ICHOM
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Product Innovation
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Introduction
ICHOM / ICON partnership

Vision
ICHOM’s mission is to unlock the potential of value-based health care by defining global Standard Sets of outcome measures that really matter to patients for the most relevant medical conditions and by driving adoption and reporting of these measures worldwide.

Goals
Reducing Health Care Costs
Supporting Informed Decision Making
Improving Health Care Quality
GLobal Outcomes BEenchmarking (GLOBE) Pilot Program
Launched Pilots in Two Conditions

Hip and Knee Osteoarthritis

Cataracts
GLocal Outcomes BEnchmarking (GLOBE) Pilot Program

- Connecticut, USA (1 site)
- Massachusetts, USA (1 site)
- Western States, USA (9 sites)
- Portugal (4 sites)
- Florida, USA (1 site)
- UK (32 sites)
- Netherlands (11 sites)
- Sweden (3)
- Malaysia (3 sites)
- Israel (1 site)
- Italy (1 site)
- India (10 sites)

KHK Sites  CAT Sites
GLobal Outcomes BEenchmarking (GLOBE) Pilot Program
Where are we today? The GLOBE Program

Pilot conditions: Cataracts and Hip & Knee Osteoarthritis

18 months

Program Design
(2~3 months)

Data Collection
(1 year)

Reporting
(1~2 months)

Key Objectives

Overcome barriers to collecting and transferring data

Design risk adj, analytics, and visualization options

Define reporting options & examine utility of BM

WIP
ICHOM GLOBE Programme
Collection of data from HKO & CAT from providers around the world
Core ICHOM data domains

**PERSON**
- PERSON_ID
- YEAR_OF_BIRTH
- CARE_SITE_ID
- PERSON_SRC_VALUE
- GENDER_CONCEPT_ID

**VISIT_OCCURRENCE**
- VISIT_OCCURRENCE_ID
- PERSON_ID
- CARE_SITE_ID
- VISIT_START_DATE
- VISIT_END_DATE
- VISIT_SOURCE_VALUE

**PROCEDURE_OCCURRENCE**
- PROCEDURE_OCCURRENCE_ID
- PERSON_ID
- PROCEDURE_CONCEPT_ID
- PROCEDURE_DATE
- MODIFIER_CONCEPT_ID
- VISIT_OCCURRENCE_ID

**CONDITION**
- CONDITION_ID
- VISIT_OCCURRENCE_ID
- PERSON_ID
- CARE_SITE_ID
- VISIT_SOURCE_VALUE

**SURVEY**
- SURVEY_ID
- PERSON_ID
- SURVEY_CONCEPT_ID
- VISIT_OCCURRENCE_ID
- SURVEY_DATE
- TIMING
- DATA_SOURCE
- COLLECTION_METHOD
- DURATION

**OBSERVATION**
- OBSERVATION_ID
- PERSON_ID
- OBSERVATION_CONCEPT_ID
- VISIT_OCCURRENCE_ID
- OBSERVATION_DATE
- OBSERVATION_TYPE
- OBSERVATION_VALUE
- UNIT_CONCEPT_ID
- VISIT_OCCURRENCE_ID
- OBSERVATION_SOURCE_VALUE
- UNIT_SOURCE_VALUE
- SURVEY_ID

**CARE_SITE**
- CARE_SITE_ID
- FACT_RELATIONSHIP
- Is treated at

**Metadata tables**
- CONCEPT
- DOMAIN
- COHORT
- Vocabulary

Procedure occurs during visit
Has at least 1 visit
May have a procedure

Has a Procedure occurs during visit

Procedure occurs during visit
Has at least 1 visit
May have a procedure
### ICHOM GLOBE Observations

**Response from sample set of providers**

<table>
<thead>
<tr>
<th>Data Provider</th>
<th>No. of patients completing PROM at Baseline</th>
<th>No. of patients with procedure &gt; 6 months old</th>
<th>No. of patients completing PROM at 6 months</th>
<th>% of patients completing PROM at 6 months</th>
<th>No. of patients with procedure &gt; 1 year old</th>
<th>No. of patients completing PROM at 1 year</th>
<th>% of patients completing PROM at 1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1182</td>
<td>734</td>
<td>464</td>
<td>232</td>
<td>50.00%</td>
<td>63</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>2697</td>
<td>2295</td>
<td>1916</td>
<td>852</td>
<td>44.47%</td>
<td>669</td>
<td>243</td>
</tr>
<tr>
<td>3</td>
<td>369</td>
<td>368</td>
<td>283</td>
<td>71</td>
<td>25.09%</td>
<td>40</td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>70</td>
<td>70</td>
<td>55</td>
<td>19</td>
<td>34.55%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>3410</td>
<td>3402</td>
<td>1791</td>
<td>1417</td>
<td>79.12%</td>
<td>576</td>
<td>167</td>
</tr>
<tr>
<td>6</td>
<td>14</td>
<td>13</td>
<td>14</td>
<td>10</td>
<td>71.43%</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>66</td>
<td>44</td>
<td>28</td>
<td>12</td>
<td>48.86%</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**Data Quality**

[Data Quality Chart]

*Legend:*
- 100% Complete
- 70% Complete
- 50% Complete
- 0% Complete
ICHOM GLOBE
Sample visualizations
Why OMOP

- Contains most data domains
  - Using COHORT tables to identify standard sets
- Extremely robust data model and pretty flexible
- Defined domain brings consistency
- Addresses a lot of ICHOM roadmap (COST, DRUG, DEVICE) [for value equation]
- Useful tools (I think)
- Potential for access to a lot more data.
Gaps with OMOP CDM

- No place to store SURVEY data
- Lacks most PRO vocabulary data
- ICHOM vocabulary data
- Mapping to SNOMED codes not consistent with ICHOM benchmarking measures
- Some additional variables needed in OBSERVATION
  (value_as_datetime, domain_id, domain_occurrence_id)