Harmonization of Taiwan’s Health Databases with CDMs

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**NHIA**
- Single-payer payment system
- Claims Data
- Payments

**NHIRDB**
- NHI IC Card
- Premium

**Researchers**
- Analysis

**Insured**
- 23 million population

**Providers**
- Healthcare Services
- Copayment
- 496 hospitals
- >20,000 clinics
Building a National Electronic Medical Record Exchange System – Experiences in Taiwan

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Building an active medical product safety surveillance system in Taiwan: Adaptation of the U.S. Sentinel System common data model structure to the National Health Insurance Research Database in Taiwan

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Analysis of Dual Combination Therapies Used in Treatment of Hypertension in a Multinational Cohort

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A Mapping Example

<table>
<thead>
<tr>
<th>COVID-19 Data Element</th>
<th>Sentinel CDM</th>
<th>PCORnet CDM</th>
<th>I2b2/ACT CDM</th>
<th>OMOP</th>
<th>CDISC SDTM + COVID-19 Companion Guide</th>
<th>USCDI + HL7 FHIR R4</th>
<th>VA EHR-S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment setting (e.g., hospital, clinic, inpatient, outpatient)</td>
<td>ENCOUNTER.EncType (6333690)</td>
<td>ENCOUNTER.Enc_Type (6421520)</td>
<td>VISIT.Visit_type (6333697)</td>
<td>VISIT_OCCURRENCE.visit_concept_id (6381648) VISIT_OCCURRENCE.visit_type_concept_id (6422451)</td>
<td>HOTERM</td>
<td>FHIR R4: Organization.id FHIR R4: Organization.type OR Location.type</td>
<td>Output and Input records has VIS and StationID. Then, crosswalk with dimensions table to figure out facility info</td>
</tr>
</tbody>
</table>
THANK YOU
FHIR Use Cases

1. EXCHANGE
   - Integration Engine
     - v2
     - v3
   - FHIR

2. FACADE
   - Application
     - Translation Interface
     - FHIR
   - Database

3. PERSISTENCE
   - Application
     - FHIR
   - Database