

## A Journey through the OHDSI Central Coordinating Center

George Hripcsak, MD, MS

Vivian Beaumont Allen Professor of Biomedical
Informatics, Columbia University

Director, OHDSI Central Coordinating Center



### Columbia University Irving Medical Center Department of Biomedical Informatics





1907 Plummer (Mayo) develops medical record 1910 Flexner recommends medical record

**1916** Presbyterian Hospital

adopts, uses for quality research [Openchowski 1925], and disseminates around the nation



~1980
Daniel Fink, P&S '75
Columbia's first Laboratory
Information System

1958
Donald AB Lindberg, a founder of biomedical informatics, graduates P&S, starts a 2-year pathology fellowship



1966 William Bauman, P&S '47 starts Columbia's first Medical Data Processing Department

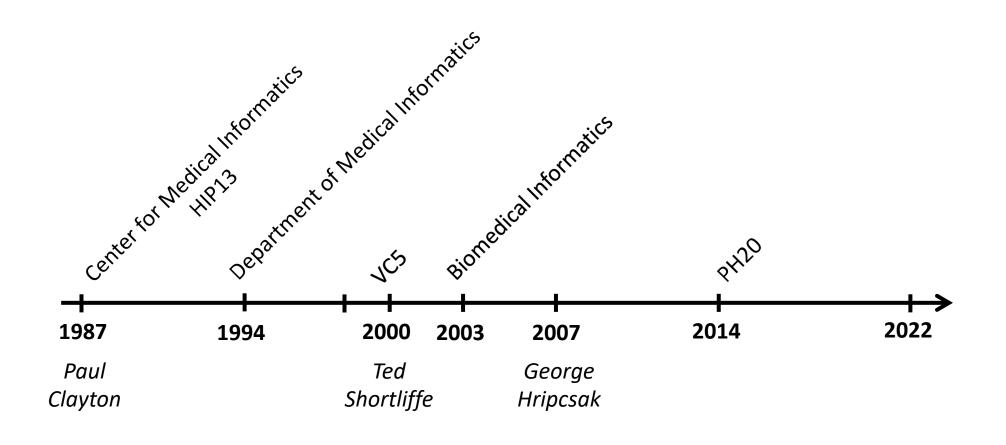




1987
Decision to create the
Center for Medical Informatics
(Robert Levy, Rachel Anderson,
Henrik Bendixen, Thomas
Morris)



### Columbia University Irving Medical Center Department of Biomedical Informatics





### **DBMI** vital stats

### Personnel

- 45 total faculty
  - 15 PH20 primary DBMI
  - 6 ICRC with Systems Bio.
  - Other joint, adjunct
- 50 trainees
  - 25 PhD
  - 14 masters
  - 11 post-doc
- 24 developers, managers
- 8 admin staff

### Budget

- \$9M DC grants PH20
- \$2M other grants
- \$3M ICR
- \$2M hospital passthru
- \$1M tuition, recruit, ...

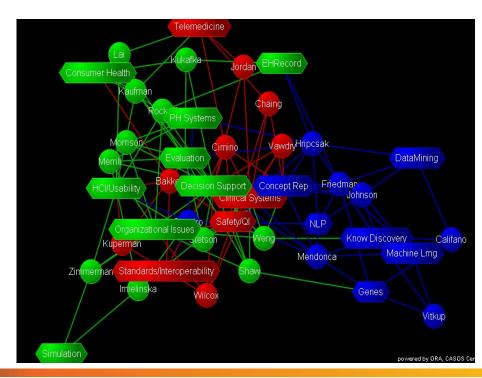
### Space

- Presby Hosp 20
  - 11368 sq ft (15924 gross)
  - res, teach, admin
- Irving Canc Res Ct 8,9



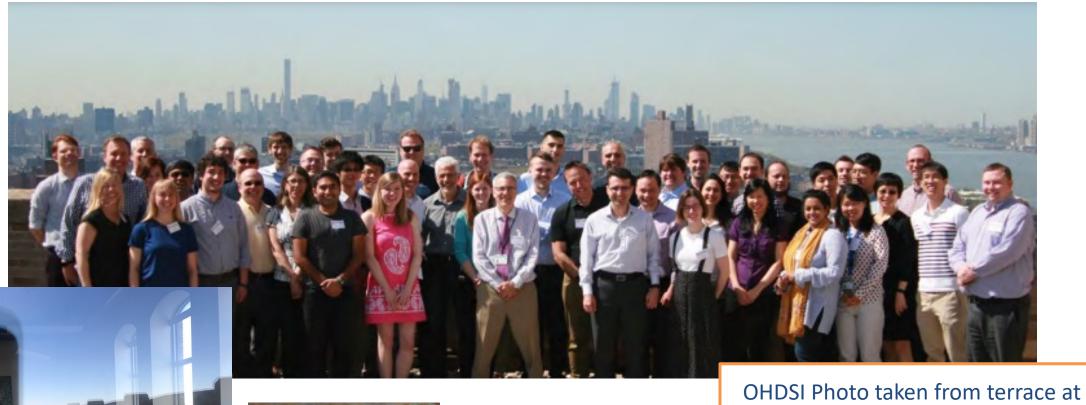
### Three "communities"

- Empirical discovery & prediction (natural, data science)
  - systems biology and medicine
  - modeling, data mining, and knowledge discovery
- Human & organizational factors (social science)
  - cognition, team interaction, & organizational impact
  - human-computer interface and usability
  - consumer health
- Information management (engineering)
  - clinical information systems
  - knowledge management
  - information standards and interoperability





## OHDSI @ Columbia DBMI



Drug Treatment Paths, Sean Williams

OHDSI Photo taken from terrace at Columbia DBMI overlooking New York City skyline

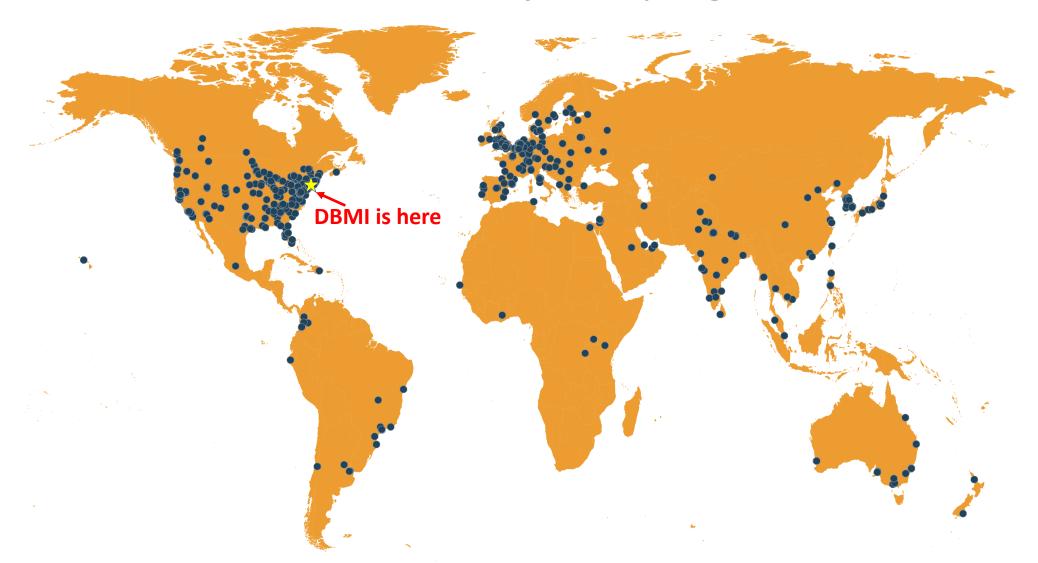


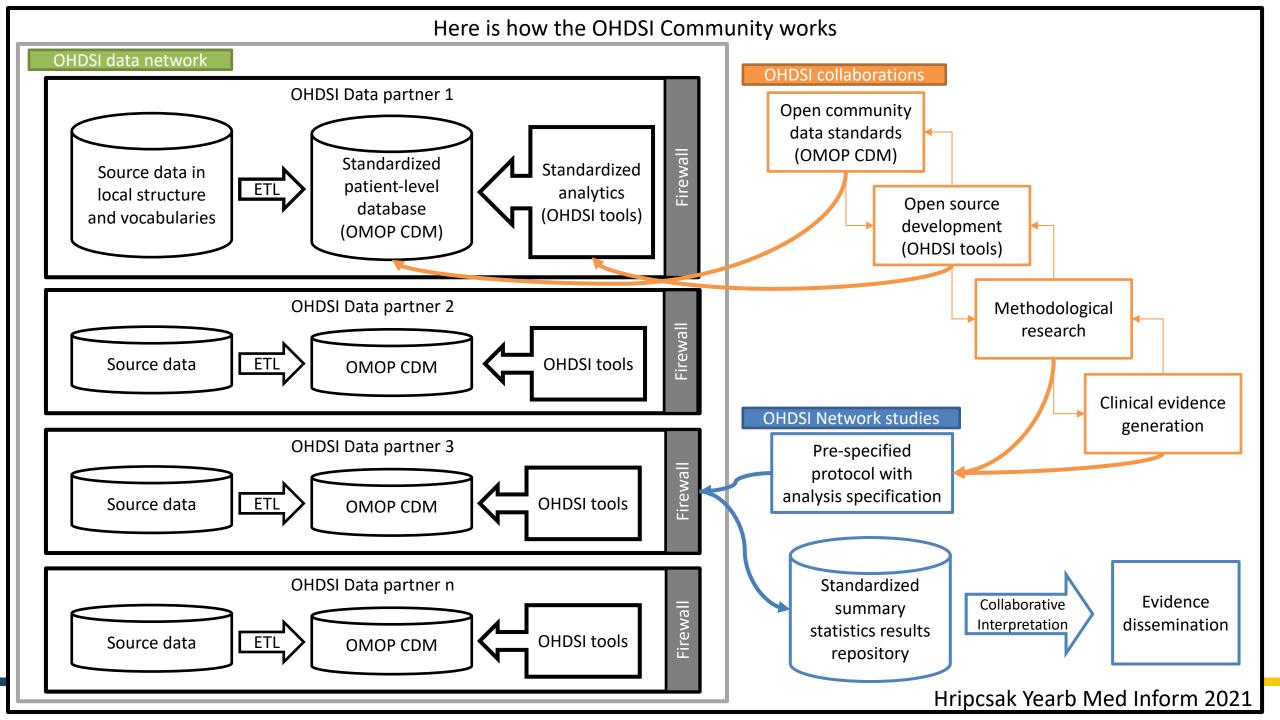
### OHDSI's mission

To improve health by empowering a community to collaboratively generate the evidence that promotes better health decisions and better care



## OHDSI community We're all in this journey together...







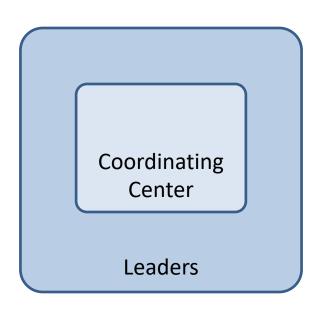
### Coordinating Center support to OHDSI

Coordinating Center

- Coordinating Center role:
  - Provide central shared infrastructure and coordinate community activities to enable community collaborations that advance OHDSI's mission
  - Lead Steering workgroup to provide guidance and support to enable the community to collaboratively generate evidence and the scientific work products necessary to generate evidence



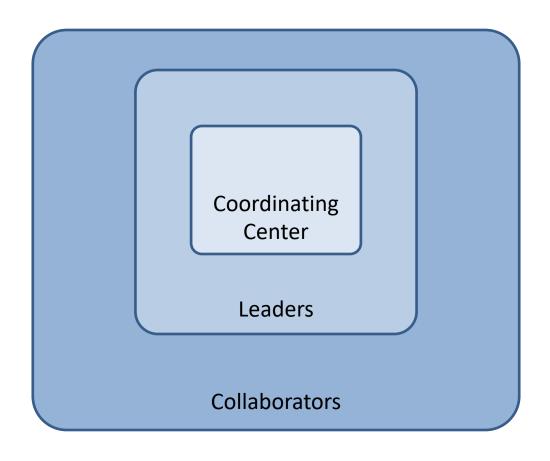
### Coordinating Center support to OHDSI's leaders



- Leaders across OHDSI community
  - Workgroup and chapter leads
  - Project maintainers
  - Study coordinators
  - Event hosts
- Coordinating Center role:
  - Support current leaders to achieve their objectives and align with OHDSI's mission
    - Promote ongoing activities and successful accomplishments
    - Encourage participation and contributions from other collaborators
  - Empower more collaborators to become leaders



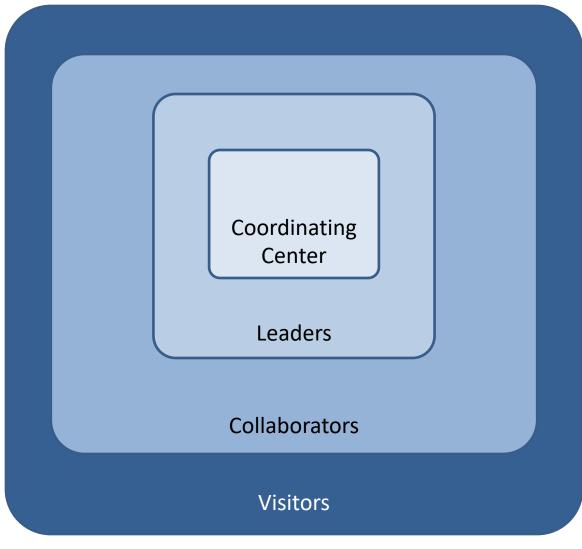
### Coordinating Center support to OHDSI's collaborators



- Collaborators across OHDSI community
  - Open and inclusive community of individuals with diverse backgrounds, disciplinary perspectives, stakeholder representation, geographies
  - Membership is open and free, just need to sign up to participate in community activities
- Coordinating Center role:
  - Maintain infrastructure and provide support to connect collaborators with collaboration opportunities
    - Forums for community discussion
    - MSTeams for workgroup activities
    - Git for open-source development
    - OHDSI Symposium for network sharing
  - Encourage more visitors to become collaborators



### Coordinating Center support to others



- Visitors are encouraged to benefit from the work of OHDSI's open science community
  - We aim to generate the evidence that promotes better health decisions and better care for everyone, not only our collaborators
- Coordinating Center role:
  - Provide open access to OHDSI evidence and work products, including:
    - Distribute standardized vocabularies
    - Support open-source software with permissive licenses
    - Encourage open sharing of study design and implementation
    - Maintain open access to study results
  - Expand awareness and impact of OHDSI's work across the broad healthcare ecosystem



### OHDSI Central Coordinating Center responsibilities

Steward open community data standards

Enable open source development

Facilitate
methods
research and
clinical
applications

Encourage open sharing and evidence dissemination

Foster collaborations and empower community



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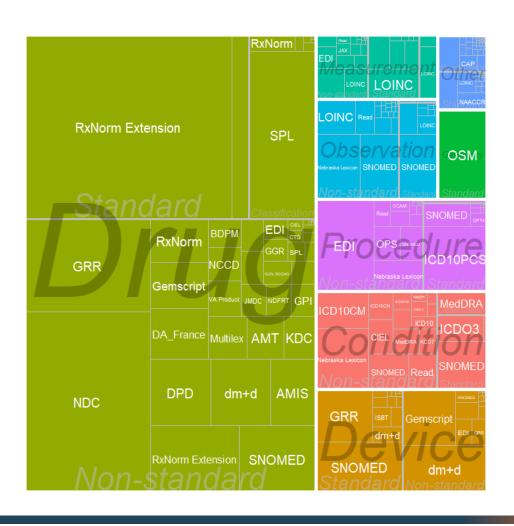
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## Maintenance and release of OHDSI standardized vocabularies





OHDSI vocabularies by the numbers (as of 20 March 2022): **134** vocabularies 40 domains **10,088,289** concepts 3,533,508 standard concepts **752,175** classification concepts **76,192,476** Concept relationships 84,898,314 Ancestral relations **3,016,130** Concept synonyms 1 shared resource to enable OHDSI



## Maintenance and release of OHDSI standardized vocabularies



	ΤΗΕΝΔ				SEARCH	DOWNLOAD	Patrick Ryan ▼ ⑦
				Sho	w all	SHOW HISTORY	DOWNLOAD VOCABULARIES
	ID (CDM V4.5)	CODE (CDM V5)	NAME		REQ	JIRED	LATEST UPDATE
~	1	SNOMED	Systematic Nomenclature of Medicine - Clinical Terms (IHTSDO)				30-Jul-2020
~	2	ICD9CM	International Classification of Diseases, Ninth Revision, Clinical Modification, V	Volume 1 and 2 (NCHS)			30-Sep-2014
~	3	ICD9Proc	International Classification of Diseases, Ninth Revision, Clinical Modification, V	Volume 3 (NCHS)			30-Sep-2014
>	4	CPT4	Current Procedural Terminology version 4 (AMA)		EULA	required	02-May-2021
>	5	HCPCS	Healthcare Common Procedure Coding System (CMS)				31-Dec-2018
<b>&gt;</b>	6	LOINC	Logical Observation Identifiers Names and Codes (Regenstrief Institute)	Usage statistics on athen	a.ohdsi.c	org:	22-Aug-2021
	7	NDFRT	National Drug File - Reference Terminology (VA)	35,411 downloads in 202	21		05-Aug-2018
~	8	RxNorm	RxNorm (NLM)	15,362 downloads so far			01-Aug-2021
~	9	NDC	National Drug Code (FDA and manufacturers)	1733 of unique accounts	with a		29-Jan-2022
	10	GPI	Medi-Span Generic Product Identifier (Wolters Kluwer Health)	download			13-Dec-2017
<b>Y</b>	12	Gender	OMOP Gender	26 vocabulary releases ir	2021		
<b>Y</b>	13	Race	Race and Ethnicity Code Set (USBC)	20 vocabulary releases in	1 2021		
<b>&gt;</b>	14	CMS Place of Service	Place of Service Codes for Professional Claims (CMS)				
	15	MedDRA	Medical Dictionary for Regulatory Activities (MSSO)		O- E	ULA required	31-Aug-2021
	16	Multum	Cerner Multum (Cerner)				



### Maintenance and release of OHDSI standardized vocabularies





**Timur** 



Oleg



Vlad



Varvara



Masha



Mikita



Mikhail



Irina



Maria



**Dmitry** 



Christian



Anna



**Dmitry** 





Polina



Michael



**OHDSI** Vocabulary Subgroup



Eduard



Denys

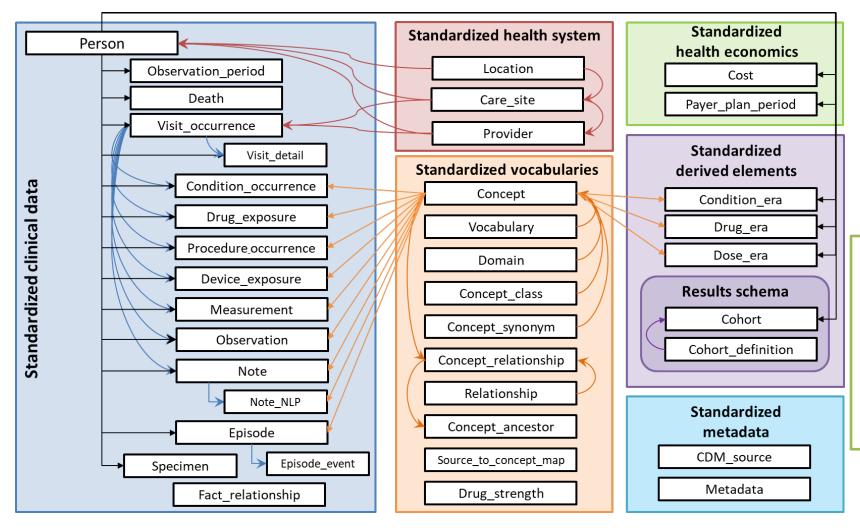


Alexander



## Stewardship and advocacy of the OMOP Common Data Model open community data standard





OMOP CDM adoption through 2021:

- 331 databases
  - 284 electronic health records
  - 28 administrative claims sources
- 34 countries
- >810 million unique patient records



## Stewardship and advocacy of the OMOP Common Data Model open community data standard



#### HL7 International and OHDSI Announce Collaboration to Provide Single Common Data Model for Sharing Information in Clinical Care and Observational Research

Health Level Seven International (HL7®) and the Observational Health Data Sciences and Informatics (OHDSI) network today announced a collaboration to address the sharing and tracking of data in the healthcare and research industries by creating a single common data model. The organizations will integrate HL7 Fast Healthcare Interoperability Resources (FHIR®) and OHDSI's Observational Medical Outcomes Partnership (OMOP) common data model to achieve this goal.

HL7 International CEO Dr. Charles Jaffe, M.D., Ph.D., underscored the significance of this partnership. "The Covid-19 pandemic has emphasized the need to share global health and research data." He continued, "Collaboration

with OHDSI is critical to solving this challenge and will help our mutual vision of a world in which everyone can securely access and use the right data when and where they need it."

The organizations will align their standards to capture data in a clearly defined way into a single common data model. This will allow clinicians as well as researchers to pull data from multiple sources and compile it in the same structure without degradation of the information. This endeavor has global implications with the potential to permit the clinical community to define the elements they need, package and share them in a consistent single structure.

"We are excited to have the OHDSI community join this partnership with HL7 to evolve community standards around observational research and clinical care," said George Hripcsak, MD, MS, OHDSI's coordinating center director. "These standards set the foundation for our mission of global, open-science research, and this partnership will accelerate the development of effective and safe treatments for diseases facing today's global population."

"We are excited to have the OHDSI community join this partnership with HL7 to evolve community standards around observational research and clinical care. These standards set the foundation for our mission of global, open-science research, and this partnership will accelerate the development of effective and safe treatments for diseases facing today's global population." - George Hripcsak



Support adoption in large multi-center initiatives, such as AllOfUs, eMERGE

Foster collaborations with other standards organizations, such as HL7



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# Maintain computing environment for continuous integration testing of all open-source tools, including HADES and WebAPI/ATLAS



IIIHADES								
	<b>MHADES</b>	*	Packages	🕏 Validation	Publications	Support ▼	▲ Study packages ▼	Developers

#### Package statuses

The table below lists, for each of the HADES packages, the following details:

- Version: The latest released version.
- . Maintainer(s): The persons responsible for the package. Only maintainers can create releases.
- Availability: whether the package can be installed from CRAN (using install.packages()), or needs to be installed from GitHub (using remotes::install\_github()).
- Open issues: The number of open issues.
- Open pull-requests: The number of open pull-requests.
- Build status: Whether the package passes R Check (including unit tests) on several different operating systems, and using various database
  platforms. The status shown is of the the latest push, including those to develop branches. Released packages (in the main branch) by
  definition have successful builds, and are not shown here.
- . Coverage: The percentage of lines of code that is covered by the unit tests in the main branch (i.e. in the latest released version).

Package	Version	Maintainer(s)	Availability	Open issues	pull- requests	Build status	Coverage
<u>Andromeda</u>	v0.6.0	Adam Black	CRAN	4	0	R-CMD-check passing	codecov 89%
<u>BigKnn</u>	v1.0.1	Martijn Schuemie	GitHub	1	0	R-CMD-check passing	
Capr	v1.0.2	Martin Lavallee	GitHub	4	0	R-CMD-check passing	
CirceR	v1.1.1	Chris Knoll	GitHub	1	0	R-CMD-check failing	codecov 87%
CohortDiagnostics	v2.2.4	Gowtham Rao	GitHub	34	1	R-CMD-check failing	← codecov 83%
CohortGenerator	v0.4.0	Anthony Sena	GitHub	6	0	R-CMD-check passing	codecov 99%
CohortMethod	v4.2.2	Martijn Schuemie	GitHub	14	0	R-CMD-check passing	
Cyclops	v3.1.2	Marc Suchard	CRAN	10	0	R-CMD-check passing	codecov 67%
<u>DatabaseConnector</u>	v5.0.2	Martijn Schuemie	CRAN	9	1	R-CMD-check passing	codecov 49%
EmpiricalCalibration	v3.0.0	Martijn Schuemie	CRAN	1	0	R-CMD-check passing	

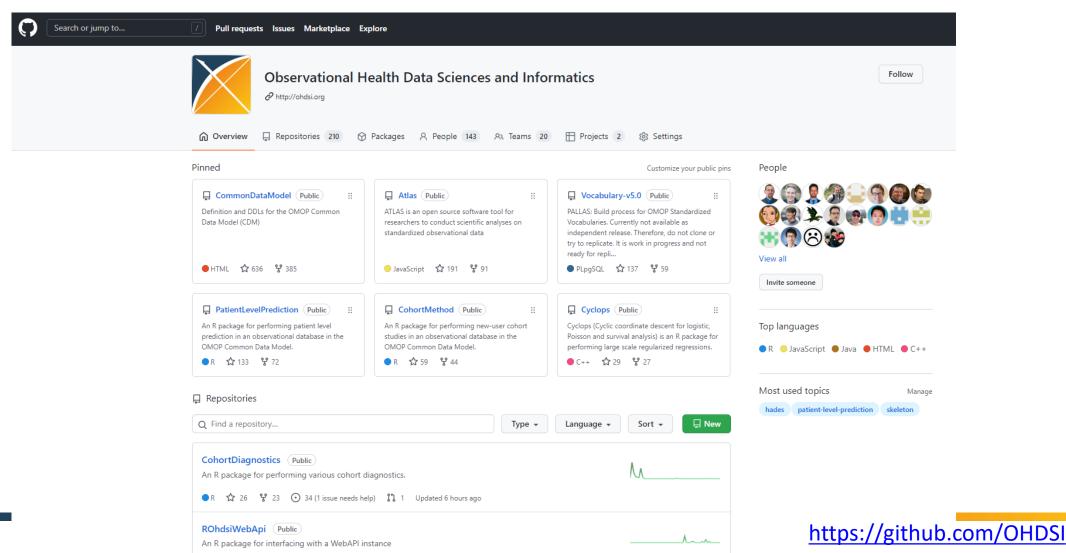
- Host servers to enable open-source development and continuous integration testing on:
  - MS Sql Server
  - Oracle
  - PostgreSQL
  - RedShift
- Host Nexus repository for OHDSI webAPI resources





# Enable community open-source software development through GitHub repository support, permissive licensing and OHDSI copyright

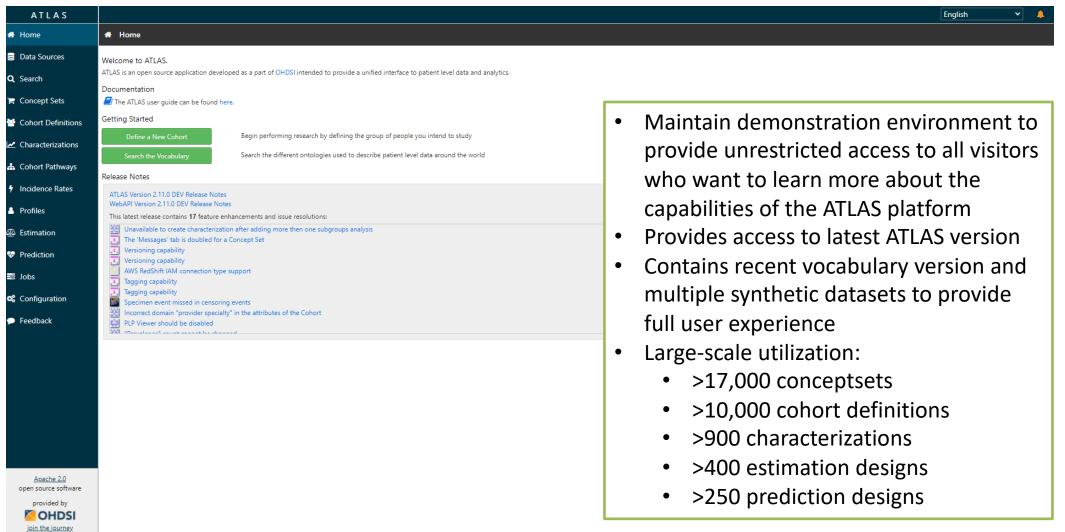






### Host ATLAS demonstration environment









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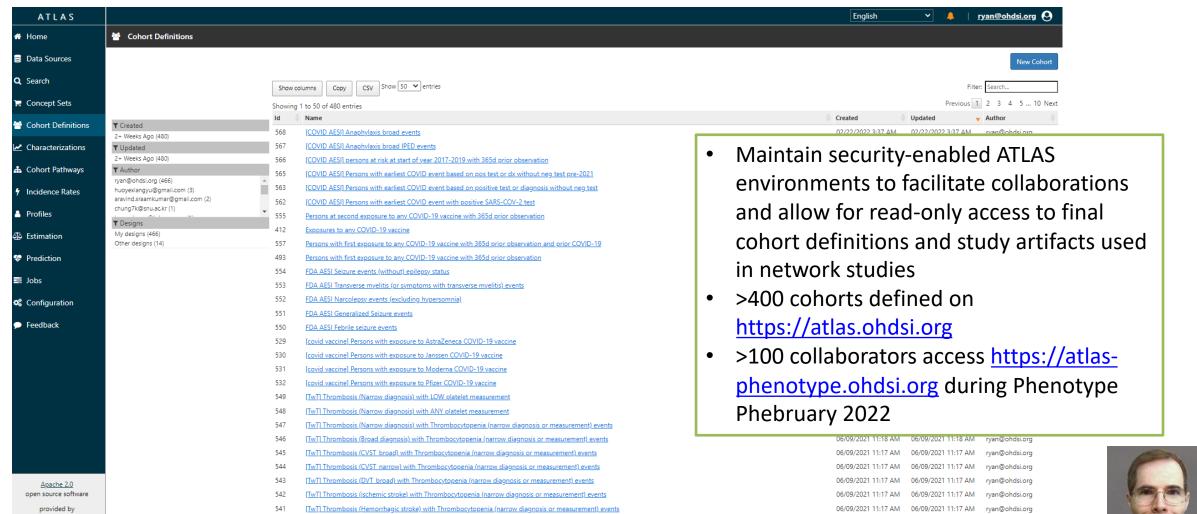


OHDSI

### Host ATLAS collaboration environment

06/09/2021 11:17 AM 06/09/2021 11:17 AM



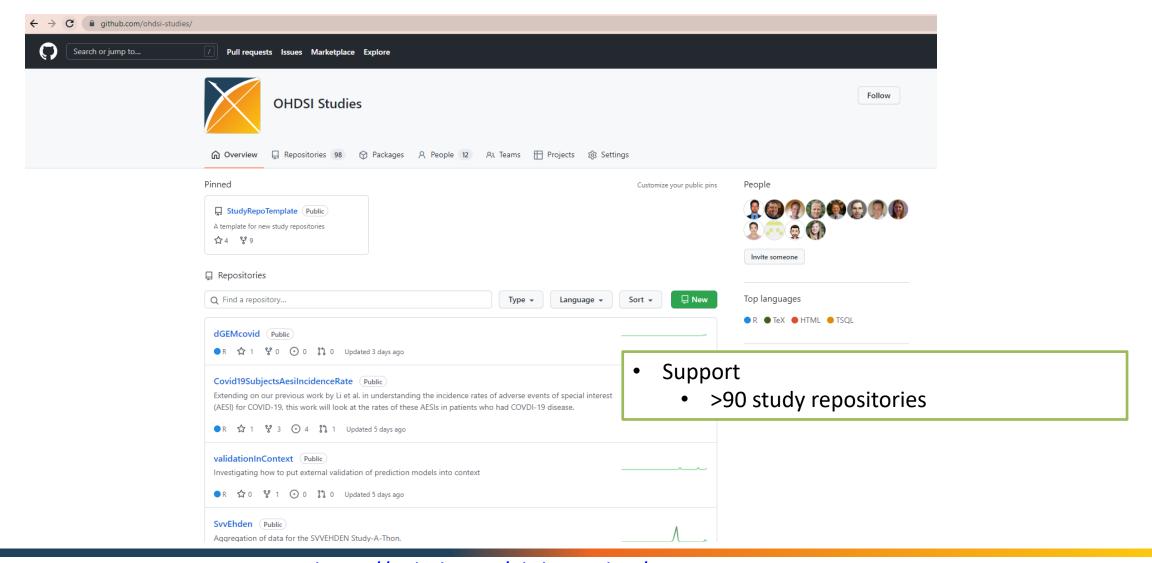


[TwT] Thrombosis (DVT narrow) with Thrombocytopenia (narrow diagnosis or measurement) events [TwT] Thrombosis (MI) with Thrombocytopenia (narrow diagnosis or measurement) events



## Support for OHDSI network studies for clinical evidence generation







## Columbia DBMI as a collaborating partner (beyond Coordinating Center responsibilities)



- Lead multiple OHDSI network studies
  - Treatment pathways (Hripcsak PNAS 2016)
  - LEGEND-HTN studies (Chen Hypertension 2021; Hripcsak JIM 2021)
  - Concept Prevalence (Ostropolets AMIA 2021)
  - HERA (Elhadad)
- Develop open-source tools
  - PHOEBE for conceptset recommendation
  - Criteria2Query for cohort definition
- Active participant and data partner in most OHDSI network studies



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### Host OHDSI RShiny servers for open sharing of results

PS matching, on-treatment

**CHARYBDIS** 

a data.ohdsi.org/LegendBasicViewer

Exposure group Drug major class

☐ Include combination exposures

**LEGEND Basic Viewer** 



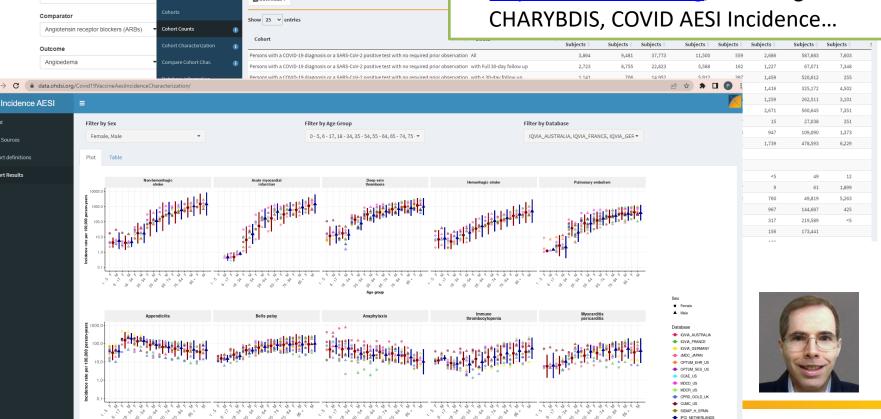


- AceBeta9Outcomes/
- aesi/
- AhasHfBkleAmputation/
- AntihyperglycemicCessationPLP/

data.ohdsi.org

- BookOfOhdsiPlp/
- BSSHSurgicalWristArthritis/
- C19validation/
- cdSkeletoncohortdiagnosticsstudy2/
- cervelloDiagnostics/
- CohortDiagnosticsBreastCancer/
- CohortDiagnosticsMSKAI/
- ConceptSetDiagnostics/
- corazon/
- CoverAgePrediction/
- Covid19CharacterizationCharybdis/
- Covid19CharacterizationCharybdisDiagCovi
- Covid19CharacterizationCharybdisDiagFeat
- Covid19CharacterizationCharybdisDiagInfl
- Covid19CharacterizationCharybdisDiagStra
- Covid19CharacterizationHospitalization/
- Covid19CohortEvaluationCharacterizations
- Covid19CohortEvaluationDmardsExposures/
- Covid19CohortEvaluationDmardsExposuresSu
- Covid19CohortEvaluationEfficacyOutcomes/
- Covid19CohortEvaluationExposures/
- Covid19CohortEvaluationSafetyOutcomes/
- Covid19CoverPrediction/
- Covid19EstimationFamotidine/
- Covid19EstimationHydroxychloroguine/
- Covid19EstimationHydroxychloroquine2/
- Covid19EstimationIl6JakInhibitors/

- Maintain Rshiny server and supporting back-end databases that contain results for OHDSI network studies
- 134 Shiny applications on https://data.ohdsi.org, including LEGEND, CHARYBDIS, COVID AESI Incidence...



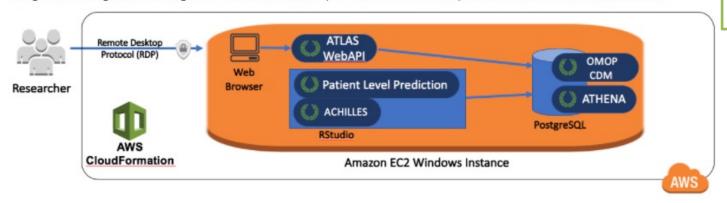


## Create and maintain servers for OHDSI community training and hack-a-thon events



#### OHDSI-in-a-Box Architecture

OHDSI-in-a-Box is specifically created as a learning environment, and is used in most of the tutorials provided by the OHDSI community. It includes many OHDSI tools, sample data sets, RStudio and other supporting software in a single, low cost Windows virtual machine. A PostgreSQL database is used to store the CDM and also to store the intermediary results from ATLAS. The OMOP CDM data mapping and ETL tools are also included in OHDSI-in-a-Box. A high-level diagram showing how the different components of OHDSI map to AWS Services is shown below.



- Create shared ATLAS instances and dedicated OHDSI-in-a-box training servers for tutorials and community activities
- >100 instances created for 2021
   Symposium





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### Annual OHDSI Symposium



### **2022 OHDSI Symposium**

Oct. 14-16 • Bethesda North Marriott Hotel & Conference Center



We are thrilled to announce that registration for the 2022 OHDSI Symposium, which will be held Oct. 14-16 at the Bethesda & Conference Center, is now open!

It is so exciting to bring our community back together this fall. Our collaborator showcase will return; please click the link to s part in our poster presentations, software demos and lightning talks. The full agenda for our conference is still being develop continue to check the OHDSI website (<a href="https://www.ohdsi.org">www.ohdsi.org</a>) and our social platforms for updates as we plan for the 2022 Sympos

The main conference will be held Friday, Oct. 14. A full-day tutorial will be held Saturday, Oct. 15, while other community acti both Oct. 15 and Oct. 16.

#### Symposium Registration Details

Friday, Oct. 14 - Main Conference

Registration Fee: \$500\*

\* this is an open and inclusive event; if the registration fee represents a burden to you, please contact <a href="mailto:symposium@ohdsi.org">symposium@ohdsi.org</a>.

Should you need to make changes or cancel your registration ticket, please follow the instructions you will receive on your Eventbrite confirmation upon registration completion. Please note that tickets can be refunded up until 7 days prior to the event; Eventbrite fees are not refundable.

- Host and fund logistics (hotel, food, audio-visual) for annual global Symposium, including main conference, tutorials, and workshops
  - >500 registrants and >100 tutorial students for last in-person event in 2019
  - >1,600 registrations for virtual symposium in 2020-2021





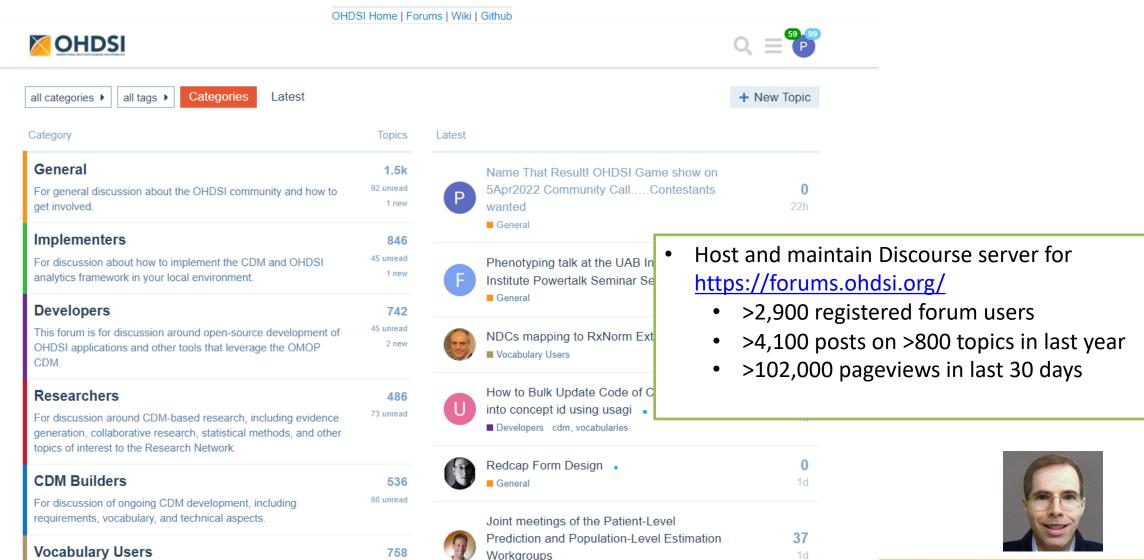
## Maintain online forums and wiki for open community interactions

25 unread

General

This forum is for discussion around vocabulary content.

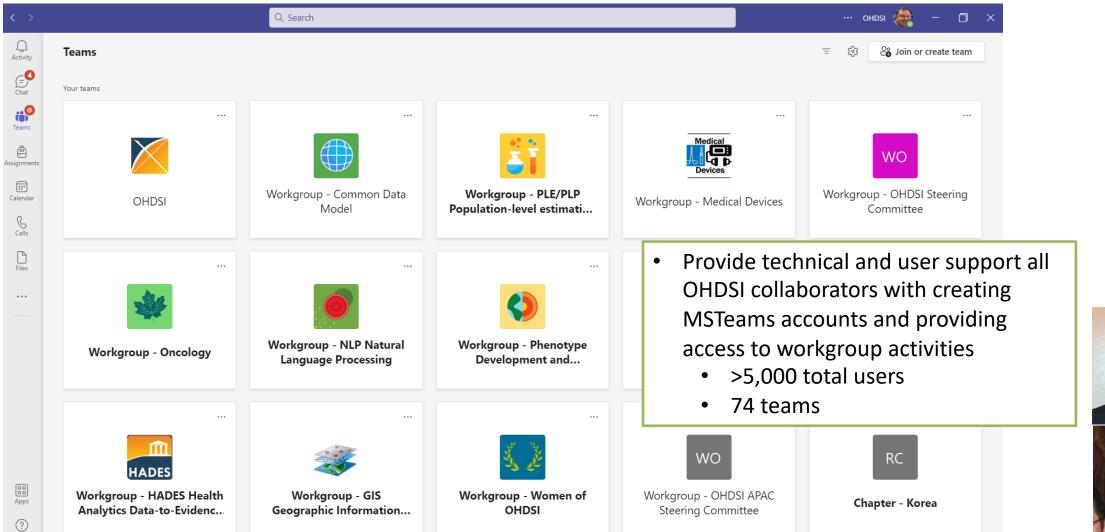






## Maintain collaboration space in MSTeams for community and its >30 active workgroups











### Facilitate weekly OHDSI community calls



## CHDSI Community Calls Everybody is invited to the weekly OHDSI community call, which takes place each Tuesday at 11 am ET. These calls are meant to inform and engage our community through a variety of call formats, including

These calls are meant to inform and engage our community through a variety of call formats, including community presentations, working group updates, breakout sessions, focus topics, newcomer-focused sessions, and more. The upcoming schedule is available to the right.

#### Use this link to get to the weekly meeting.

Videos and slides from previous 2022 calls will be posted below. All presentations from 2021 community calls can be found here. Both videos and slides from community calls prior to 2021 remain available.

April OHDSI Community Calls

Date Topic

April 5 Name That Result

April 12 OHDSI Coordinating Center

April 19 DARWIN EU

April 26 Open-Source Community

- + Mar. 29: Reproducibility (Anna Ostropolets, Martijn Schuemie, Asieh Golozar)
- + Mar. 22: OHDSI Vocabulary Journey (Michael Kallfelz, Patrick Ryan, Christian Reich)
- + Mar. 15: CDM Workshop, Part 2 (Clair Blacketer, Melanie Philofsky, Anthony Malinaro, Frank DeFalco)
- + Mar. 8: CDM Workshop, Part 1 (Clair Blacketer, Frank DeFalco, Kristin Kostka, Maxim Moinat)
- + Mar. 1: Characterization / Estimation / Prediction Discussions and Phenotype Phebruary Report #4
- + Feb. 22: Workgroup Updates + Phenotype Phebruary Report #3 (Anthony Sena, Paul Nagy, Patrick Ryan)
- + Feb. 15: Workgroup Updates + Phenotype Phebruary Report #2 (Clair Blacketer, Patrick Ryan)
- + Feb. 8: Workgroup Updates + Phenotype Phebruary Report #1 (Melanie Philofsky, Adam Black, Patrick Ryan)
- + Feb. 1: Introduction to Phenotype Phebruary (Patrick Ryan)
- + Jan. 25: Extracting OHDSI Concepts from Clinical Narratives for COVID (Hongfang Liu, Christopher Chute)

Lead weekly community calls to communicate where we've been, where we are now, and where we're going together

150-250 participants weekly since 2021





## Provide monthly newsletter and 'On the Journey' podcast





#### The Journey Newsletter (April 2022)

Leaders from our Common Data Model Workgroup led the community on a two-session CDM Workshop this past month, while our Open-Source Community has put together a DevCon for April. We discussed standardized vocabularies and reproducibility, and opened registration for OHDSI2022! All that and more is available in the latest edition of The Journey Newsletter.

#JoinTheJourney

#### **April Update Videocast**

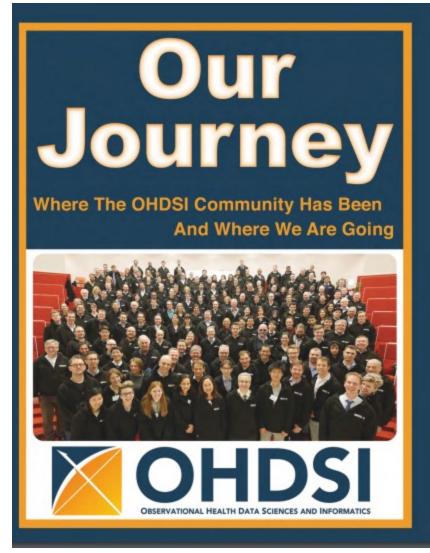
- Monthly newsletter to highlight community accomplishments and future collaboration opportunities
  - >3,000 readers

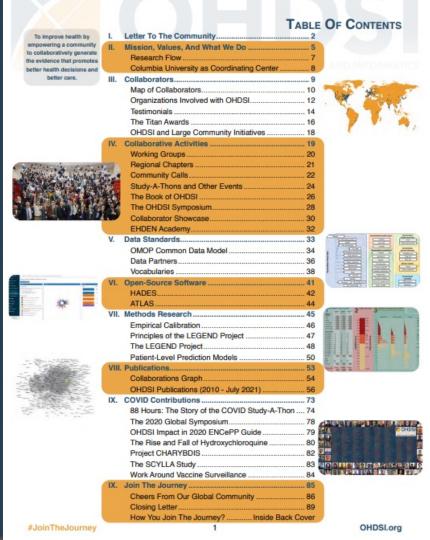




## Produce annual report 'Our Journey' highlighting community accomplishments and impact





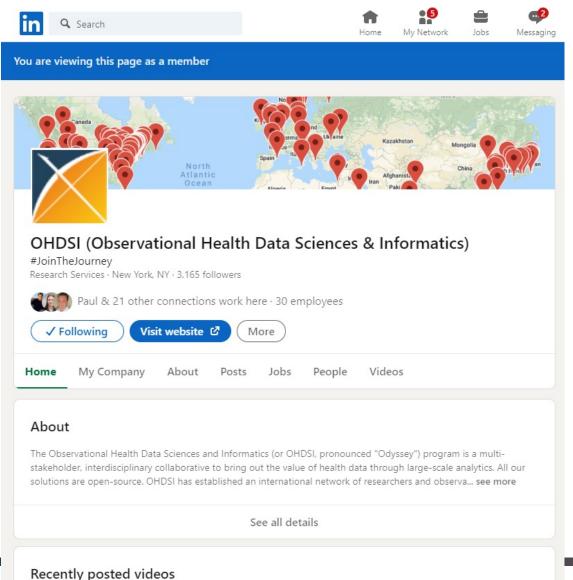


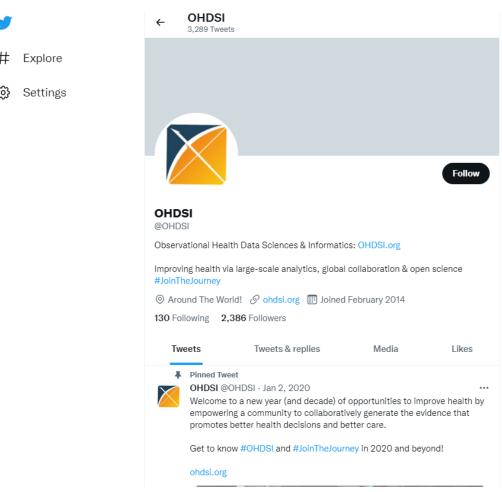




## Communicate OHDSI activities across social media







• LinkedIn: 3,165 followers

• Twitter: 2,386 Followers



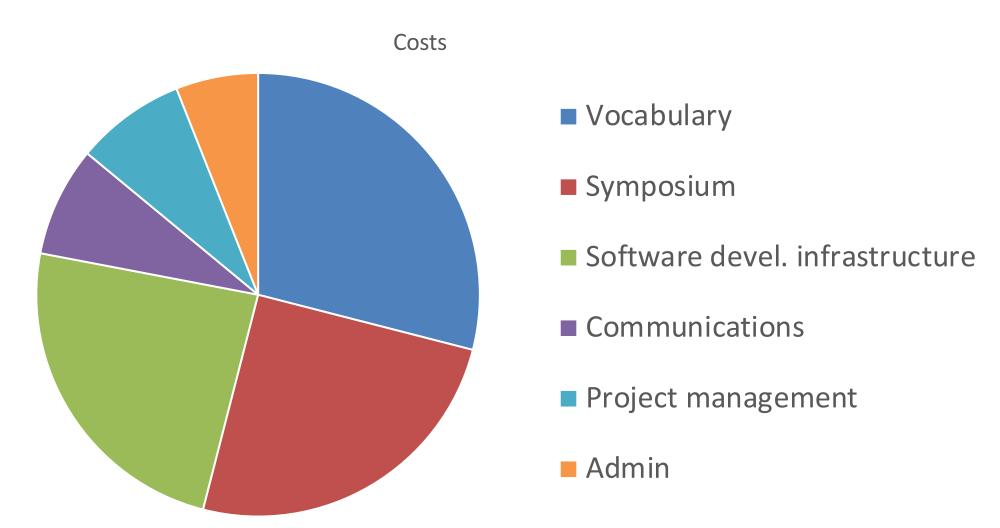


## **OHDSI Coordinating Center Resources**



### Coordinating center costs >\$1M

(not counting Columbia costs as an OHDSI collaborator >\$1M; and assumes George Hripcsak and Patrick Ryan donate their time)





### Funding sources

- Sponsorships and contracts from industry and academics
  - Takeda, Janssen, Bayer, Odysseus, IQVIA, The Hyve, Case Western/Cleveland Inst for Comp Bio, ITTM, Google Cloud, Evident, AWS, Deloitte, Georgia Tech, BCBS South Carolina, MUSC, Cloudera, Evalytica, Shyft, Informatics Institute, Regenstrief, UAB, ZS, J Koskinas T Giovanis, Pfizer, Celgene, Signet Accel, Amgen, Merck, AstraZeneca, KHIDI
- Symposium and related grants: FDA, PCORI, AHRQ
- Provide infrastructural support for several projects, which contribute to the necessary general infrastructure
  - OHDSI Convener as part of the FDA BEST initiative
  - All of Us Research Program
  - eMERGE Network
  - N3C and PASC
- Research grants that contribute to the necessary general infrastructure
  - NIH, etc.



### **OHDSI Sponsorship**

- Hoping to move to a new funding model
  - OHDSI is expanding in collaborators, scope, external use, and impact
  - Sustain and grow the community, adopt more mature funding model

- Launch new sponsorship model for OHDSI
  - Larger scale
  - For broad central activities, not just the Symposium (replaces Symposium sponsorship)
  - More active solicitation



### OHDSI Sponsorship

#### Support The Journey

#### OHDSI Sponsorship Helps Provide A Foundation For Our Global Research Efforts

The OHDSI community is comprised of a global team of volunteers who collaborate together using open-source tools and shared best practices to support our shared mission of generating real-world evidence that promotes better health decisions and better care. In order to foster growth in our community of nearly 3,000 volunteers across six continents, the OHDSI Coordinating Center at Columbia University has created a sponsorship program.

#### Check out our OHDSI sponsors here.

This program allows both corporations and individuals to make meaningful contributions in support of OHDSI's central coordinating activities. There are three levels of support, including donation amount and benefits to the sponsor, detailed below. Any level of support enhances both our community and our mission.

Below the sponsorship level information is a section about how your sponsorship impacts our community. To learn more about OHDSI's activities, achievements and many other aspects of our global community, please search our webpage or check out our 2021 Annual Report: Our Journey.

#### **Sponsorship Levels**

#### GOLD

- Donation level: US \$500k/year
- · Your logo (max size: 400×185) will be placed on our OHDSI Sponsors page with link to your home page
- Logo placed in top section under Gold Level Sponsors heading
- Logo placed in alphabetical order
- Logo placed in a two-column row
- Use of OHDSI Gold Sponsor logo on your site
- · Joint press release with OHDSI
- Annual meeting with OHDSI leadership to learn about current and future initiatives, and participate in an OHDSI sponsor question & answer
- · Weekly logo placement on title slide of OHDSI community call (average >=180 listeners per week)
- · Logo placement on monthly "Thank You Sponsors" slide during OHDSI community call
- · Sponsors Spotlight feature (Q&A with a member of your organization) placed on website and newsletter
- · Monthly recognition on OHDSI Twitter (2300+ followers) and LinkedIn (3100+) pages
- · Inclusion in "Thank You Sponsors" graphic in all OHDSI monthly newsletters (4200+ on mailing list)
- · Listing in all OHDSI annual reports: Our Journey
- · Recognition at all OHDSI in-person events

#### SILVER

- · Donation level: US \$100k/year
- · Your logo (max size: 225×110) will be placed on our OHDSI Sponsors page with link to your home page
- Logo placed in middle section under Silver Level Sponsors heading
- Logo placed in alphabetical order
- Logo placed in a three-column row
- · Use of OHDSI Silver Sponsor logo on your site





#### Why Should I Sponsor OHDSI?

The OHDSI Central Coordinating Center provides support for the OHDSI open-source community and the community's mission to improve health by empowering a community to collaboratively generate the evidence that promotes better health decisions and better care. OHDSI collaborates in many aspects of the journey from data to evidence, including open community data standards, open source software development, open methodological research, and open network clinical research.

The OHDSI central coordinating center facilitates these collaborations by providing a central shared infrastructure and coordinating community activities that allow individuals from diverse backgrounds, disciplinary perspectives, stakeholder representation, and geographies to come together for a common cause. The OHDSI central coordinating center is responsible for the maintenance and release of the OHDSI standardized vocabularies, an integrated biomedical ontology and knowledge resource that is made public and has been downloaded >50,000 times by more than 1500 organizations. The OHDSI central coordinating center built and maintains a central computing environment to enable community open-source analytics development, providing an infrastructure for continuous integrating testing across multiple relational database platforms for open-source tools such as HADES and WebAPI/ATLAS. The OHDSI coordinating center also hosts servers that provide demonstration and collaboration environments to give community members opportunity to learn about OHDSI best practices and capabilities, and to apply them within their own research activities.

The OHDSI central coordinating center also organizes the annual OHDSI Symposium, a multi-day event that allows individuals to come together to share their ongoing research, learn from the community, and create new collaboration opportunities. OHDSI community communications, including weekly community calls, monthly newsletters, annual reports, our website, forums, and social media, are all led by the OHDSI central coordinating center.

Your sponsorship funding will be used by the OHDSI central coordinating center at Columbia University Irving Medical Center to finance the expenses associated with these activities. This includes funding for vocabulary development, central computing infrastructure, and community event costs (hotel, food, audio/visual), as well as support staff for project management, communications, and administration. Because Columbia University is a non-profit organization, sponsorship can have tax benefits.

By sponsoring the OHDSI central coordinating center, you show your support for OHDSI's mission and help sustain our community. You also demonstrate a commitment to the principles of Open Science and the opportunities this brings to improve health care.

#### I Want To Sponsor OHDSI! How Do I Do It?

If you would like more information about supporting the OHDSI central coordinating center, please contact sponsorship@ohdsi.org. We handle sponsorships differently from other one-time donations, so if you want your contributions to be part of the sponsorship program (and receive the benefits of the program), we will be delighted to work with you. All sponsorship information will be kept in confidence.