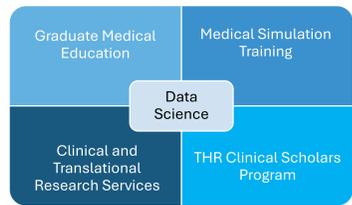


BACKGROUND:

- Southwestern Health Resources Academic Affiliation is a formal partnership designed to advance both organizations' (THR and UTSW) missions locally, regionally, and nationally.
- Challenges with prolonged data development cycles and resource bottlenecks



STRATEGIC GOALS:

- Accelerate and develop consistent data engineering process for research studies
- Develop a model for efficient resource utilization
- Establish a framework to capitalize on global collaborative opportunities

OHDSI & OMOP FOR RESEARCH:

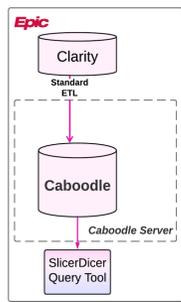
- OHDSI (Observational Health Data Sciences and Informatics) is a multi-stakeholder, interdisciplinary, open-science collaborative to bring out the value of health data through large-scale analytics
- OMOP – The Observational Medical Outcomes Partnership (OMOP) Common Data Model (CDM) by OHDSI is an open community data standard.

METHODS & IMPLEMENTATION:

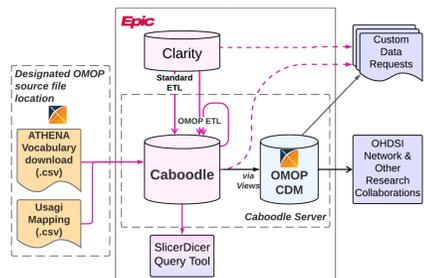
- In May of 2022, UTSW begins to develop OMOP CDMs
- April 2024 – THR models OMOP build after UTSW, using shared code and data structures
- Bi-weekly working meetings with UTSW staff
- Virtual server and database schemas created
- Mapping completed and OMOP views developed

THR's ARCHITECTURE:

Existing Epic data platform



With OMOP additions



RESULTS

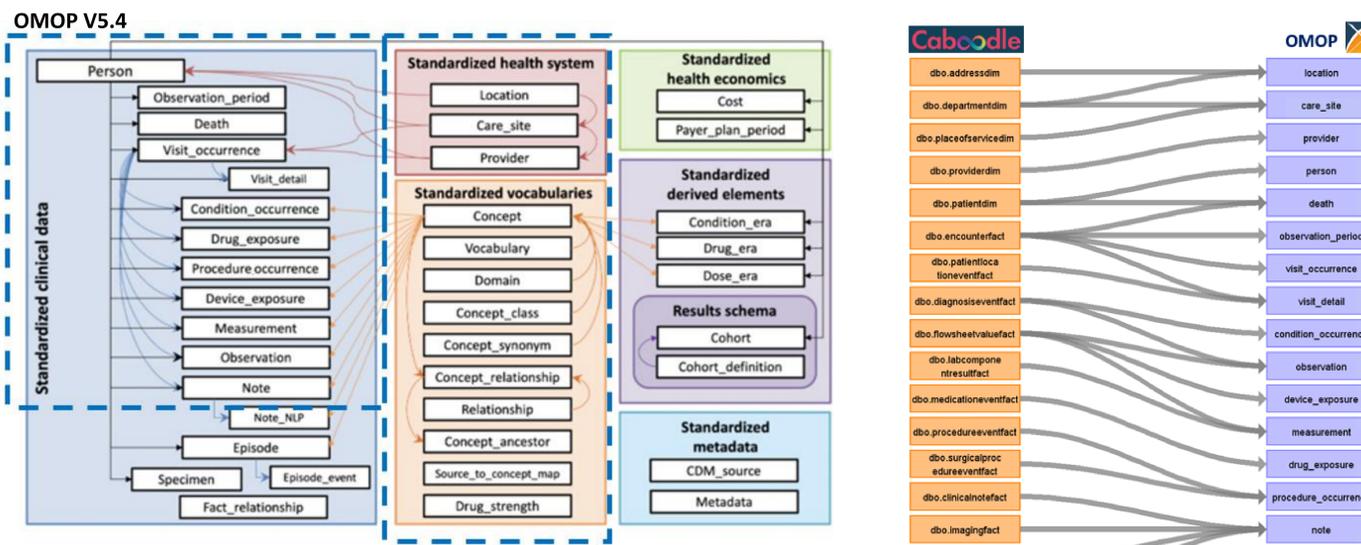
Population statistics: THR data had a higher person count and drug exposure count due to a larger patient population.

Entity	Person Count (n)	Drug Exposure Count (n)
THR	7,361,120	164,888,002
UTSW	5,617,846	128,141,943

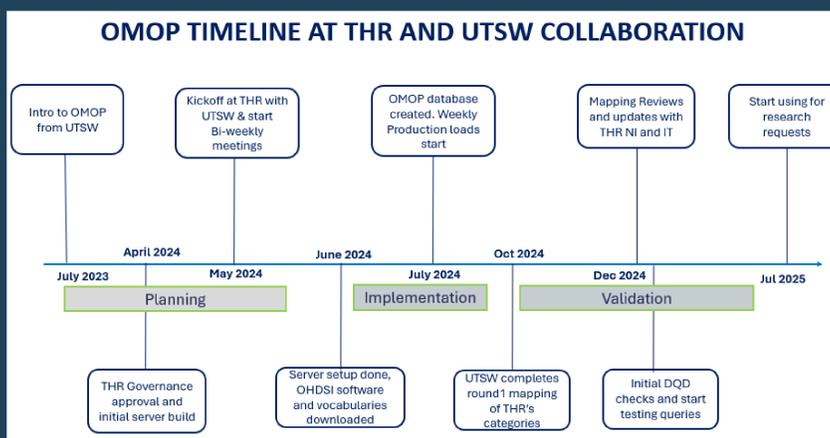


IMPLEMENTING OBSERVATIONAL MEDICAL OUTCOMES PARTNERSHIP (OMOP) COMMON DATA MODEL FOR RESEARCH- A COLLABORATIVE EXPERIENCE BETWEEN THR AND UTSW

OMOP COMMON DATA MODEL (CDM) V5.4 & MAPPING TO EPIC CABOODLE DATA WAREHOUSE TABLES



OMOP TIMELINE AT THR AND UTSW COLLABORATION

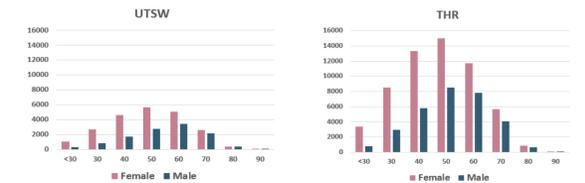


RESULTS & VALIDATION:

- Initial testing of THR CDMs begin in December 2024
- Data Quality Assessment with 97% accuracy
- Currently working on research studies

RESEARCH STUDIES EXAMPLE:

Semaglutide Prescription Pattern Analysis



MODEL BENEFITS:

- Share code and utilize OMOP with low-code/no code approach for efficient and consistent data processing
- Leverage combined institutional strengths of research and volume for understanding DFW communities
- Take advantage of nightly Caboodle loads to update OMOP

LESSONS LEARNED:

- Collaboration with UTSW through working meetings was key to success
- Large organizations like THR need extra mapping time and should involve Nursing Informatics
- Updates run weekly, not daily, due to need and performance
- Developed metadata checks related to volume and completeness as initial testing revealed gaps

LIMITATIONS:

- OMOP is research-specific, so not all EMR exists (e.g. unresulted lab orders). Caboodle can be used to supplement.
- Training required to use OMOP data model, similar to Caboodle

NEXT STEPS & FUTURE RESEARCH:

- Expand on research studies and training with UTSW
- Connect with OHDSI communities and collaborate on research and allow outside research requests
- Content additions: Episodes, NLP for notes and health economics
- Expand AI/ML/Gen AI for mapping, queries and checks

CONCLUSION - TAKEAWAYS & ROI:

- Met data quality and accelerated engineering goals for sample studies, reducing development from weeks to hours
- Leverage Epic's Caboodle infrastructure and admins to avoid additional hardware and full-time employee costs
- Utilize existing Caboodle developers and clinical informaticists and prioritize projects
- Time investment of 6-12 months (equivalent to a dedicated resource for 4 months) with organizational support
- Enables global research capabilities with EMR agnostic model
- Extending support to few interested Epic hospital systems across the nation as they plan for OMOP

THR and UTSW Teams: Chaitanya Katterapalli, Clark Walker, Sonam Sohal, Christopher Gonzalez, Ferdinand Velasco, Andrew Masica, Mujeeb A Basit, Mereja Varghese, Amirah Vadsariya, Bhavini Nayee, Margaret Langley, Ashley Huynh, Jennifer Cai, Donglu Xie, Cindy Kao, Eric Nguyen, Todd Boutte, Shiby Antony, Tammye Garrett, Christoph U Lehmann, Duwayne L Willett

