



Lessons Learned from an ETL to OMOP Journey in Cleveland

Mark F. Beno, MSM ; Paola G. Saroufim, PharmD, MPH



Background

The Cleveland Institute for Computational Biology, a partnership between Case Western Reserve University, University Hospitals of Cleveland, and the Cleveland Clinic, began its OHDSI journey in March 2017 by attending a face-to-face hackathon in Atlanta at Georgia Tech. Following several months of becoming completely convinced that OHDSI and the OMOP Common Data Model (CDM) was the appropriate path to take with our hospital partners, we started the long process of converting electronic health record data from multiple heterogeneous systems into an OMOP CDM data mart.



Challenges

- Stakeholder buy in from hospitals – many talks/conversations/road shows
- Selection of an external vendor for the ETL process
- IT team's initial belief that they could do the ETL without external help – “It's just a database!”
- IT team's dynamics (change in personnel and leadership) which slowed the progress
- ETL iteration – hampered by the “too many cooks” syndrome
- Inpatient and outpatient disparate EMR sources
- Location of medical vocabulary used in the hospital systems
- OMOP CDM documentation maturity - “not required” data fields were not mapped



The CICB Roadmap

1. CICB representatives attended the Atlanta F2F (March 2017)
2. CICB team introduced the OHDSI OMOP community and its power to Cleveland's stakeholders
3. Buy in from one hospital partner
4. CICB hosted a two day workshop with the UH IT team in attendance (September 2017)
5. CICB team attended the OHDSI Symposium (October 2017)
6. IT team initiated the ETL process of the hospitals' data
7. CICB team attended the NYC F2F (May 2018) and the symposium (October 2018)
8. ETL process continued with the help of IQVIA
9. CICB team hosted the OHDSI 2019 F2F to help with the “Book of OHDSI” documentation (June 2019)
10. Data validation (in process – completion in fall 2019)



Next Steps and Conclusions

Next Steps:

- Convince other hospital systems in the Cleveland area to OMOP their data and form a joined Northeast Ohio OMOP data warehouse
- Disseminate OMOP tools (ATLAS, Leaf and others) to clinicians and researchers
- Encourage developers to build additional tools

Conclusions:

- A dedicated and driven team is needed to ensure the progress of the ETL process and the buy in from hospitals
- Participation in the OHDSI community is critical to success
- Attending the symposia and face to face events is important for networking and staying up to date with the community's achievements
- CICB is looking ahead to opportunities to initiate local research studies and collaborate across the network

CICB Team Acknowledgment: Devin Tian, Harry Menegay, Sunah Song, Robert Lanese, Wanda Lattimore, Mike Warfe, Jill Barnholtz Sloan