## HUTCH on OMOP CDM





# Oncology Study using Cancer Registries

DATE OF DIAGNOSIS	4160852	Date of diagnosis	SNOMED (Observation - Observable Entity - S)
PRIMARY SITE	45876293	ICD-O-3	LOINC (Meas Value - Answer - S)
LATERALITY	35918306	Laterality	NAACCR (Measurement - NAACCR Variable - S)
LATERALITY:Not a paired site	35942059	Not a paired site	NAACCR (Meas Value - NAACCR Value - S)
LATERALITY:Right: origin of primary	35940926	Right: origin of primary	NAACCR (Meas Value - NAACCR Value - S)
LATERALITY:Left: origin of primary	35941014	Left: origin of primary	NAACCR (Meas Value - NAACCR Value - S)
LATERALITY:Only one side involved, right or left origin unspecified	35941222	Only one side involved, right or left origin unspecified	NAACCR (Meas Value - NAACCR Value - S)
LATERALITY:Bilateral involvement, lateral origin unknown; stated to be single primary, including both ovaries involved simultaneously, single histology; bilateral retinoblastomas; bilateral Wilms'™ tumors	35940574	Bilateral involvement at time of diagnosis, lateral origin unknown for a single primary; or both ovaries involved simultaneously, single histology; bilateral retinoblastomas; bilateral Wilms' tumors	NAACCR (Meas Value - NAACCR Value - S)

- Diagnosis fields



# Oncology Study using Cancer Registries

CHEMOTHERAPY	4273629	Chemotherapy	SNOMED (Procedure - Procedure - S)
CHEMOTHERAPY:None, not part of first course of Rx	40198671	None, chemotherapy was not part of the first course of therapy or there was progression of disease prior to administration; Not customary therapy for this cancer. Diagnosed at autopsy.	NAACCR (Meas Value - NAACCR Value - S)
CHEMOTHERAPY:Chemotherapy as first course Rx, type and number of agents not documented	40198877	Chemotherapy was administered, but type and number of agents is not documented in patient record.	NAACCR (Meas Value - NAACCR Value - S)
CHEMOTHERAPY:Chemotherapy single agent as first course Rx	40198866	Chemotherapy, single agent.	NAACCR (Meas Value - NAACCR Value - S)
CHEMOTHERAPY:Chemotherapy multiple agent as first course Rx	40198820	Chemotherapy, multiple agents.	NAACCR (Meas Value - NAACCR Value - S)
CHEMOTHERAPY:Unknown	35941770	It is unknown whether chemotherapy was recommended or administered because it is not stated in patient record. Death certificate-only case	NAACCR (Meas Value - NAACCR Value - S)
DATE OF CHEMOTHERAPY	36305537	Chemotherapy infusion start date	LOINC (Observation - Clinical Observation - S)

- Chemotherapy agents



# Oncology Study using Cancer Registries

VITAL STATUS	3009506	Vital status NAACCR	LOINC (Observation - Clinical Observation - S)
VITAL STATUS:Dead	434489	Dead	SNOMED (Observation - Clinical Finding - S)
VITAL STATUS:Alive	35941940	Patient alive at last contact	NAACCR (Meas Value - NAACCR Value - S)
CAUSE OF DEATH:ICD-9-CM coding/ICD-10-CM	4083743	Cause of death	SNOMED (Observation - Observable Entity - S)
PLACE OF DEATH	4197589	Place of death	SNOMED (Observation - Observable Entity - S)

- Survival status



# Oncology Study using Cancer Registries

Analysis	Description
Common descriptive statistics	Summary statistics on patient demographics and cancer types
Cancer Treatment	Chemotherapy agents
Survival Status	Cancer survival

- Federated analytics



# Oncology Study using Cancer Registries







## Introduction to HUTCH: Demo Video by HDR UK for OHDSI APAC Scientific Forum

URL:

- <https://youtu.be/HfZQaSY3rHU?si=es5EOH2JEheUb6RS>
- <https://youtu.be/Ax86GwTRWzA?si=RowYFj2XV5p4uNRX>



Thank you!