Building a Healthier World Together
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Thank you OHDSI Scientific Review Committee

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- Rohit Vashisht
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Thank you to those who made today happen

- Elisse Katzman
- Craig Sachson
- Jody-Ann McLeggon
- Ann Marshak
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- Sofia Loren-Ellis-Chin
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- Kanchan Chaudhari
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- Harry Reyes
- Tony Sun
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- Lee Evans
- James Wiggins, AWS
- Mui Van Zandt, Iqvia
- OHDSI Steering Workgroup
Titan Awards

• To recognize OHDSI collaborators (or collaborating institutions) for their contributions towards OHDSI’s mission, the OHDSI Titan Awards were introduced at the 2018 Symposium and have been handed out at the U.S./Global Symposium each year since.

• Annually, community members are invited to nominate individuals or institutions they feel have made significant contributions towards advancing OHDSI’s mission, vision and values.

• Once nominations are submitted, the OHDSI Titan Award Committee will select the award winners.
Congratulations to our 2022 Titan Award Nominees!

Thamir Alshammary • Juan Banda • Adam Black • Fan Bu • Montse Camprubi • Yong Chen • Marcel de Wilde • Frank DeFalco • Egill Fridgeirsson • Jamie Gilbert • Jake Gillberg • Jason Hsu • Nigel Hughes • Yu-Chuan Jack Li • Mik Kallfelz • Andy Kanter • Elisse Katzman • Chungsoo Kim • Greg Klebanov • Christopher Knoll • Kristin Kostka • Manlik Kwong • Christophe Lambert • Martin Lavallee • Jing Li • Xintong Li • Star Liu • Ajit Londhe • Aniek Markus • Evan Minty • Paul Nagy • Karthik Natarajan • Aki Nishimura • Anna Ostropolets • Melanie Philofsky • Gowtham Rao • Berta Raventos • Craig Sachson • Martijn Schuemie • Azza Shoaibi • Marc Suchard • Cynthia Sung • Joel Swerdel • May Terry • Don Torok • Cynthia Yang • Jacob Zelko • Center for Surgical Science Prediction study team • LEGEND-T2DM • N3C • Thrombosis with Thrombocytopenia phenotype project team • Vaccine Evidence Workgroup
Titan Awards

Data Standards

This award recognizes extraordinary contributions by an individual, organization, or team in development or evaluation in community data standards, including OMOP common data model and standardized vocabularies.
2022 Titan Awards

Melanie Philofsky

Data Standards

www.ohdsi.org #JoinTheJourney
Titan Awards

Methodological Research

This award recognizes extraordinary contributions by an individual, organization, or team in development or evaluation in analytical methods for clinical characterization, population-level effect estimation, or patient-level prediction.
2022 Titan Awards

Fan Bu

Methodological Research

www.ohdsi.org

#JoinTheJourney
Titan Awards

Open-Source Development

This award recognizes extraordinary contributions by an individual in design, development, testing, and deployment of open-source software to enable observational analyses.
2022 Titan Awards

Egill Fridgeirsson

James Gilbert

www.ohdsi.org Open-Source Development #JoinTheJourney
Titan Awards

Clinical Applications

This award recognizes extraordinary contributions by an individual, organization, or team in generating clinical evidence that improves health by informing better health decisions and better care.
Titan Awards

Community Collaboration

This award recognizes an individual for their collaborative spirit in helping their fellow community members reach their goals.
2022 Titan Awards

Ajit Londhe

Community Collaboration

www.ohdsi.org

#JoinTheJourney
Titan Awards

Community Leadership

This award recognizes an individual for their leadership in advancing the OHDSI mission
2022 Titan Awards

Paul Nagy

Community Leadership

www.ohdsi.org
Titan Awards

Community Support

This award recognizes an individual, team, or organization for their contributions to ensuring the sustainability of the OHDSI community.
Housekeeping

• Don’t forget to vote for Best Community Contribution!
• Please fill out evaluation form to tell us how we can do better next year
• Don’t leave before the end of my closing talk, we need a group photo!
• Rest of weekend, OHDSI Collaborator activities all downstairs, starting at 8amET.
Building a Healthier World Together
Data are Like Lego Bricks for Phenotyping

- Conditions
- Drugs
- Procedures
- Measurements
- Observations
- Visits
Building standardized data

Concept

Condition occurrence

Drug exposure

Condition era

Drug era

Condition era

Drug exposure

Procedure occurrence

Device exposure

Measurement

Observation

Specimen

Note

Note_NLP

Death

Care site

Provider

Location

Visit

Visit detail

Visit occurrence

Cost

Payer plan period

Episode_event

Episode

Cost

Visit occurrence

Visit detail

Episode

Episode_event

Payer plan period

Observation period

Person
HADES (formerly known as the OHDSI Methods Library) is a set of open source R packages for large scale analytics, including population characterization, population-level causal effect estimation, and patient-level prediction.

The packages offer R functions that together can be used to perform an observation study from data to estimates and supporting statistics, figures, and tables. The packages interact directly with observational data in the Common Data Model (CDM), and are designed to support both large datasets and large numbers of analyses (e.g. for testing many hypotheses including control hypotheses, and testing many analyses design variations). For this purpose, each Method package includes functions for specifying and subsequently executing multiple analyses efficiently. HADES supports best practices for use of observational data as learned from previous and ongoing research, such as transparency, reproducibility, as well as measuring the operating characteristics of methods in a particular context and subsequent empirical calibration of estimates produced by the methods.

HADES has already been used in many published clinical and methodological studies, as can be seen in the Publications section.

Installation

See the Support section for instructions on setting up the R environment for HADES, including Java and RTools. Each package in HADES can be installed independently, but it is also possible to install all HADES packages at once, as described here. You can learn how connect to your database using HADES here.

Learn How to Use HADES
Building open source analytics

CohortMethod  Self Controlled Case Series  Self Controlled Cohort  Empirical Calibration  Evidence Synthesis
CirceR  CapR  Cohort Generator  Phenotype Library  Cohort Diagnostics
Andromeda  Database Connector  SqlRender  Parallel Logger  Eunomia  ROhdsiWebApi
Cyclops  Iterative Hard Thresholding  Feature Extraction  Hydra  OhdsiSharing

Patient Level Prediction
Deep Patient Level Prediction
Ensemble Patient Level Prediction

Cyclops  Iterative Hard Thresholding  Feature Extraction  Hydra  OhdsiSharing
Building an open source analytics ecosystem

- Parallel Logger
- Andromeda
- Cyclops
- SqlRender
- Feature Extraction
- Patient Level Prediction
- Database Connector
- Patient Level Prediction
Building community phenotypes

Phenotypes:
- COVID AESI
- LEGEND
- Phenotype Phebruary
- Designated Medical Events

Tools for disseminating phenotypes:
- Phenotype Library

Tools for evaluating phenotypes:
- Cohort Diagnostics
- PheValuator
- PatientLevel Prediction
- Cohort generator

Tools for developing phenotypes:
- ATLAS
- CirceR
- CapR
- PHOEBE
Building network studies

- OMOP CDM
- Data Quality Dashboard
- ACHILLES
- ATLAS
- Cohort generator
- Cohort Diagnostics
- Phenotype Library
- PatientLevel Prediction
- PheValuator
- CohortMethod
- Empirical Calibration
- OhdsiSharing
- Evidence Synthesis
- OhdsiSharing
Pre-specification of a systematic approach

Traditional observational study:
- Define research question
- Generate evidence
- Interpret study reliability
- Interpret study results

LEGEND Hypertension:
- Define research question
- Generate evidence
- Interpret study reliability
- Interpret study results

Use study evidence

New recommendation:
- Define research question
- Generate evidence
- Interpret study reliability
- Interpret study results

Future:
- Define research question
- Generate evidence
- Interpret study reliability
- Interpret study results

Ad-hoc, expert-driven
Pre-specified systematic approach
Building a systematic approach to evidence generation and interpretation

Define research question
Generate evidence
Interpret study reliability
Interpret study results
Use study evidence!
Building collaborations
What are we going to build together?
Let’s have a OHDSI builder challenge

• Each table is one team of up to 12 individuals
• Each team will receive one project and have 15 minutes to complete it
  – Each project contains:
    • 1 team membership form
    • 1 instruction sheet
    • 3 Sharpie markers
    • 1 Lego baseplate (16x16 studs) with a colored pattern
    • Lots of random Lego bricks that match the colors on the baseplate

• Your team’s tasks:
  1. Come up with a team name and list of all team members on the team membership form
  2. Every team member must sign their name on 1 Lego brick
  3. Build the most creative Lego art/sculpture you can before time expires
Ground rules for building your sculpture

• Do not change your baseplate pattern
• Only build within the 16x16 stud area, no pieces can hang over any edge
• Only build with bricks that match the color of the stud below it, starting with the baseplate colors. So, build blue on blue, white on white. Colors should not hang over different colors
• All the signed bricks must be used, plus whatever other bricks you choose (but you do not need to use all bricks)
Ground rules

You can build BLUE pieces here...

You can build WHITE pieces here...

You can NOT put WHITE pieces here

You can NOT put BLUE pieces here

You can NOT have a BLUE piece hang over the white stud

You can NOT have any piece hang over the edge
Ground rules

How it starts:

How it should (and shouldn’t) be going:
OHDSI 2022 Builder Challenge

00 : 15 : 00
Housekeeping

• Group photo now! Craig will provide directions

• AFTER group photo:
  – Get your LEGO minifigure
    • If you were in the video, find your name
    • If you weren’t in the video, come build your own!
  – Get your OHDSI long-sleeve shirt
  – Get your OHDSI frame, we will send you the picture of group photo to include in it
  – Enjoy the network reception
    • Make sure you hit up the OHDSI photo booth, several special surprises there!
    • Hint: some of the Lego themed items are edible 😊