

# Enabling Lifesciences Research with OHDSI

**COLLABORATE.  
INNOVATE.  
EDUCATE.**





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## **Odysseus is a market leader in enabling standardized Real-World Evidence (RWE) data analytics at scale.**

- OMOP data conversions
- OHDSI Healthcare ontology curation
- RWE Tools and Platforms (Prometheus)
- RWE software engineering
- Business Intelligence (BI)
- Observational research and data analytics



### **Active OHDSI open science contributor:**

- OMOP CDM standard
- Standard OMOP Vocabularies
- Data Quality standards and tools
- Analytical methods (HADES)
- Data analytics tools and platforms (ATLAS, ATHENA, ARACHNE)



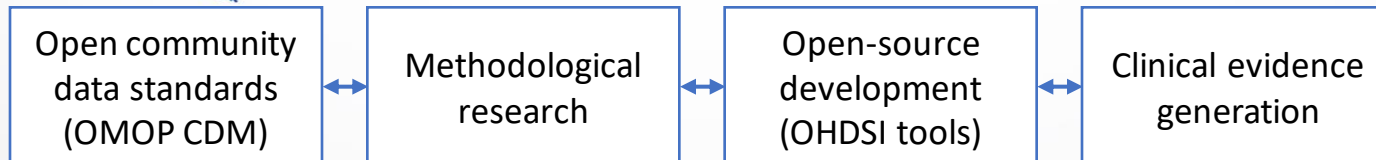
# Observational Health Data Sciences and Informatics (OHDSI)

## OHDSI By The Numbers

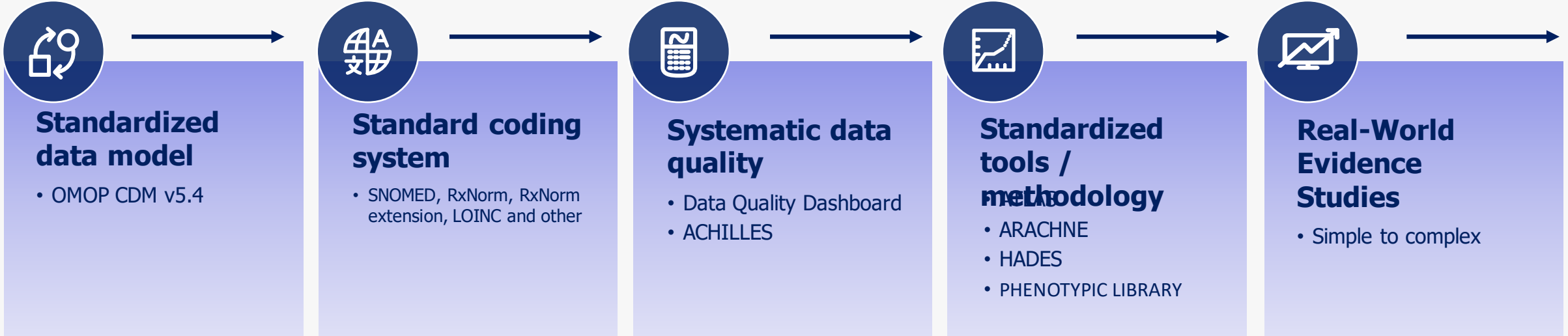
- 3,758 collaborators
- 83 countries
- 21 time zones
- 6 continents
- 1 community

## OHDSI Data Network

- 534 data sources
- 49 countries
- 956 million unique patient records (12% of the worlds' population)



# DATA ANALYTICS AT SCALE WITH STANDARDIZED APPROACH



## OHDSI/OMOP

**Faster and more reliable solutions and studies** across a series of datasets and data types

**Reduced cost of ownership** including understanding coding schemes, writing statistical programs across databases or developing software

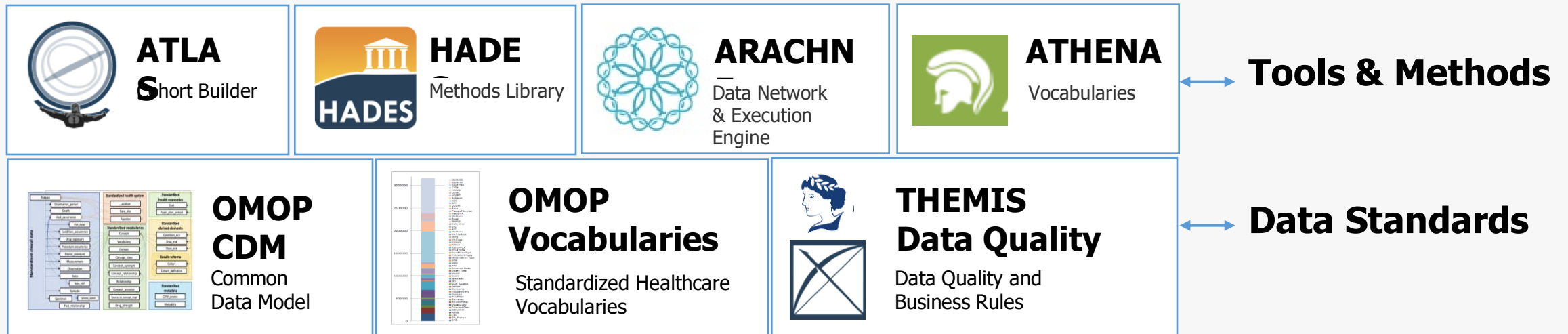
**Expanded data access** via the OHDSI enabled network and remote multi-center database studies

# OHDSI COMMUNITY



← Talented People

→ Design Libraries & Evidence

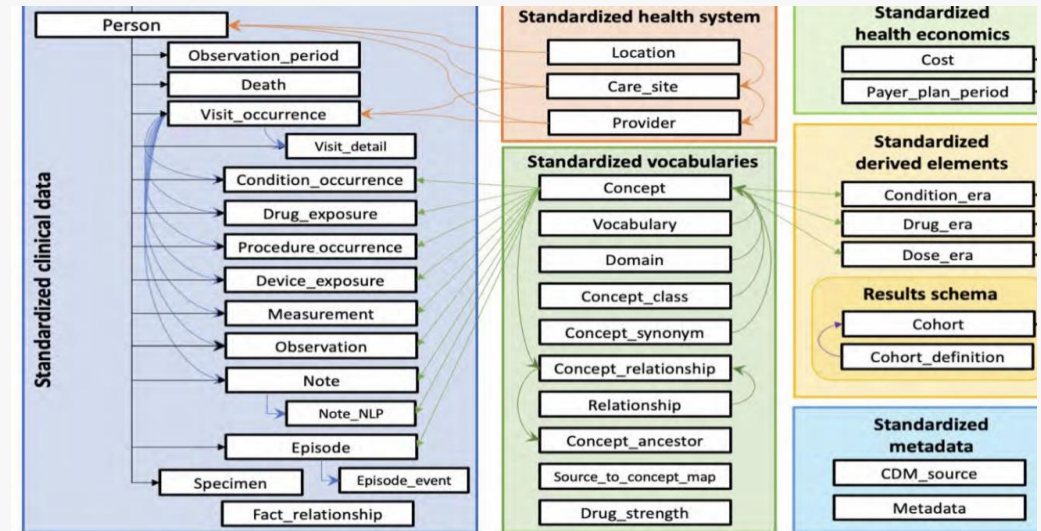


OHDSI / OMOP supported by all major hosting and database platforms

# OMOP CDM v5.4

## “Data analytics ready” healthcare data

- Harmonized RWD data & Vocabularies
- Patient centric
- Data from various sources (Claims, EHR, Lab, Registry, Survey etc..)
- Preserves data provenance
- Quality driven
- Extendable & Evolving



## OMOP CDM BY THE NUMBERS

### 37 tables

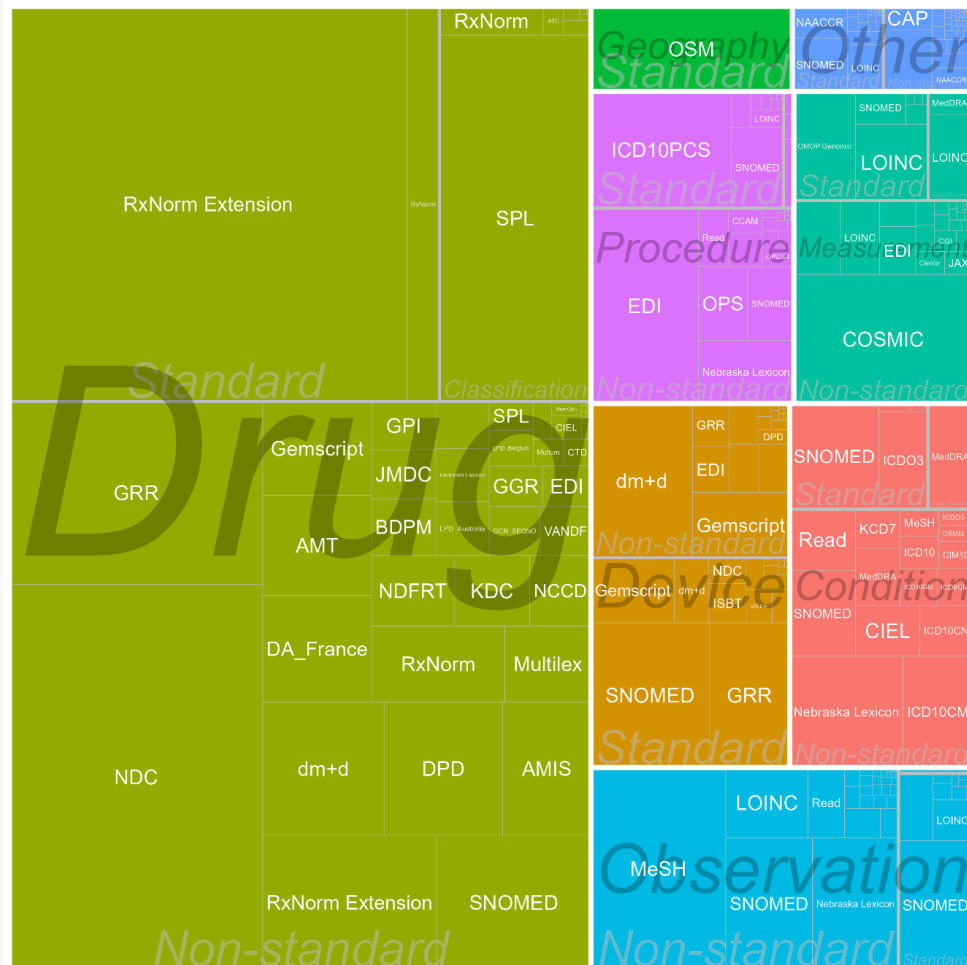
- 17 to standardize clinical data
- 10 to standardize vocabularies

### 394 fields

- 193 with `_id` to standardize identification
- 101 with `_concept_id` to standardize content
- 43 with `_source_value` to preserve original data

### 1 Open Community Data Standard

# OMOP STANDARD VOCABULARIES

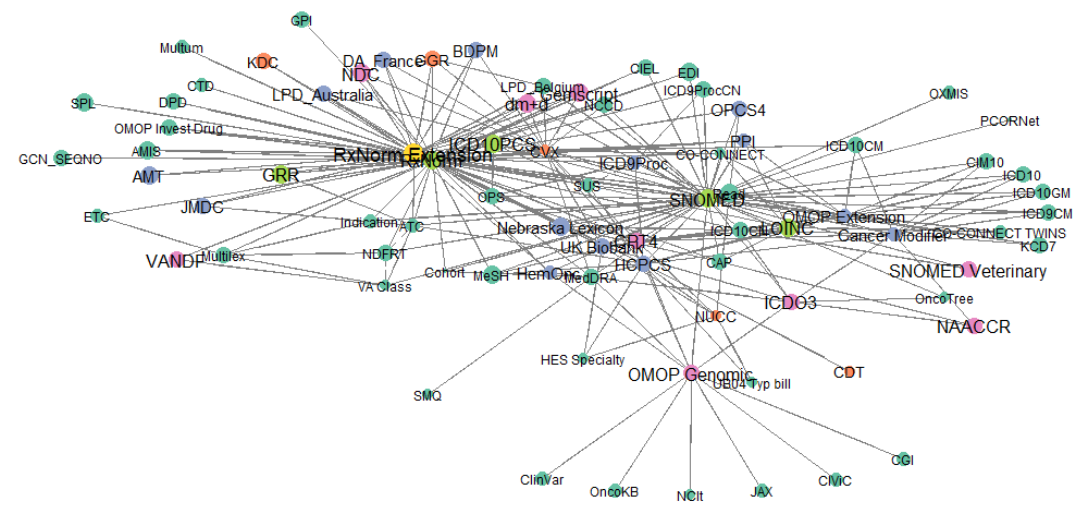


## OHDSI Vocabularies By The Numbers

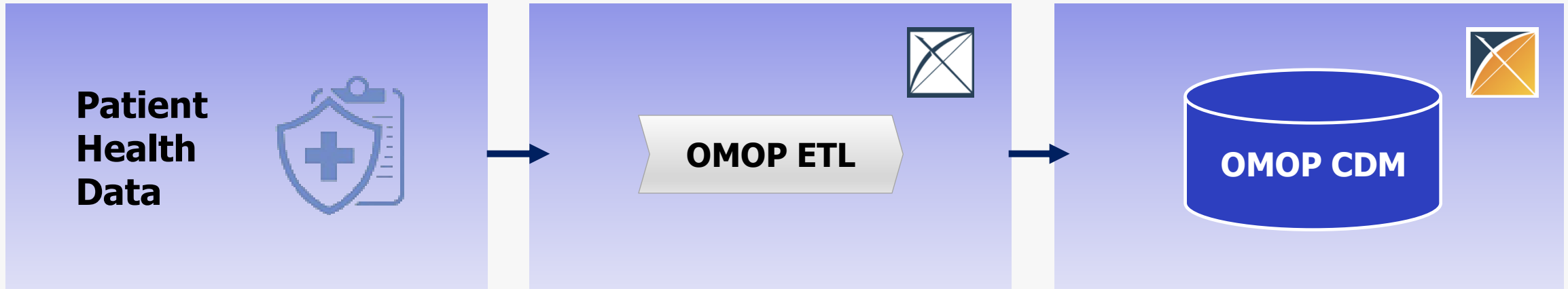
as of August 2023 release

- 11,027,290 concepts
- 82,142,038 concept relationships
- 3,598,454 standard concepts
- 87,967,689 ancestral relationships
- 847,008 classification concepts
- 4,673,156 concept synonyms
- 142 vocabularies
- 44 domains

1 Shared Resource to Enable Data Standards

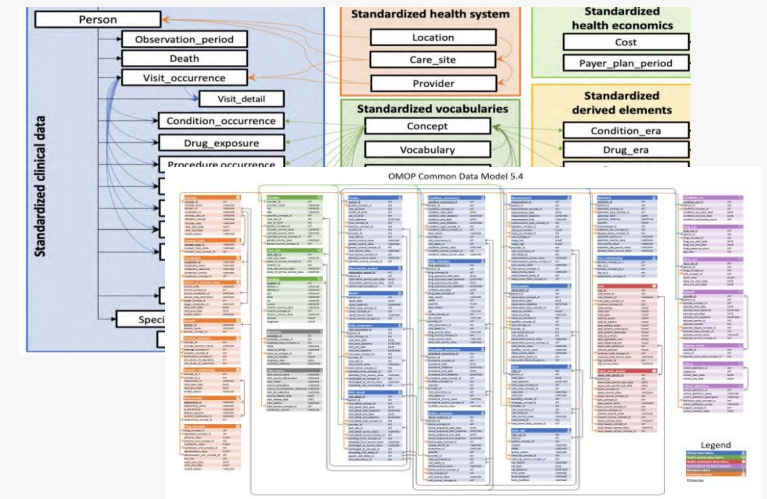


# OMOP CDM CONVERSION



- Medical Insurance Claims
- Electronic Medical Records (EMR / EHR) & Labs
- Prescription
- Survey & Social Economic Data
- Clinical Trial
- Registries

- Transform into standard format
- Common business rules (THEMIS)
- Perform data quality testing



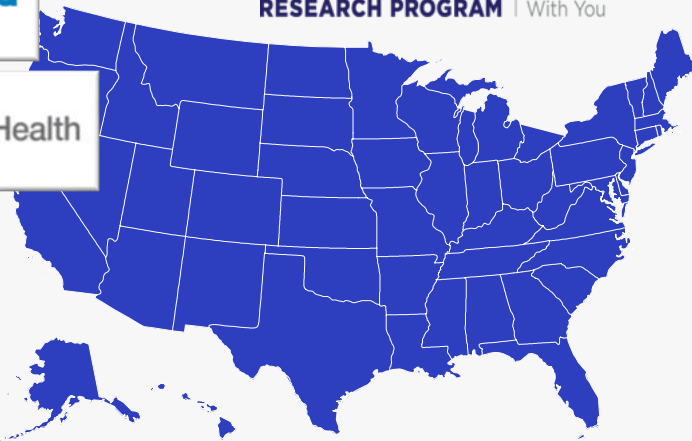
**“ETL / ELT” or “Harmonization” or “Standardization” or “Conversion” = Standard**



# GLOBAL OHDSI ADOPTION



**All of Us** RESEARCH PROGRAM  
The Future of Health Begins With You



PIONEER



# ADOPTION IN PHARMA

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- OHDSI adopted by nearly all major Pharma
- Strong Epi, Safety, HEOR footprint
- All major data sets in OMOP
- Enables rapid data analytics & visualization (BI) development
- Building libraries of designs and phenotypes

# ADOPTION CHALLENGES

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- Effective rollout & sustainability plan
- Change management and organizational culture change
- Trust in OMOP data quality
- Advanced skills to get OHDSI up & running
- Staying up to date & maintained
- Too many RWE platforms deployed with little integration

# OHDSI AND COMMERCIAL PLATFORMS

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## ! Important to consider

- Built on Open Standards vs. Blackbox
- Interoperability vs. lock in
- Collaboration vs. Standalone
- Wide adoption vs. expensive licenses
- Community support

# OPPORTUNITIES FOR PISTOIA ALLIANCE

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- Promote the use of open standards (OMOP)
- Lifesciences OHDSI reference architecture
- Pistoia / OHDSI collaboration and joint projects
- OHDSI sponsorship opportunities

# Upcoming OHDSI Events



## 2024 EU Symposium

June 1- 3 Rotterdam, NL, EU

<https://www.ohdsi-europe.org>



## 2024 OHDSI Global Symposium

Oct. 22-24 • New Brunswick, N.J., USA

<https://www.ohdsi.org/ohdsi2024>

# THANK YOU!

For any questions, please contact

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