2019 Lightning Talks

Speaker	Abstract
Mui Van Zandt Director of OMOP Data Networks at IQVIA	The OHDSI community has been expanding to many different countries. In the last 2 years, many organizations are starting to pop up in Asia. A variety of activities, work and events is taking place within these Asia countries, however much of it is unknown to the rest of the world.
Rimma Belenkaya, MA, MS Data Modeler/Knowledge Manager at Memorial Sloan	Observational research in cancer requires substantially more detail to represent conditions, treatments, and outcomes than most other therapeutic areas. At the same time, clinically and analytically relevant representation of cancer conditions, treatments, and outcomes requires data abstraction that is not available in the source data and has not been supported in OMOP CDM. Here, we introduce a new Cancer Module, an extension of the OMOP CDM and vocabulary, which allows for both the required granularity and abstraction of cancer data to support transformation from the source data and standardized analytics. We tested the Module in EHR and Cancer Registry data against several typical use cases.
Juan M. Banda, PhD Assistant Professor of Computer Science at Georgia State University	Electronic phenotyping over the years has been evolving from simple to complex rule-based definitions, and more recently entering the machine learning age with probabilistic phenotype models. With the added complexity comes the additional need to have consistent and reproducible phenotype definitions for maintenance, replicability and community sharing. In this work we introduce how to construct probabilistic phenotype definitions with Automated PHenotype Routine for Observational Definition, Identification, Training and Evaluation (APHRODITE) that follow the FAIR principles to improve their reproducibility and quality. By using a centralized repository and creating a standard list of meta-data elements, we aim to guide probabilistic phenotype definition developers with a FAIR-compatible standard. By developing this standard within the Observational Health Data Sciences (OHDSI) initiative, we aim to ensure community wide compatibility and maximum reproducibility.

Rupa Makadia, PhD, MS Associate Director of Epidemiology Analytics at Janssen Research and Development	Clinical trial recruitment can be severely compromised by mismatch between study design and available participants. The availability of “real world” data provides an opportunity to minimize this gap early in the trial lifecycle. This study presents a two-site (U.S. claims networks and hospital network) analysis using the OHDSI toolset (OMOP common data model (CDM) and ATLAS) to conduct clinical trial feasibility based on the protocol for an ongoing phase III randomized study to investigate the efficacy and safety of canagliflozin in a type II diabetic pediatric population. We generated cohorts in 3 large de-identified US claims datasets and the PEDSnet hospital by approximating eligibility criteria. This provided estimates of eligible cohort size and attrition due to specific eligibility criteria. We extended the assessment by performing sensitivity analyses of variations on selected criteria, examining their impact on feasibility from the 4 databases analyzed. By utilizing the OHDSI suite of tools, we were able to reliably implement protocol requirements at both sites and evaluate the impact of inclusion and exclusion criteria in real world populations, to facilitate clinical development and protocol design. The results of the feasibility can be used both to aid in identifying eligible patients and to understand opportunities to improve trial execution by better matching design to actual population.
Anastasiya Nestsiarovich, MD, PhD Postdoctoral Fellow at the Univ. of New Mexico	The risk of diabetes mellitus (DM) was compared among 102 bipolar disorder drug regimens with “No drug” as a reference. The IBM MarketScan® administratives claims database was used to retrospectively analyze data on 565,253 adults with bipolar disorder without prior glucose metabolism-related diagnoses. The pharmacotherapies compared were lithium, mood-stabilizing anticonvulsants, antipsychotics, and antidepressants (monotherapy and multi-class polypharmacy). Cox regression modeling included fixed pre-treatment covariates and time-varying drug exposure covariates to estimate the hazard ratio of each treatment versus “No drug”. The findings show an increased DM risk associated with antipsychotic use and multi-drug treatments. The evidence of a lower-than-baseline risk of DM with lamotrigine, oxcarbazepine, lithium, and bupropion monotherapy should be further investigated.
Seng Chan You, MD, MS Medical Doctor at the Department of Biomedical Informatics at Ajou University	Though current American and European guidelines recommend to use ticagrelor over clopidogrel in patients with acute coronary syndrome (ACS), the real-world evidence of net clinical benefit of ticagrelor is still limited. We aimed to compare the therapeutic effectiveness of ticagrelor compared to clopidogrel

	in patients who underwent percutaneous coronary intervention due to ACS using OHDSI network. At 12 months, the risk for primary end point — a composite of recurrent myocardial infarction, any revascularization, stroke, and gastrointestinal bleeding — was comparable between ticagrelor and clopidogrel in three databases from South Korea and US.
Alison Callahan, PhD Research Scientist at the Center for Biomedical Informatics Research at Stanford University	Clinicians are often faced with situations where published treatment guidelines do not provide a clear recommendation. In these challenging scenarios, on-demand evidence generated from data captured in electronic health records (EHRs) can aid in decision making. We operate a specialty consultation service staffed by a team of medical and informatics experts to summarize 'what happened to patients like mine' using data from EHRs and other health utilization data sources. Our service translates physician inquiries about situations with evidence gaps into actionable reports by keeping experts in the loop and enabling rapid iteration for electronic phenotyping, cohort definition and result interpretation. We describe our experience offering this service as a year-long pilot study. Our goal is to summarize our learning to enable others to implement such a service in their own health systems using their existing OMOP CDM formatted data.