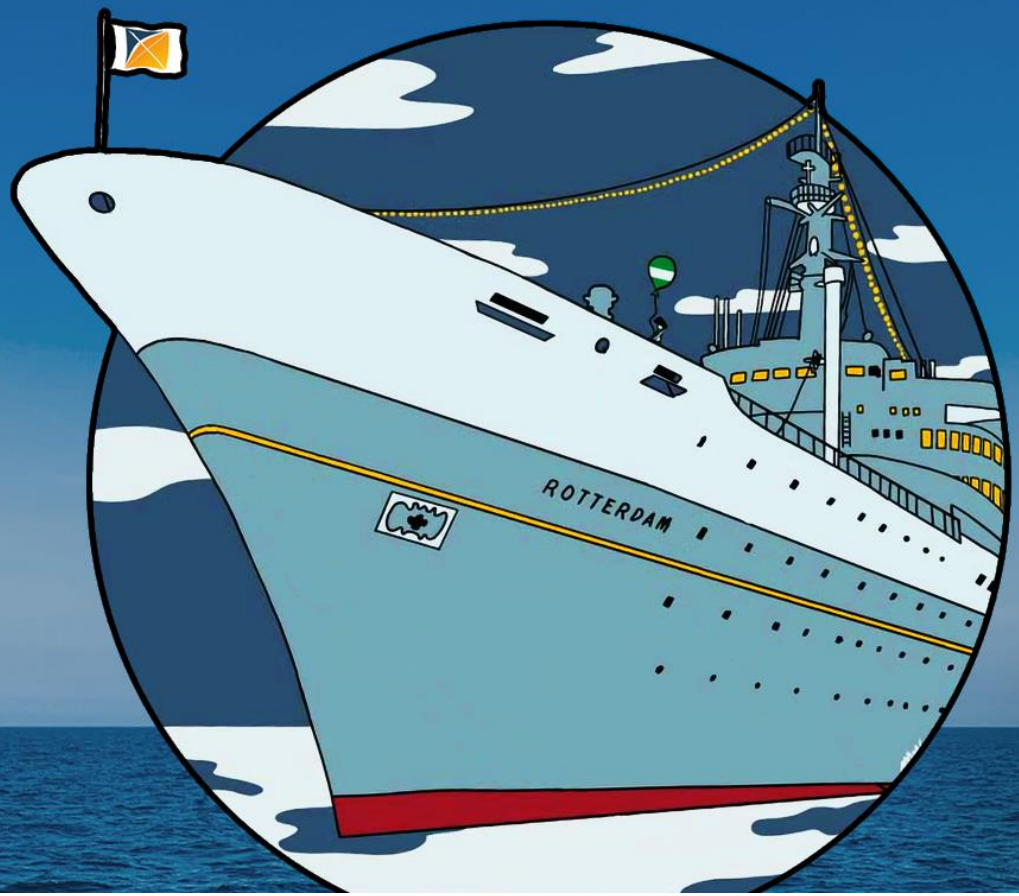
EUROPEAN OHDSI SYMPOSIUM

EUROPE

July 3rd 2023 Rotterdam

Tutorials: July 1st and 2nd

"Full Steam Ahead!!"



Organised by:

Erasmus MC
University Medical Center Rotterdam

Health Data Science

Welcome to the European OHDSI Journey

Prof. Dr. Ir. Peter R. Rijnbeek
Professor of Medical Informatics
Chair Department of Medical Informatics
Erasmus MC, The Netherlands

Thank you for your support!

EUROPE

Erasmus MC
Universitair Medisch Centrum Rotterdam

The Hyve

ODYSSEUS
DATA SERVICES INC

BIOMERIS

PROMPTLY

IOMED

IMS Health & Quintiles are now
IQVIA™

MTG
DATA SCIENCE
MACHINE LEARNING
REAL-WORLD EVIDENCE
Resilient End-to-end Healthcare Data Services

LYNXCARE

edence Health

OHDSI
OBSERVATIONAL HEALTH DATA SCIENCES AND INFORMATICS

EHDEN
EUROPEAN HEALTH DATA & EVIDENCE NETWORK

Welcome on the SS Rotterdam

The SS Rotterdam – ‘La Grande Dame’
Launched on 14 December 1956 here in Rotterdam
Originally served as a transatlantic line to
connect Rotterdam with New York


EUROPE
OHDSI
OBSERVATIONAL HEALTH DATA SCIENCES AND INFORMATICS
Open Science Community
Driving Scalability of Reliable Evidence Generation

Changing the Paradigm

Research Memory

Interoperability

Community

Common Analytics

Objectives of OHDSI Europe

- Enable the generation of reliable evidence from European health data: promote the adoption of the OMOP-CDM and analytics.
- Focus on European Challenges and Opportunities.
- Community building
  - Point of contact for all stakeholders
  - Organization of European OHDSI Symposia
  - Training of stakeholders
  - Stimulate national and international collaborations in Europe

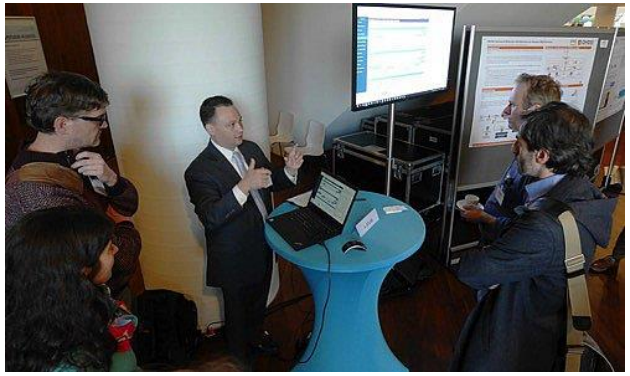
National nodes

- Belgium
- Germany
- Greece
- Italy
- Luxemburg
- Netherlands
- Portugal
- Spain
- United Kingdom

First Annual OHDSI Symposium, March 23th 2018

- 200 participants
- 24 countries
- 40 posters
- 5 software demos
- 2 full day tutorials

Second Annual OHDSI Symposium, March 29th 2019



- 250 participants
- 27 countries
- 35 posters
- 8 software demos
- 5 full day tutorials

Third Annual OHDSI Symposium, June 24th 2022

- 350 participants
- 80 posters
- 4 software demos
- 2 days with tutorials and workshops

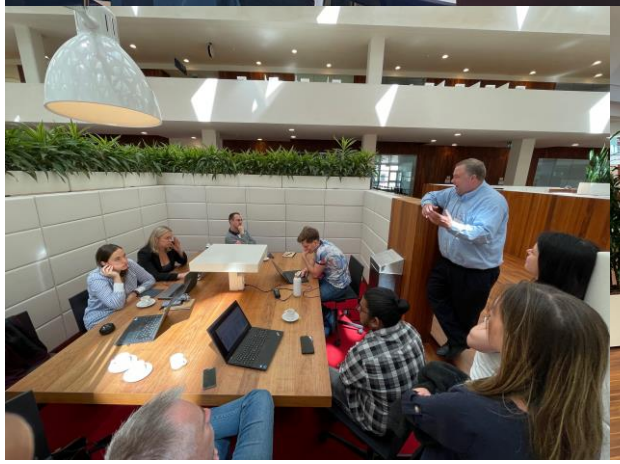
Meeting Goals Fourth OHDSI Symposium

We hope you will learn a lot and fill your notebook with valuable information!

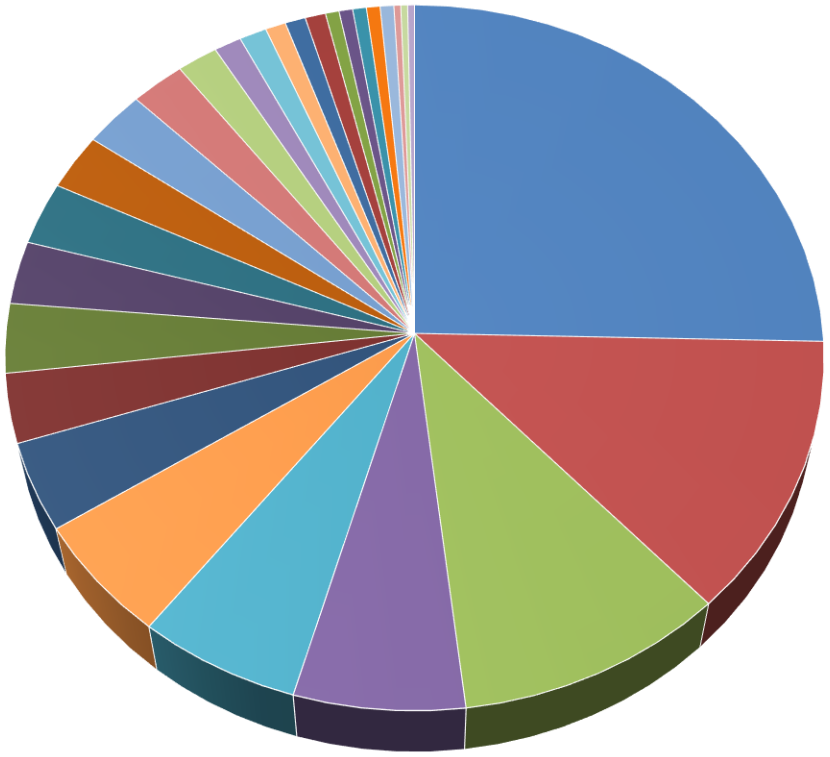
- Educate and train the community through workshop (Saturday) and multiple Workgroup Meetings (Sunday) (180 participants)
- Facilitate meetings for multiple projects and initiatives that use the OMOP CDM to generate evidence for patient care
- 350 Participants, 100+ submissions for collaborator showcase.

Thanks to all faculty !!



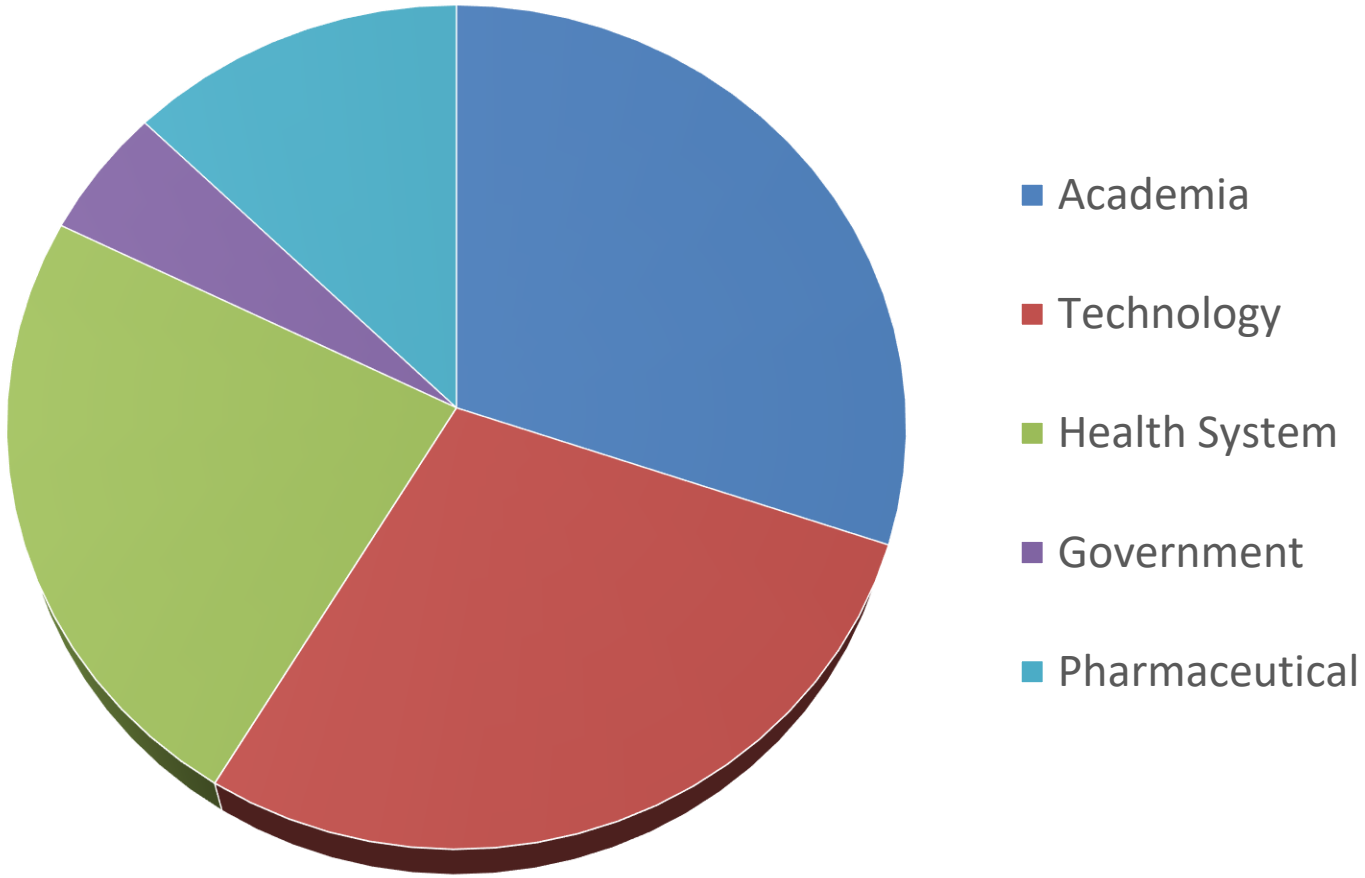




Breakdown of Participants: 28 Countries

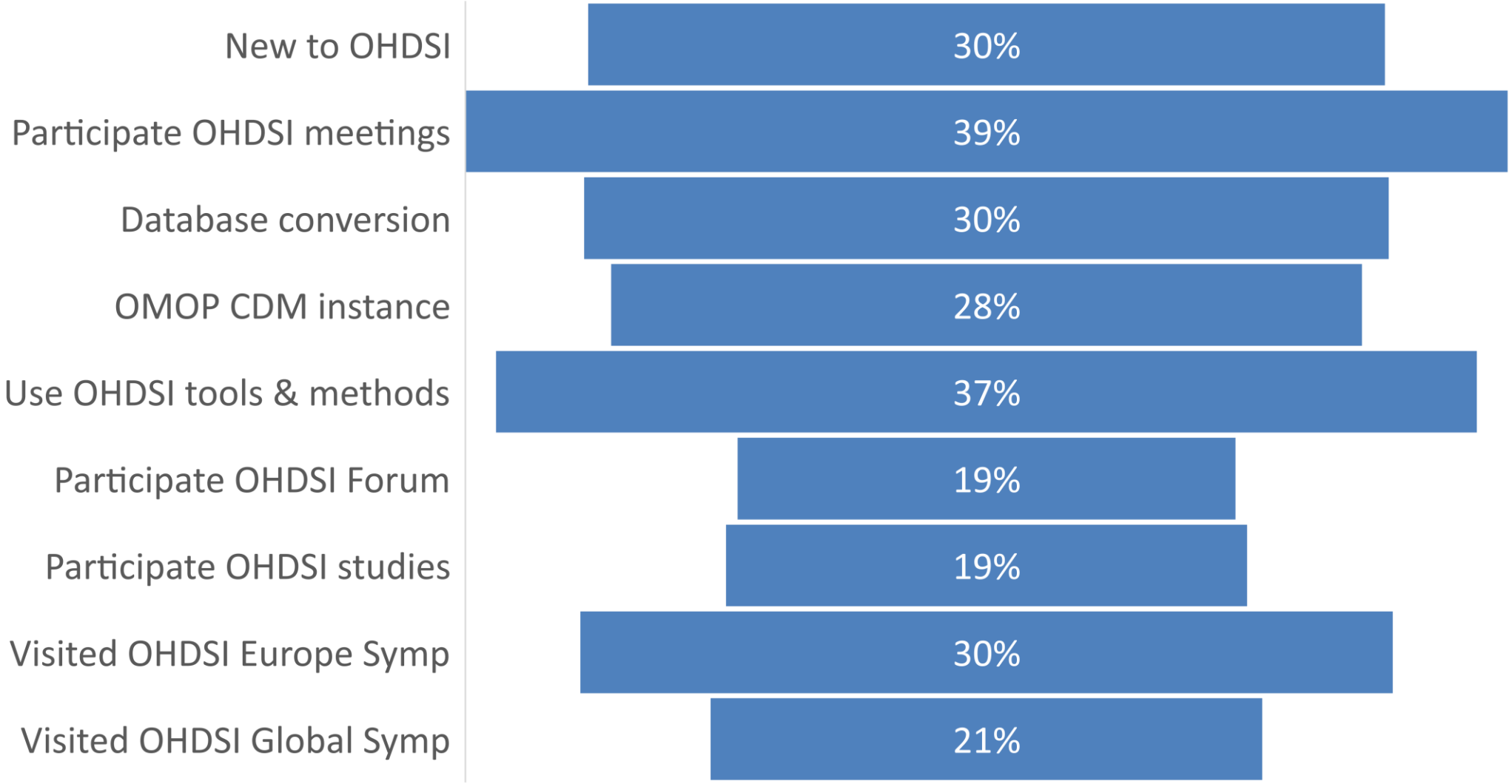


- The Netherlands
- United Kingdom
- Belgium
- Spain
- Germany
- Italy
- Portugal
- United States
- Greece
- Norway
- Denmark
- Switzerland
- Finland
- France
- Estonia
- India
- Czechia
- Sweden
- Lithuania
- Hong Kong
- Ukraine
- Saudi Arabia
- Luxembourg
- Israel
- Hungary
- Republic of Korea
- Latvia
- China

Breakdown of Participants: Stakeholders



Relationship with OHDSI



N=350

Agenda

Time	Title	Location
9:10 – 9:40	**Journey of OHDSI: Where have we been and where can we go together?** Speaker: Patrick Ryan, PhD, Janssen Research and Development, Department of Biomedical Informatics, Columbia University Medical Center	Theatre
9:40 – 11:00	**European Initiatives Using the OMOP CDM** Moderator: Renske Los, PhD, Assistant Professor of Medical Informatics, Department of Medical Informatics, Erasmus MC Multiple presentations of European Projects and Initiatives	Theatre
11:00 – 11:30	**Coffee Break**	Queen's Lounge
11:30 – 12:45	**Collaborator Showcase: Rapid fire presentations** Moderator: Katia Verhamme, MD, Associate Professor of Use and Analysis of Observational Data, Department of Medical Informatics, Erasmus MC, Rotterdam.	Theatre
12:45 – 13:45	**Lunch**	La Fontaine & Odyssee Room

Agenda (2)

Time	Title			Location
13:00 – 14:30	**OHDSI Collaborator Showcase** Poster presentations and open-source software demonstrations from OHDSI collaborators: - Observational data standards and management - Open-source analytics development - National nodes	La Fontaine & Odyssee Room	**Early Investigators Mentor Meetings** Lead: Ross Williams, Department of Medical Informatics, Erasmus MC Rotterdam	Queen's Lounge
14:30 – 16:00	**OHDSI Collaborator Showcase** - Clinical applications - Methodological research	La Fontaine & Odyssee Room	**Workgroup Q/A** OHDSI Workgroup Leads available for Q/A in breakout rooms	La Fontaine & Odyssee Room
16:00 – 16:30	**Real-World Evidence in use in Medicines Regulation** Speaker: Andreij Segec, European Medicines Agency			Theatre
16:35 – 17:45	**Data Analysis and Real World Interrogation Network (DARWIN EU®)** Multiple Speakers from the DARWIN EU® Coordination Centre Q&A Session			Theatre
17:45 – 18:00	**Closure**			Theatre
18:00 – 19:30	**Networking Reception**			Queen's Lounge

Journey of OHDSI: Where have we been and where we can go together?

Patrick Ryan, PhD

Johnson & Johnson

Columbia University Irving Medical Center

OHDSI's mission

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

OHDSI

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

OHDSI data network

OHDSI Data partner 1

Source data in local structure and vocabularies

ETL

Standardized patient-level database (OMOP CDM)

Standardized analytics (OHDSI tools)

Firewall

OHDSI Data partner 2

Source data

ETL

OMOP CDM

OHDSI tools

Firewall

OHDSI Data partner 3

Source data

ETL

OMOP CDM

OHDSI tools

Firewall

OHDSI Data partner n

Source data

ETL

OMOP CDM

OHDSI tools

Firewall

OHDSI collaborations

Open community data standards (OMOP CDM)

Open source development (OHDSI tools)

Methodological research

Clinical evidence generation

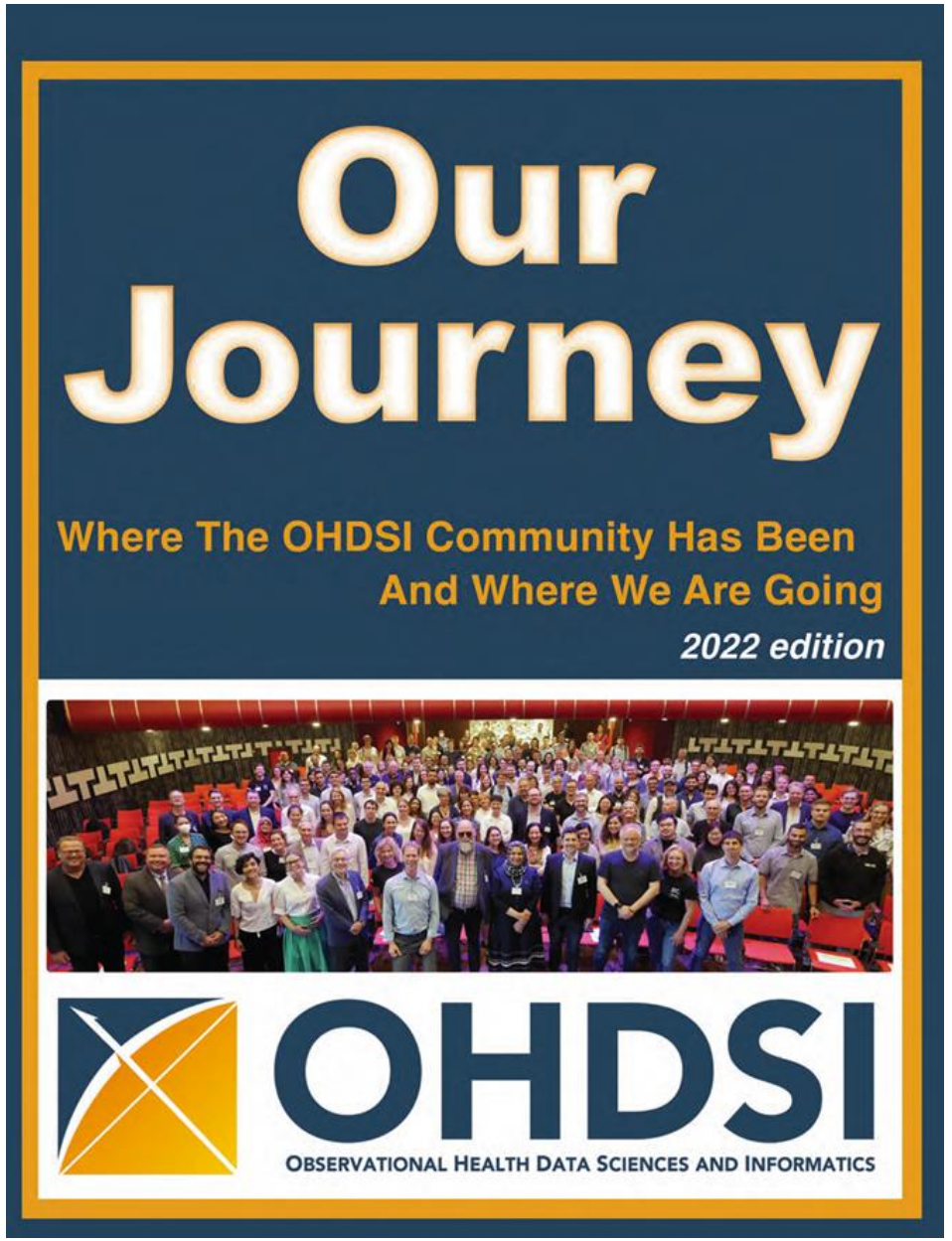
OHDSI Network studies

Pre-specified protocol with analysis specification

Standardized summary statistics results repository

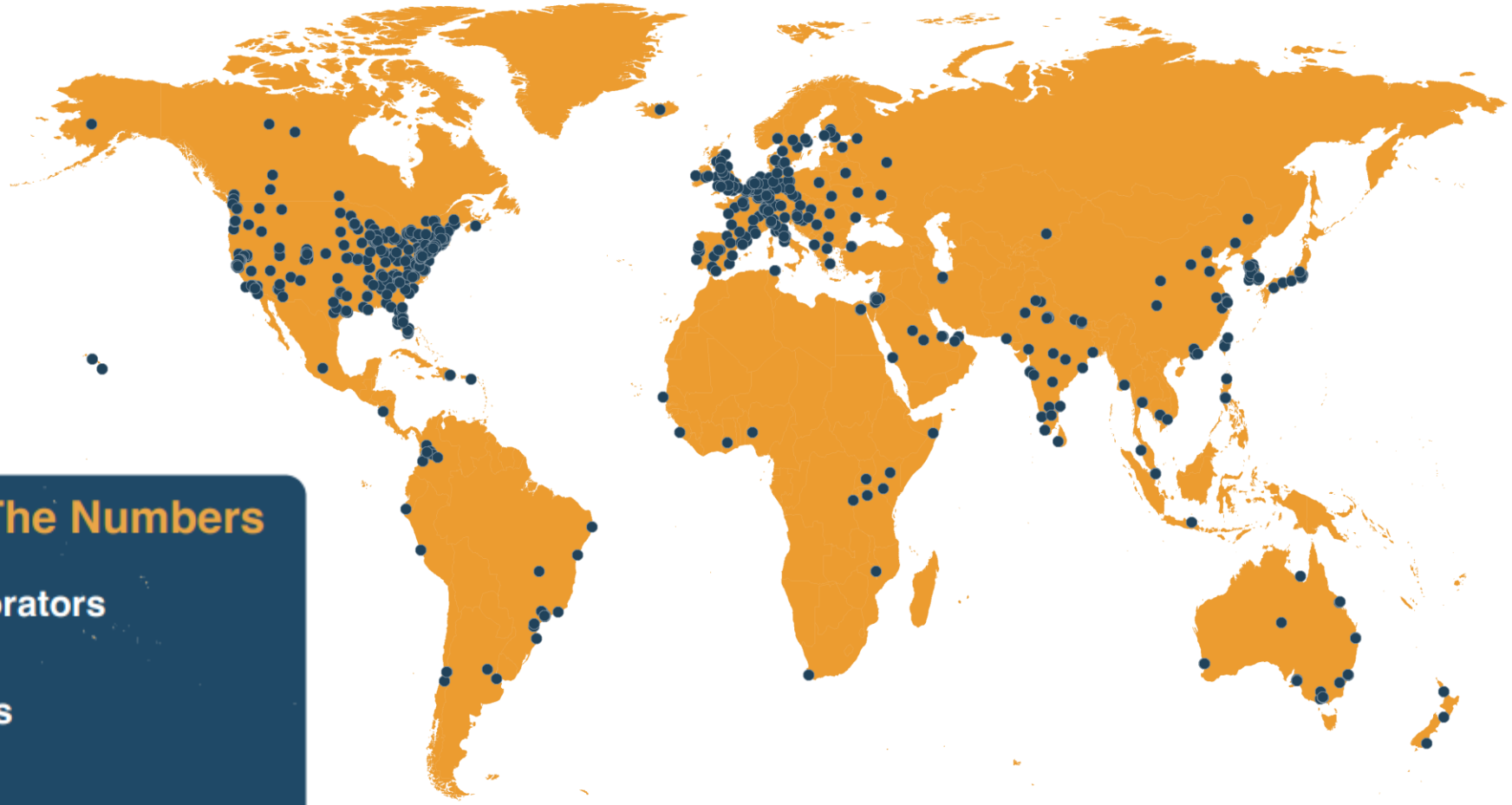
Collaborative Interpretation

Evidence dissemination



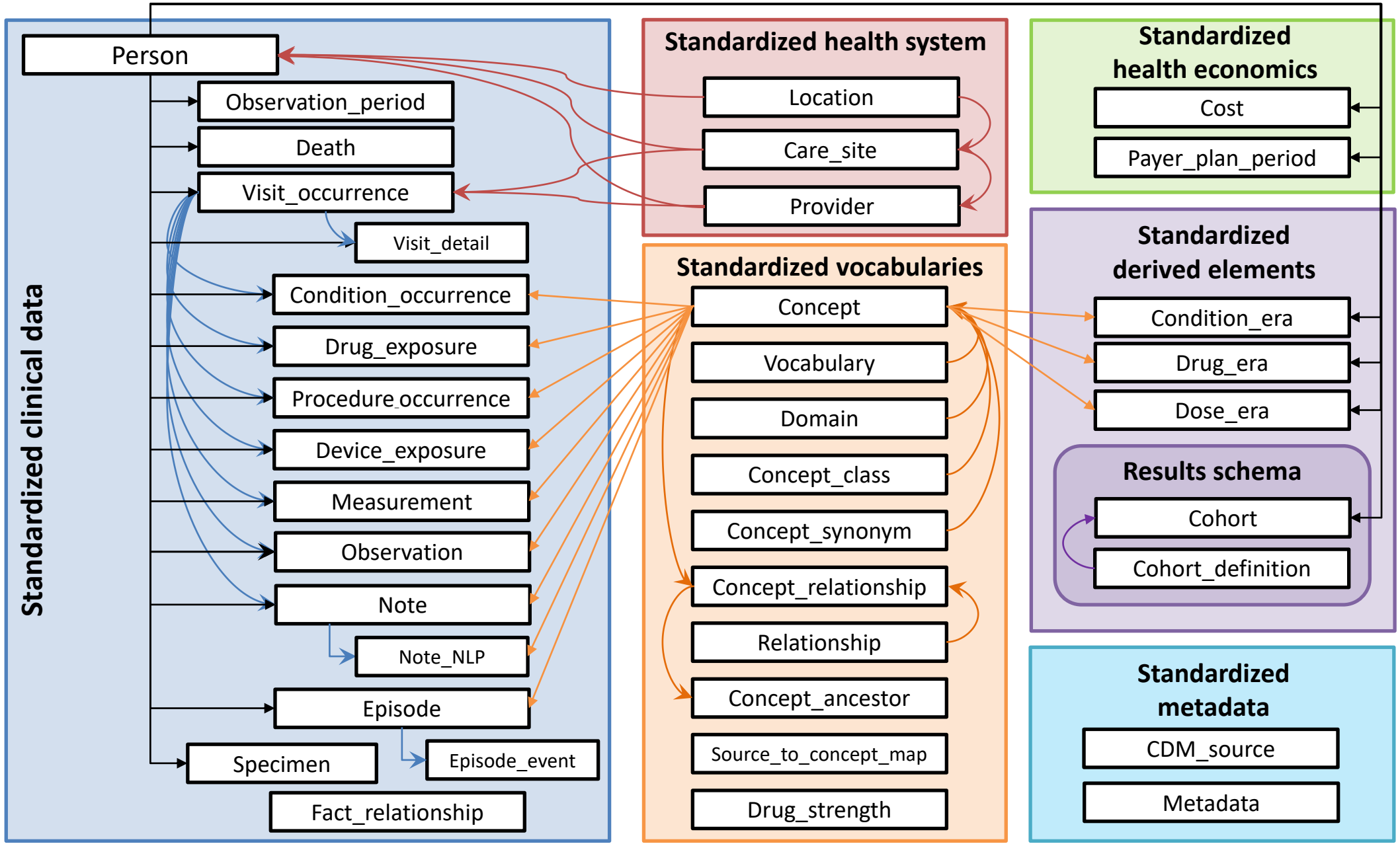
https://www.ohdsi.org/wp-content/uploads/2022/10/OHDSI-OurJourney-2022.pdf

Map of collaborators

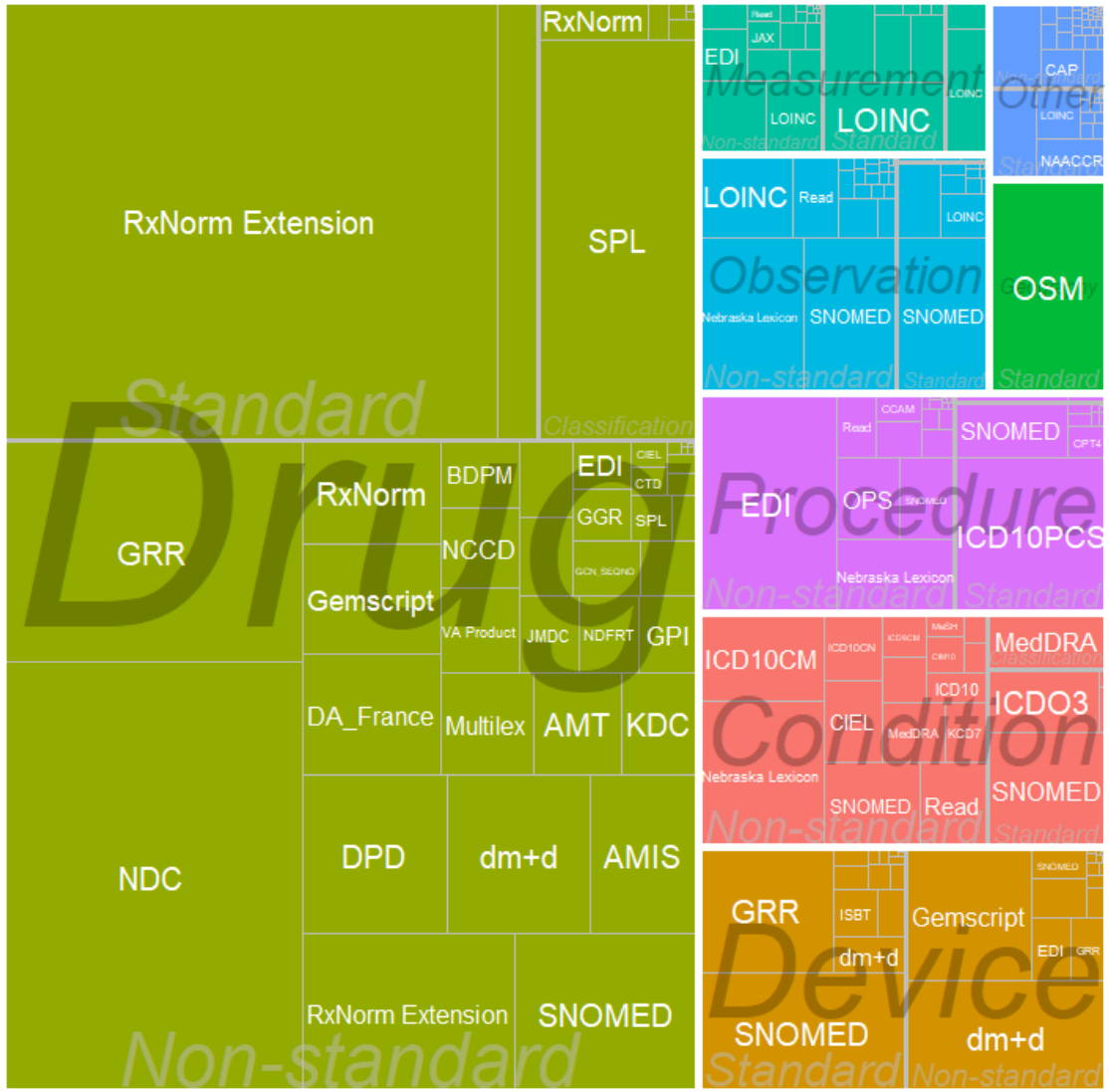


OHDSI By The Numbers

- 3,266 collaborators
- 80 countries
- 21 time zones
- 6 continents
- 1 community


Standardized clinical data
Person
Observation_period
Death
Visit_occurrence
Visit_detail
Condition_occurrence
Drug_exposure
Procedure_occurrence
Device_exposure
Measurement
Observation
Note
Note_NLP
Episode
Episode_event
Specimen
Fact_relationship
Standardized health system
Location
Care_site
Provider
Standardized vocabularies
Concept
Vocabulary
Domain
Concept_class
Concept_synonym
Concept_relationship
Relationship
Concept_ancestor
Source_to_concept_map
Drug_strength
Standardized health economics
Cost
Payer_plan_period
Standardized derived elements
Condition_era
Drug_era
Dose_era
Results schema
Cohort
Cohort_definition
Standardized metadata
CDM_source
Metadata

OHDSI vocabularies



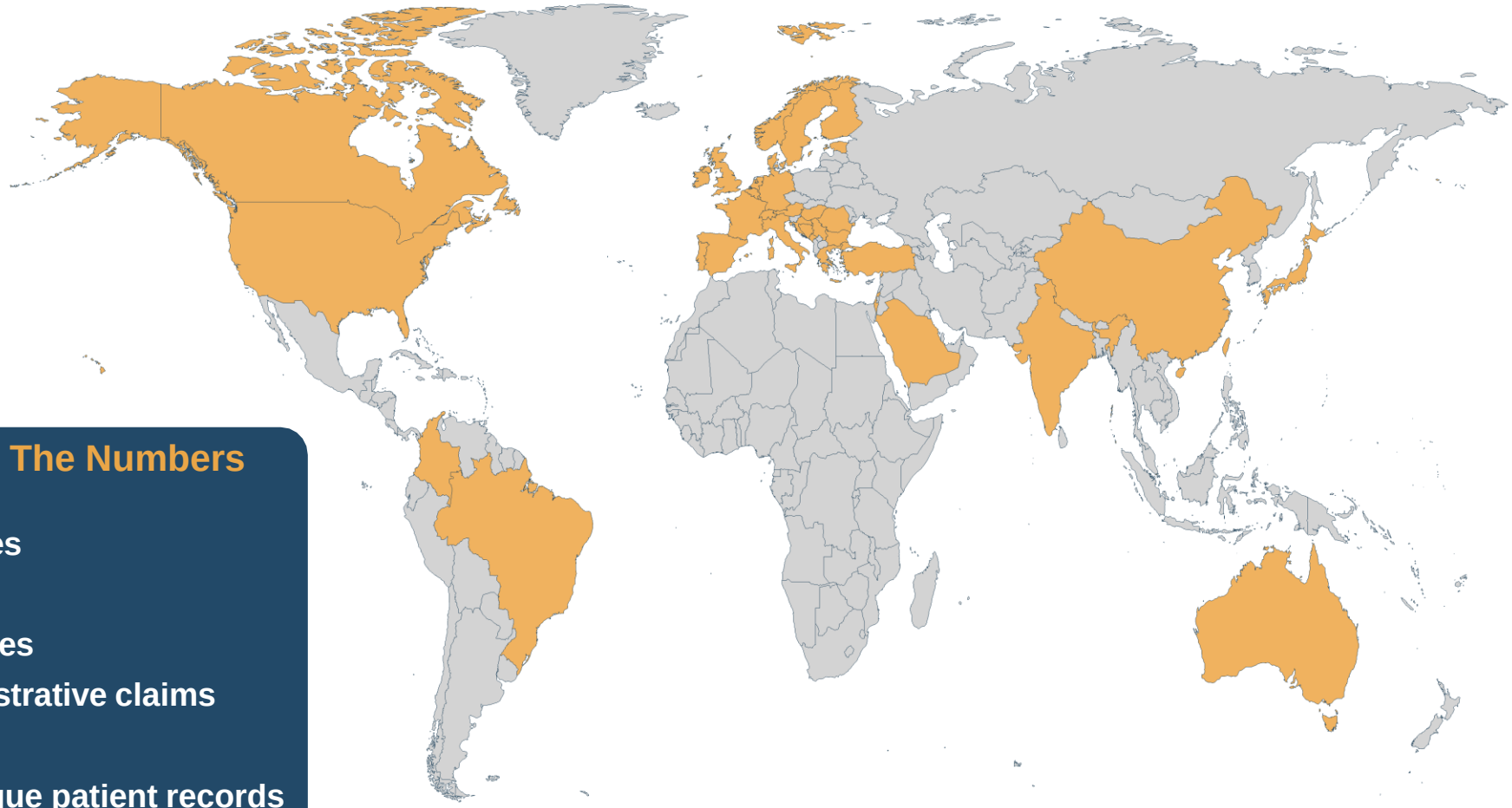
OHDSI Vocabularies By The Numbers

as of v5.0 · Sept. 9, 2022

- 10,218,572 concepts
  - 3,549,524 standard concepts
  - 780,207 classification concepts
- 135 vocabularies
- 42 domains
- 81,243,356 concept relationships
- 85,241,004 ancestral relationships
- 3,268,183 concept synonyms

1 Shared Resource to Enable Data Standards

OHDSI data partners



OHDSI Data By The Numbers

- 453 data sources
  - 374 EHRs
  - 34 registries
  - 30 administrative claims
- 41 countries
- 928 million unique patient records (12% of world's population)

Only 5 years ago…

Open access Research

BMJ Open

Electronic healthcare databases in Europe: descriptive analysis of characteristics and potential for use in medicines regulation

Alexandra Pacurariu,[1] Kelly Plueschke,[1] Patricia McGettigan,[1,2] Daniel R Morales,[1,3] Jim Slattery,[1] Dagmar Vogl,[1] Thomas Goedecke,[1] Xavier Kurz,[1] Alison Cave[1]

Results A total of 34 EHDs were selected after applying key criteria relevant for regulatory purposes. The most represented regions were Northern, Central and Western Europe. The most frequent types of data source were electronic medical records (44.1%) and record linkage systems (29.4%). The median number of patients registered in the 34 data sources was 5 million (range 0.07–15 million) while the median time covered by a database was 18.5 years. Paediatric patients were included in 32 databases (94%). Completeness of information on drug exposure was variable. Published validation studies were found for only 17 databases (50%). Some level of access exists for 25 databases (73.5%), and 23 databases (67.6%) can be linked through a personal identification number to other databases with parent–child linkage possible in 7 (21%) databases. Eight databases (23.5%) were already transformed or were in the process of being transformed into a common data model that could facilitate multidatabase studies.

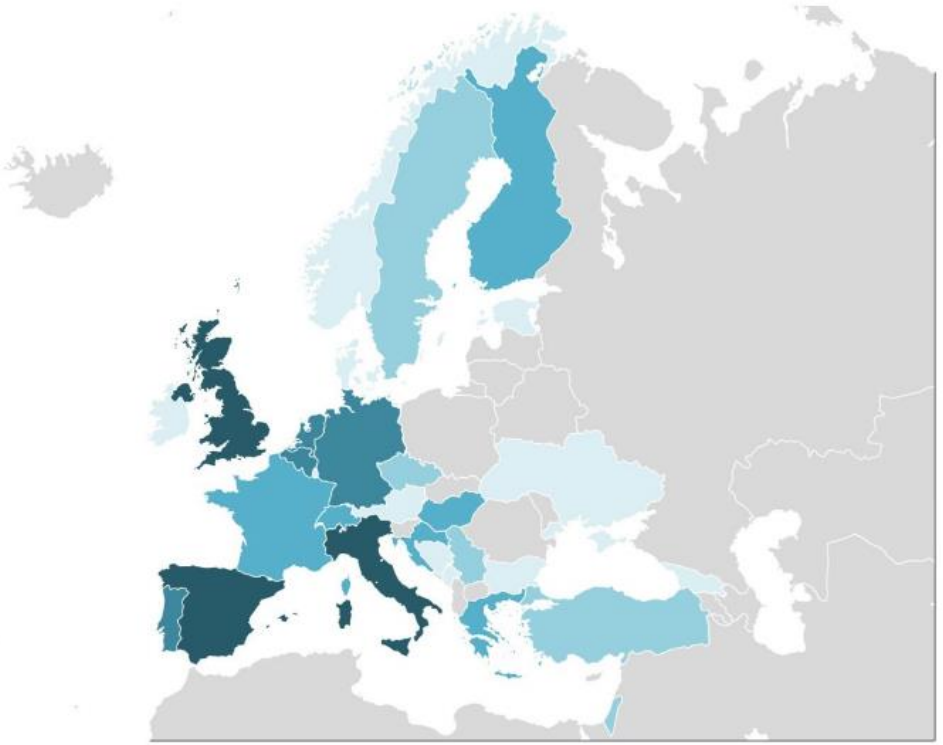
Conclusion A Few European databases meet minimal regulatory requirements and are readily available to be used in a regulatory context. Accessibility and validity information of the included information needs to be improved. This study confirmed the fragmentation, heterogeneity and lack of transparency existing in many European EHDs.

European data standardization from EHDEN

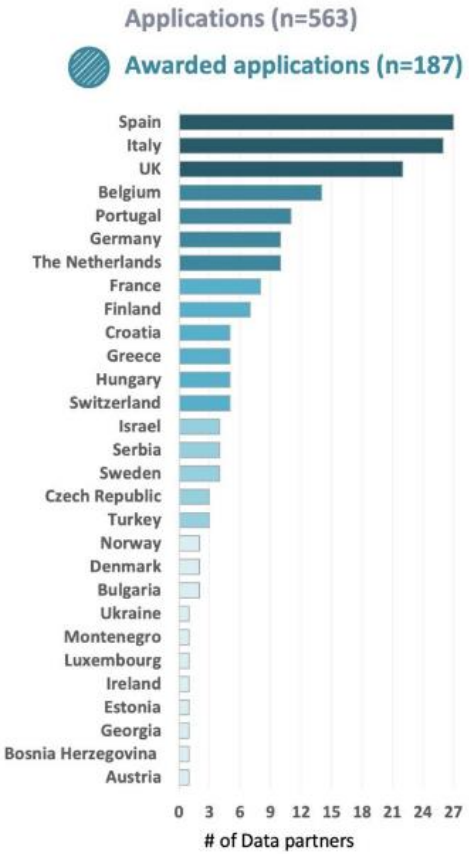
A federated network of Data Partners

The EHDEN project aims to collaborate with diverse institutions, data sources and data custodians across the EU, with a goal of harmonising source data to the OMOP common data model locally, within a federated network.

Following the 7 open calls to date we have organised, we currently have 187 Data Partners from 29 different countries which are mapping their data to the OMOP common data model. This includes several EHDEN project partners who have also mapped their data to the OMOP CDM for use in the federated network.



Geographic spread of data partners. The shade of blue indicates the # of data partners in that country (darker = more)



https://www.ehden.eu/datapartners/

OHDSI workgroups

APAC (Asia-Pacific)
Current Participants: 289
Lead: Mui Van Zandt

ATLAS/WebAPI
Current Participants: 226
Lead: Anthony Sena

Clinical Trials
Current Participants: 252
Leads: Mike Hamidi, Lin Zhen

Common Data Model
Current Participants: 596
Lead: Clair Blacketer

Data Quality Dashboard Development
Current Participants: 260
Lead: Clair Blacketer

Early-Stage Researchers
Current Participants: 214
Leads: Faaizah Arshad, Ross Williams

Medical Imaging
Current Participants: 114
Leads: Paul Nagy, Seng Chan You

Natural Language Processing
Current Participants: 379
Lead: Hua Xa

Oncology
Current Participants: 241
Lead: Asieh Golozar

Education
Current Participants: 116
Lead: Nigel Hughes

Eye Care & Vision Research
Current Participants: 40
Leads: Sally Baxter, Kerry Goetz

FHIR and OMOP
Current Participants: 214
Leads: Jon Duke, Christian Reich, Dana Stephenson

Open-Source Community
Current Participants: 118
Leads: Adam Black, Paul Nagy

Patient-Level Prediction
Current Participants: 355
Leads: Jenna Reps, Ross Williams

Phenotype Development & Evaluation
Current Participants: 249
Lead: Gowtham Rao

Geographic Information System (GIS)
Current Participants: 122
Leads: Robert Miller, Andrew Williams

HADES (Health Analytics Data-to-Evidence Suite)
Current Participants: 262
Lead: Martijn Schuemie

Health Equity
Current Participants: 201
Lead: Jake Gillberg

Population-Level Effect Estimation
Current Participants: 355
Leads: Martijn Schuemie, Marc Suchard

Psychiatry
Current Participants: 115
Leads: Dmitry Dymshyts, Andrew Williams

Registry
Current Participants: 115
Lead: Tina Parciak

Healthcare Systems
Current Participants: 430
Lead: Melanie Philofsky

Latin America
Current Participants: 48
Lead: Jose Posada

Medical Devices
Current Participants: 130
Leads: Vojtech Huser, Asiyah Lin

Steering Group
Current Participants: 70
Lead: Patrick Ryan

Surgery and Perioperative Medicine
Current Participants: 37
Lead: Evan Minty

Vaccine Vocabulary
Current Participants: 76
Lead: Adam Black

OHDSI regional chapters

And now National Nodes!

OHDSI + large community initiatives

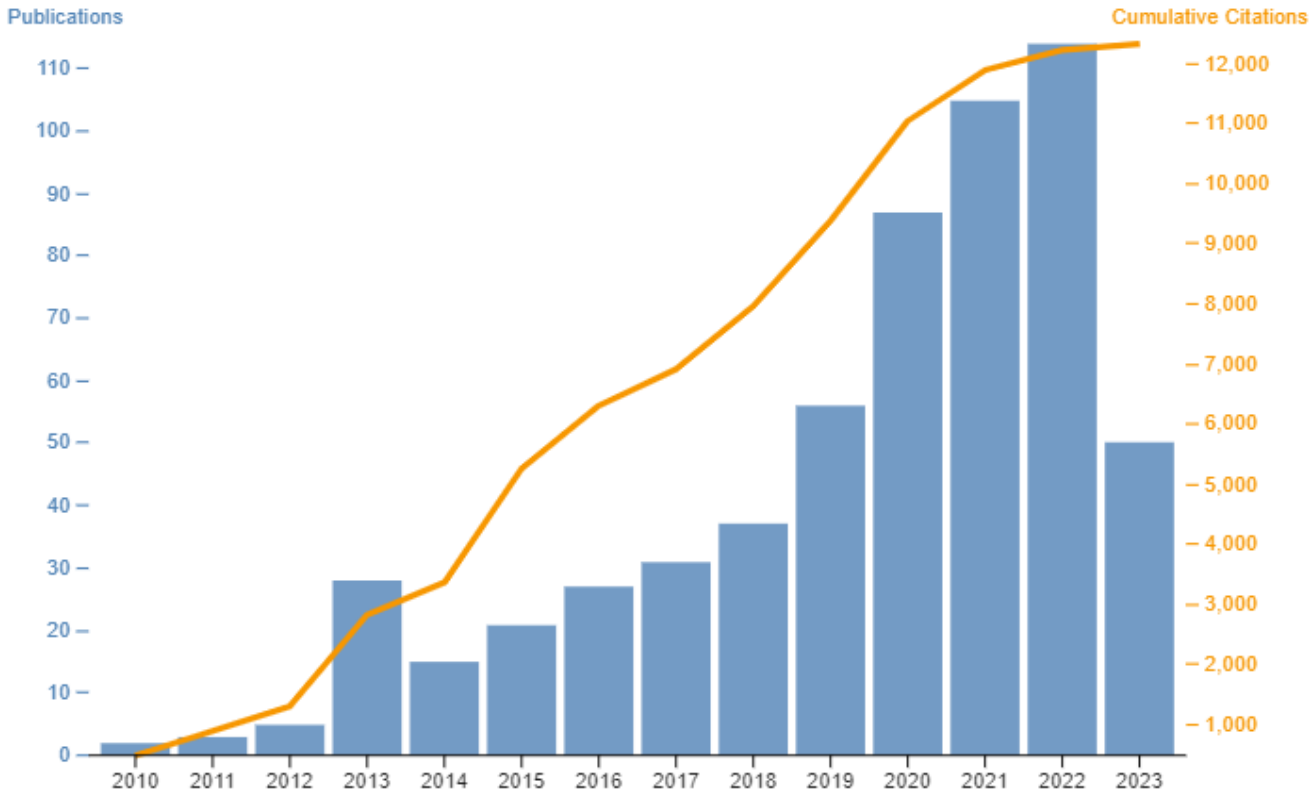
OHDSI publications

Publications & Cumulative Citations

Summary

581
PubMed Manuscripts

3434
PubMed Authors



https://dash.ohdsi.org/

2023 publication in data standards

Journal of Biomedical Informatics 142 (2023) 104343

Contents lists available at ScienceDirect

Journal of Biomedical Informatics

journal homepage: www.elsevier.com/locate/yjbin

Short communication

Representing and utilizing clinical textual data for real world studies: An OHDSI approach

Vipina K. Keloth [a], Juan M. Banda [b], Michael Gurley [c], Paul M. Heider [d], Georgina Kennedy [e], Hongfang Liu [f], Feifan Liu [g], Timothy Miller [h], Karthik Natarajan [i], Olga V Patterson [j,k,l], Yifan Peng [m], Kalpana Raja [a], Ruth M. Reeves [n,o], Masoud Rouhizadeh [p,q], Jianlin Shi [j,k,r], Xiaoyan Wang [s], Yanshan Wang [t], Wei-Qi Wei [o], Andrew E. Williams [u], Rui Zhang [v], Rimma Belenkaya [w], Christian Reich [x], Clair Blacketer [y,z], Patrick Ryan [i,y], George Hripcsak [i], Noémie Elhadad [i,*], Hua Xu [a,*]

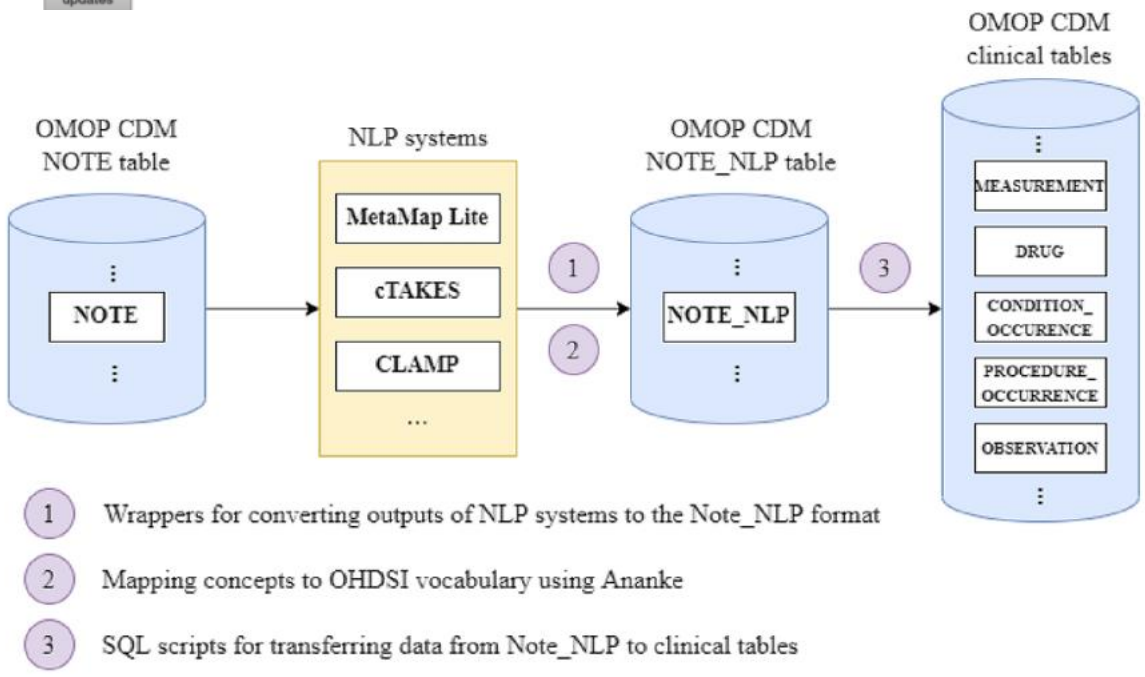


Fig. 2. An overview of the workflow for transforming clinical text in the NOTE table.

2023 publication in methodological research

Drug Safety
https://doi.org/10.1007/s40264-023-01324-1

ORIGINAL RESEARCH ARTICLE

Check for updates

Serially Combining Epidemiological Designs Does Not Improve Overall Signal Detection in Vaccine Safety Surveillance

Faaizah Arshad[1,2] · Martijn J. Schuemie[1,2,3] · Fan Bu[1,2] · Evan P. Minty[4] · Thamir M. Alshammari[5] · Lana Y. H. Lai[6] · Talita Duarte-Salles[7] · Stephen Fortin[3] · Fredrik Nyberg[8] · Patrick B. Ryan[2,3] · George Hripcsak[2,9,10] · Daniel Prieto-Alhambra[11,12] · Marc A. Suchard[1,2,13,14]

2023 publication in open-source development

npj | digital medicine

www.nature.com/npjdigitalmed

ARTICLE OPEN

Check for updates

A standardized framework for risk-based assessment of treatment effect heterogeneity in observational healthcare databases

Alexandros Rekkas[1]✉, David van Klaveren[2,3], Patrick B. Ryan[4,5], Ewout W. Steyerberg[6], David M. Kent[3] and Peter R. Rijnbeek[1]

Treatment effects are often anticipated to vary across groups of patients with different baseline risk. The Predictive Approaches to Treatment Effect Heterogeneity (PATH) statement focused on baseline risk as a robust predictor of treatment effect and provided guidance on risk-based assessment of treatment effect heterogeneity in a randomized controlled trial. The aim of this study is to extend this approach to the observational setting using a standardized scalable framework. The proposed framework consists of five steps: (1) definition of the research aim, i.e., the population, the treatment, the comparator and the outcome(s) of interest; (2) identification of relevant databases; (3) development of a prediction model for the outcome(s) of interest; (4) estimation of relative and absolute treatment effect within strata of predicted risk, after adjusting for observed confounding; (5) presentation of the results. We demonstrate our framework by evaluating heterogeneity of the effect of thiazide or thiazide-like diuretics versus angiotensin-converting enzyme inhibitors on three efficacy and nine safety outcomes across three observational databases. We provide a publicly available R software package for applying this framework to any database mapped to the Observational Medical Outcomes Partnership Common Data Model. In our demonstration, patients at low risk of acute myocardial infarction receive negligible absolute benefits for all three efficacy outcomes, though they are more pronounced in the highest risk group, especially for acute myocardial infarction. Our framework allows for the evaluation of differential treatment effects across risk strata, which offers the opportunity to consider the benefit-harm trade-off between alternative treatments.

npj Digital Medicine (2023)6:58 ; https://doi.org/10.1038/s41746-023-00794-y

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RiskStratifiedEstimation

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2023 publication in clinical applications

eClinicalMedicine
Part of THE LANCET *Discovery Science*

Contextualising adverse events of special interest to characterise the baseline incidence rates in 24 million patients with COVID-19 across 26 databases: a multinational retrospective cohort study

Erica A. Voss,[a,b,c,*] Azza Shoaibi,[a,c] Lana Yin Hui Lai,[a,d] Clair Blacketer,[a,b,c] Thamir Alshammari,[a,e] Rupa Makadia,[a,c] Kevin Haynes,[c] Anthony G. Sena,[a,b,c] Gowtham Rao,[a,c] Sebastiaan van Sandijk,[a,f] Clement Fraboulet,[g] Laurent Boyer,[g] Tanguy Le Carrour,[h] Scott Horban,[i] Daniel R. Morales,[j,k] Jordi Martínez Roldán,[l] Juan Manuel Ramírez-Anguita,[m,n] Miguel A. Mayer,[m,n] Marcel de Wilde,[a,b] Luis H. John,[a,b] Talita Duarte-Salles,[a,o] Elena Roel,[o] Andrea Pistillo,[o] Raivo Kolde,[p] Filip Maljković,[q] Spiros Denaxas,[r,s,t] Vaclav Papez,[r,s] Michael G. Kahn,[a,u] Karthik Natarajan,[a,v,w] Christian Reich,[a,x] Alex Secora,[x] Evan P. Minty,[a,y] Nigam H. Shah,[a,z] Jose D. Posada,[a,aa] Maria Teresa Garcia Morales,[ab] Diego Bosca,[ao] Honorio Cadenas Juanino,[ac] Antonio Diaz Holgado,[ac] Miguel Pedrera Jiménez,[ap] Pablo Serrano Balazote,[ap] Noelia García Barrio,[ap] Selçuk Şen,[ad] Ali Yağız Üresin,[ad] Baris Erdogan,[ae] Luc Belmans,[af] Geert Byttebier,[af] Manu L. N. G. Malbrain,[af,ag] Daniel J. Dedman,[ah] Zara Cuccu,[ah] Rohit Vashisht,[a,ai] Atul J. Butte,[a,ai,aj] Ayan Patel,[a,ai] Lisa Dahm,[a,aj] Cora Han,[a,aj] Fan Bu,[ak] Faaizah Arshad,[a,ak] Anna Ostropolets,[a,v] Fredrik Nyberg,[al] George Hripcsak,[a,v,w] Marc A. Suchard,[a,ak,am] Dani Prieto-Alhambra,[a,b,an] Peter R. Rijnbeek,[a,b] Martijn J. Schuemie,[a,c,ak] and Patrick B. Ryan[a,c,v]

65 co-authors
26 databases in 11 countries
492 million patient records

Articles

Name	Country	Data provenance	Dates covered YYYY/MM	Total persons	% F	Ages covered mean age (IQR)	Patients with COVID-19 #	Pre-pandemic background population #	Measurements with values
APHM	FR	EHR	1998/11–2021/07	2,465,265	51.9	40 (21–60)	11,431	673,031	N
CPRD_AURUM	UK	GP	1995/01–2021/03	39,879,547	51.8	31 (18–44)	587,886	14,094,032	Y
CU_AMC	US	EHR	2011/01–2022/04	4,795,392	54.0	39 (22–56)	72,648	830,579	Y
CUIMC	US	EHR	1985/03–2021/08	6,808,470	55.8	38 (21–56)	28,044	1,197,983	Y
FIIBAP[a]	ES	EHR	2001/03–2021/10	292,305	54.7	41 (23–58)	7138	78	N
HIC	SC	EHR	2005/01–2021/12	1,254,464	50.4	45 (28–66)	11,813	885,236	Y
IBM_CCAE	US	Claims	2000/01–2021/07	159,440,276	51.1	31 (17–46)	983,089	23,483,191	N
IBM_MDCD	US	Claims	2006/01–2020/12	32,806,887	56.2	24 (5–38)	196,997	11,810,505	N
IBM_MDCR	US	Claims	2000/01–2021/07	10,356,249	55.3	72 (65–77)	41,542	1,467,963	N
IMASIS	ES	EHR	1990/02–2021/07	976,524	47.4	38 (23–54)	9330	198,012	Y
IPCI	NL	GP	2006/01–2021/06	2,529,355	51.2	37 (18–55)	91,759	1,329,674	Y
IQVIA_FRANCE_DA	FR	GP	2016/07–2021/06	3,767,012	52.3	38 (18–56)	2859	1,394,912	N
IQVIA_GERMANY_DA	DE	GP	2011/04–2021/03	30,780,239	55.7	44 (25–62)	45,508	9,040,531	N
IQVIA_OPENCLAIMS	US	Claims	2000/01–2021/10	306,000,000	52.6	34 (14–52)	17,848,443	306,000,000	N
IQVIA_PHARMETRICS	US	Claims	2013/01–2021/09	166,422,594	50.6	38 (19–50)	1,593,578	46,947,246	N
IU	TR	EHR	2018/01–2021/10	899,515	53.0	35 (18–52)	6194	619	Y
JMDC	JP	Claims	2005/01–2021/03	12,541,088	48.6	32 (19–46)	17,564	6,680,196	N
MHD	BE	EHR	2015/07–2021/12	117,131	50.9	52 (29–70)	203	23,754	N
OPTUM_EHR	US	EHR	2007/01–2021/03	99,454,715	53.3	37 (19–56)	693,334	41,281,147	Y
OPTUM_SES	US	Claims	2000/05–2021/06	90,285,937	50.5	36 (19–52)	899,986	17,212,611	Y
SIDIAP	ES	GP	2003/01–2021/06	8,022,374	50.1	35 (17–51)	495,237	5,934,449	Y
STARR	US	EHR	2008/01–2022/04	3,475,673	53.6	36 (18–54)	31,928	1,118,549	Y
U_OF_TARTU[b]	EE	Claims	2021/01–2021/02	386,557	53.2	39 (21–57)	84,957	376,842	N
UCCS	RS	EHR	2018/10–2021/03	823,962	54.1	51 (35–67)	16,764	49,643	Y
UCHDW[a]	US	EHR	2012/01–2022/05	316,119	53.8	37 (12–54)	61,037	240,831	Y
UK_BIOBANK	UK	EHR + Registry	1970/02–2020/07	502,504	54.4	58 (40–69)	1717	458,889	Y
Total	–	–	–	945,520,607	–	–	23,840,986	492,730,503	–

APHM = Health Data Warehouse of Assistance Publique - Hopitaux de Marseille, BE = Belgium, CPRD_AURUM = Clinical Practice Research Datalink AURUM, CU_AMC = University of Colorado Anschutz Medical Campus- Health Data Compass, CUIMC = Columbia University Irving Medical Center, DE = Germany, EE = Estonia, EHR = Electronic Health Record, ES = Spain, F = Female, FIIBAP = Fundación para la Investigación e Innovación Biosanitaria en Atención Primaria COVID19, FR = France, GP = General Practitioner, HIC = Health Informatics Centre, IBM_CCAE = IBM® MarketScan® Commercial Claims and Encounters Database, IBM_MDCD = IBM® MarketScan® Multi-State Medicaid Database, IBM_MDCR = IBM® MarketScan® Medicare Supplemental and Coordination of Benefits Database, IMASIS = Parc de Salut Mar Barcelona Information System, IPCI = Integrated Primary Care Information, IQR = Interquartile Range, IQVIA_FRANCE_DA = IQVIA Disease Analyzer France, IQVIA_GERMAN_DA = IQVIA Disease Analyzer Germany, IQVIA_OPENCLAIMS = IQVIA LRxDX Open Claims, IQVIA_PHARMETRICS = IQVIA Pharmetrics, IU = Istanbul Faculty of Medicine, Istanbul University, JP = Japan, MHD = Medaman Hospital Data, N = No, NL = The Netherlands, OPTUM_EHR = Optum® de-identified Electronic Health Record Dataset, OPTUM_SES = Optum De-Identified Clinformatics® Data Mart Database - Socio-Economic Status, RS = Serbia, SC = Scotland, SIDIAP = The Information System for Research on Primary Care, STARR = STAnford medicine Research data Repository-OMOP, TR = Turkey, U_OF_TARTU = University of Tartu (U_OF_TARTU), UCCS = University Clinical Center of Serbia, UCHDW = University of California Health Data Warehouse, UK = United Kingdom, UK_BIOBANK = UK Biobank, US = United States, Y = Yes. [a]COVID-19 only subset. [b]COVID-19 + Controls.

Table 1: **Database characteristics.**

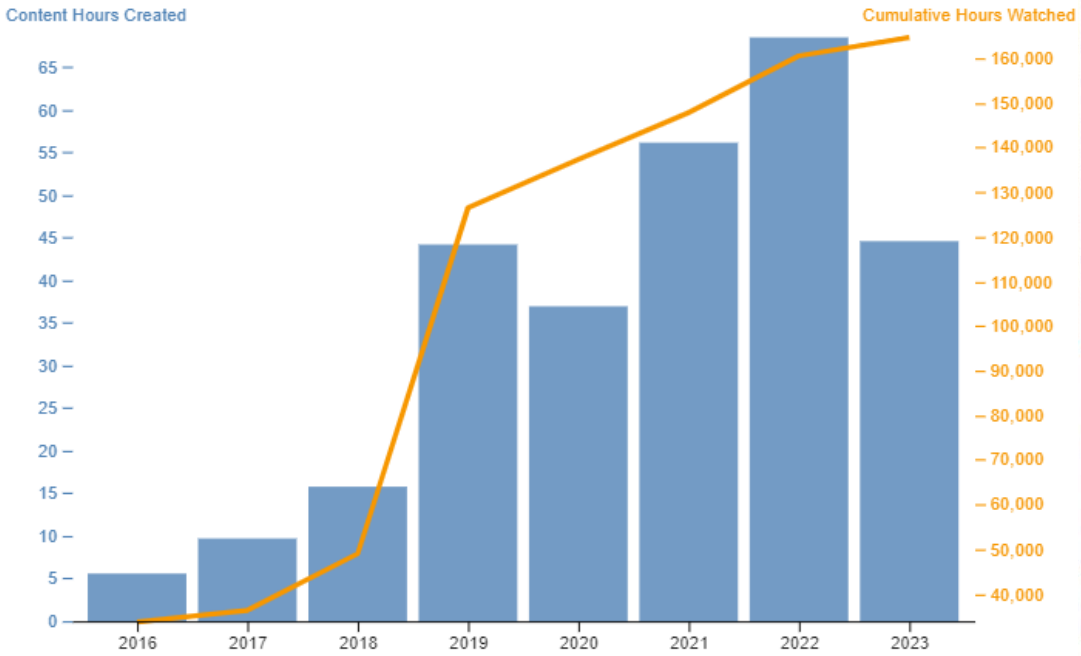
OHDSI driving educational content

YouTube

Summary

549
Videos Published

164K+
Hours Watched



Ehden Learning

Summary

25
Number of Courses

3397
Course Completions

2019 Tutorials - OMOP Common Data Model and Standardized Vocabularies (Full Tutorial)

OHDSI
1.77K subscribers
Subscribe
69
Share

10K views 3 years ago Tutorials & Workshops

https://dash.ohdsi.org/

2023 Sisyphus Challenge

Save Our Sisyphus Challenge

The OHDSI mission is to improve health by empowering a community to collaboratively generate the evidence that promotes better health decisions and better care. The 2023 Save Our Sisyphus (SOS) Challenge attempted to fulfill that mission, but not through one study at a time.

Our community simultaneously collaborated on four studies, each of which were designed, implemented, executed and will ultimately be disseminated by members of the OHDSI global community.

As you can see on the right, there were two weekly tutorials taught by different members of the the community. These focused on two of the four studies (see below), but they also serve as educational tools for people who plan to lead or participate in a network study in the future.

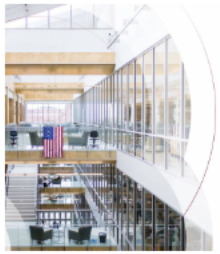
SOS Challenge Weekly Tutorial Schedule

Date	Times	Topic
Mar. 28	11 am / 7 pm ET	SOS Week 1 Tutorial: Initiating A Network Study
Apr. 4	11 am / 7 pm ET	SOS Week 2 Tutorial: Data Diagnostics
Apr. 11	11 am / 7 pm ET	SOS Week 3 Tutorial: Phenotype Development
Apr. 18	11 am / 7 pm ET	SOS Week 4 Tutorial: Phenotype Evaluation
Apr. 25	11 am / 7 pm ET	SOS Week 5 Tutorial: Creating Analysis Specifications
May 2	11 am / 7 pm ET	SOS Week 6 Tutorial: Network Execution
May 9	11 am / 7 pm ET	SOS Week 7 Tutorial: Study Diagnostics
May 16	11 am / 7 pm ET	SOS Week 8 Tutorial: Evidence Synthesis
May 23	11 am / 7 pm ET	SOS Week 9 Tutorial: Interpreting The Results

@OHDSI www.ohdsi.org #JoinTheJourney ohdsi

SOS Challenge Studies

Intravitreal Anti-VEGF and Kidney Failure
Lead: Cindy Cai

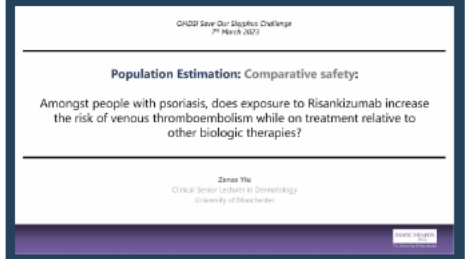


Introductory Video | Introductory Slides | MS Teams Channel | GitHub Repo

Is fluoroquinolone use really associated with the development of aortic aneurysms
Leads: Jack Janetzki, Jung Ho Kim, Seonji Kim, Jung Ah Lee, Nicole Pratt, Seng Chan You,

Introductory Video | Introductory Slides | MS Teams Channel | GitHub Repo

Amongst people with psoriasis, does exposure to Risankizumab increase the risk of cerebrovascular events while on treatment relative to other biologic therapies?
Lead: Zenas Yiu

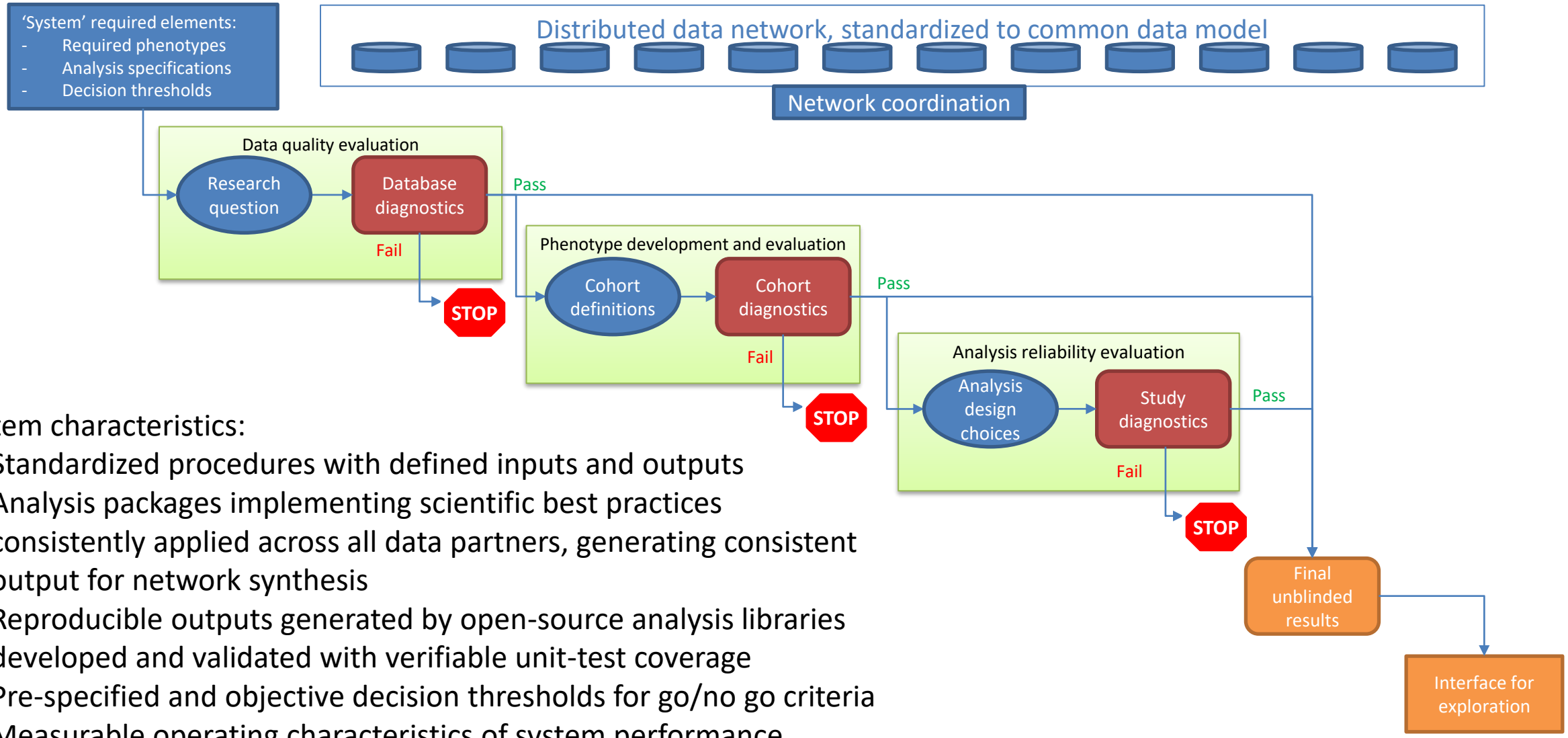


Introductory Video | Introductory Slides | MS Teams Channel | GitHub Repo

Characterization: incidence of progressive multifocal leukoencephalopathy (PML) during Multiple Sclerosis (MS) biologic exposure
Lead: Thamir Alshammary

Introductory Video | Introductory Slides | MS Teams Channel | GitHub Repo

Engineering open science systems that build trust into the real-world evidence generation and dissemination process



System characteristics:

- Standardized procedures with defined inputs and outputs
- Analysis packages implementing scientific best practices consistently applied across all data partners, generating consistent output for network synthesis
- Reproducible outputs generated by open-source analysis libraries developed and validated with verifiable unit-test coverage
- Pre-specified and objective decision thresholds for go/no go criteria
- Measurable operating characteristics of system performance

Engineering open science systems that build trust into the real-world evidence generation and dissemination process

'System' required elements:
- Required phenotypes
- Analysis specifications
- Decision thresholds

Distributed data network, standardized to common data model

Network coordination

Data quality evaluation

Research question → Database diagnostics

Database diagnostics: Pass → Phenotype development and evaluation; Fail → STOP

Phenotype development and evaluation

Cohort definitions → Cohort diagnostics

Cohort diagnostics: Pass → Analysis reliability evaluation; Fail → STOP

Analysis reliability evaluation

Analysis design choices → Study diagnostics

Study diagnostics: Pass → Final unblinded results; Fail → STOP

Final unblinded results → Interface for exploration

Week 1: Study initiation


Week 0: Research questions

VEGF→ESRD

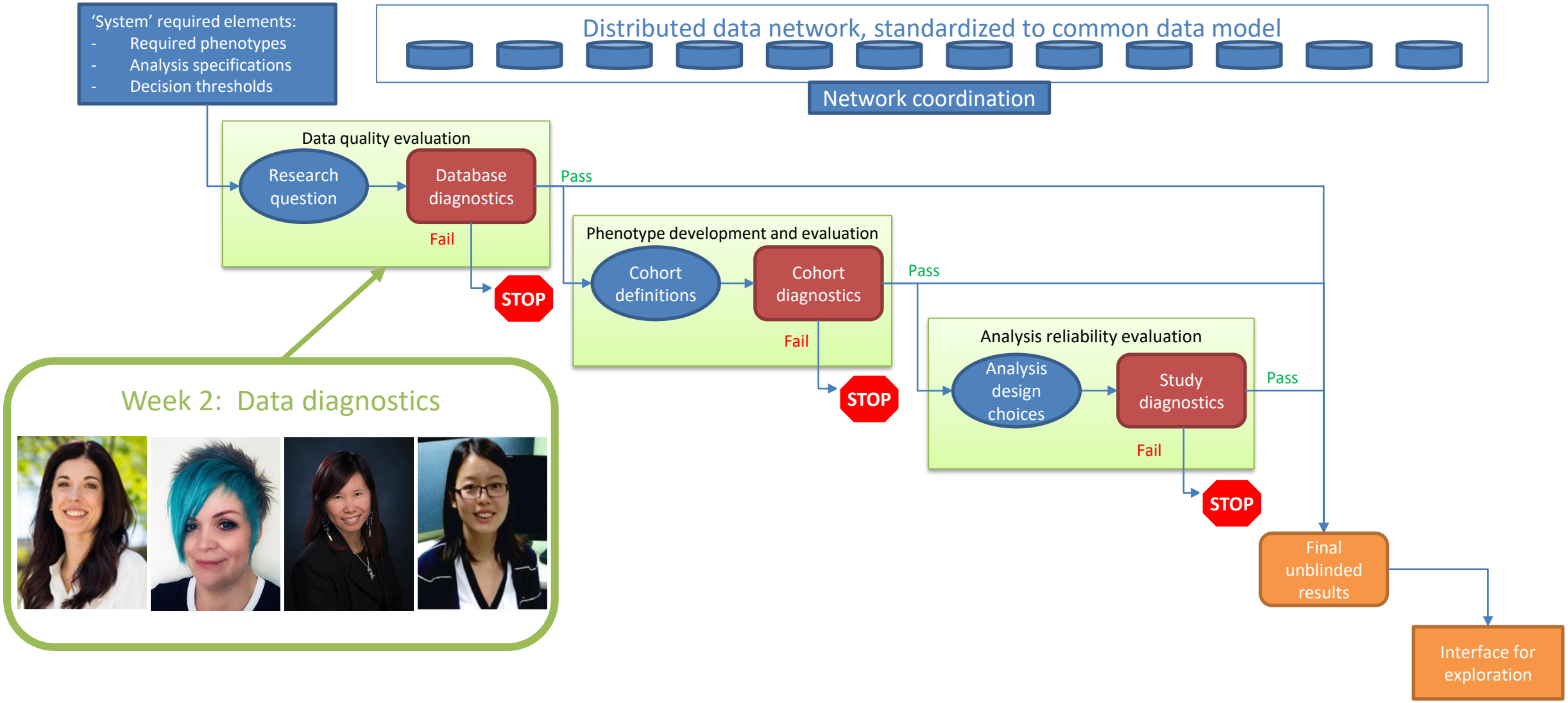
FQ→AA



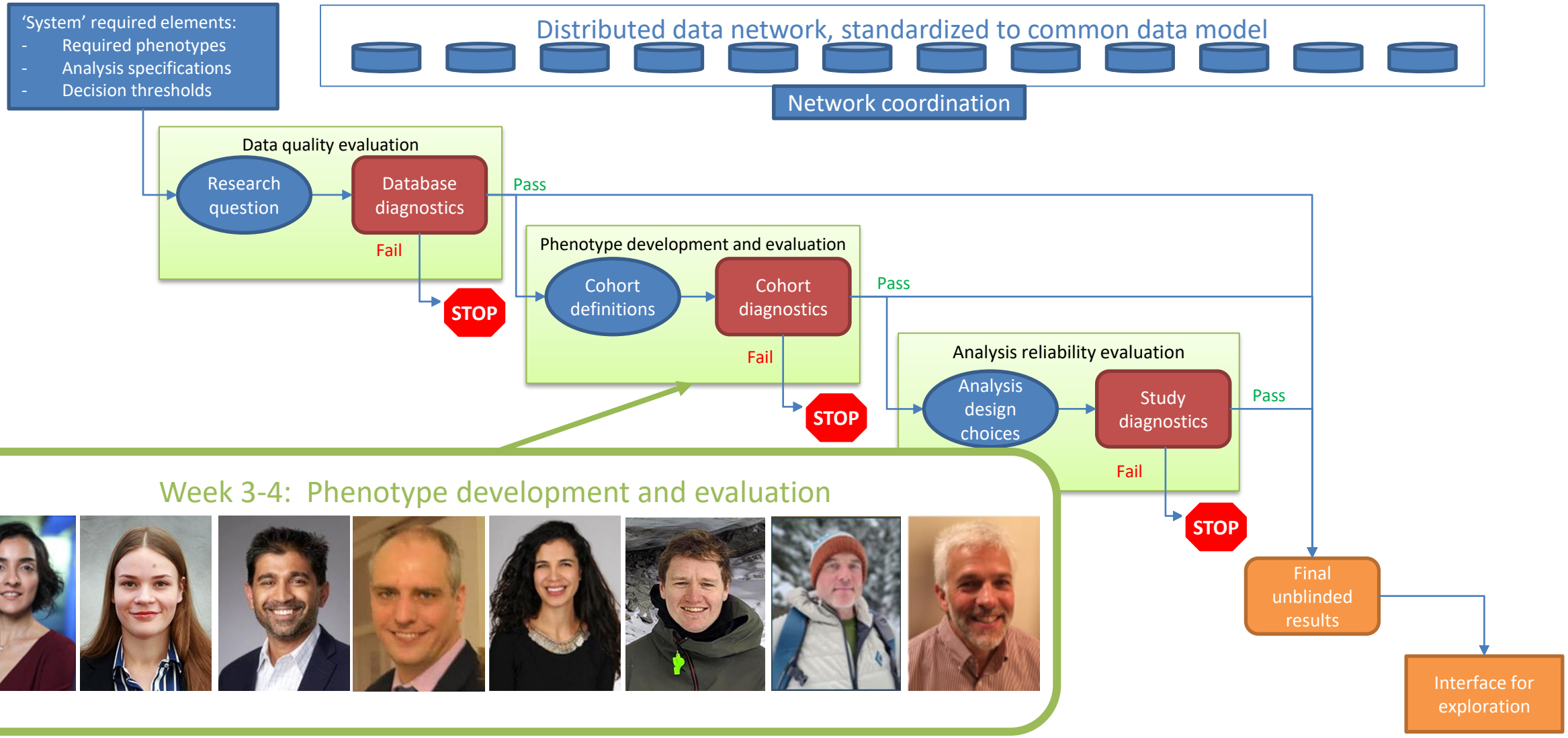

MS biologics→PML

risankizumab→CVA

Engineering open science systems that build trust into the real-world evidence generation and dissemination process



Engineering open science systems that build trust into the real-world evidence generation and dissemination process



Engineering open science systems that build trust into the real-world evidence generation and dissemination process

'System' required elements:
- Required phenotypes
- Analysis specifications
- Decision thresholds

Distributed data network, standardized to common data model

Network coordination

Data quality evaluation

Research question → Database diagnostics

Database diagnostics → Pass

Database diagnostics → Fail → STOP

Phenotype development and evaluation

Cohort definitions → Cohort diagnostics

Cohort diagnostics → Pass

Cohort diagnostics → Fail → STOP

Analysis reliability evaluation

Analysis design choices → Study diagnostics

Study diagnostics → Pass

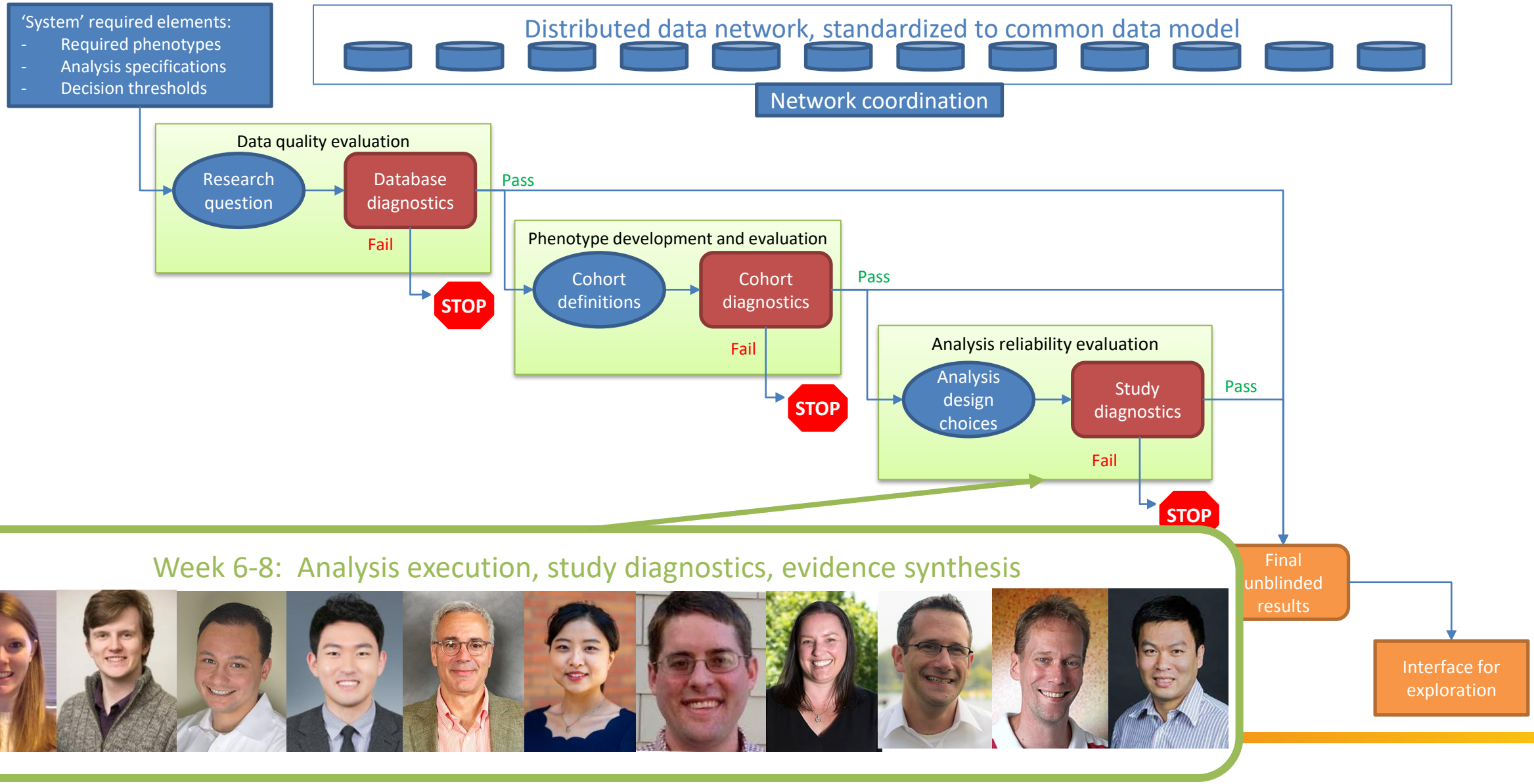
Study diagnostics → Fail → STOP

Final unblinded results → Interface for exploration

Only possible because of standardized analytics developed across our community

Week 5: Analysis design

Engineering open science systems that build trust into the real-world evidence generation and dissemination process

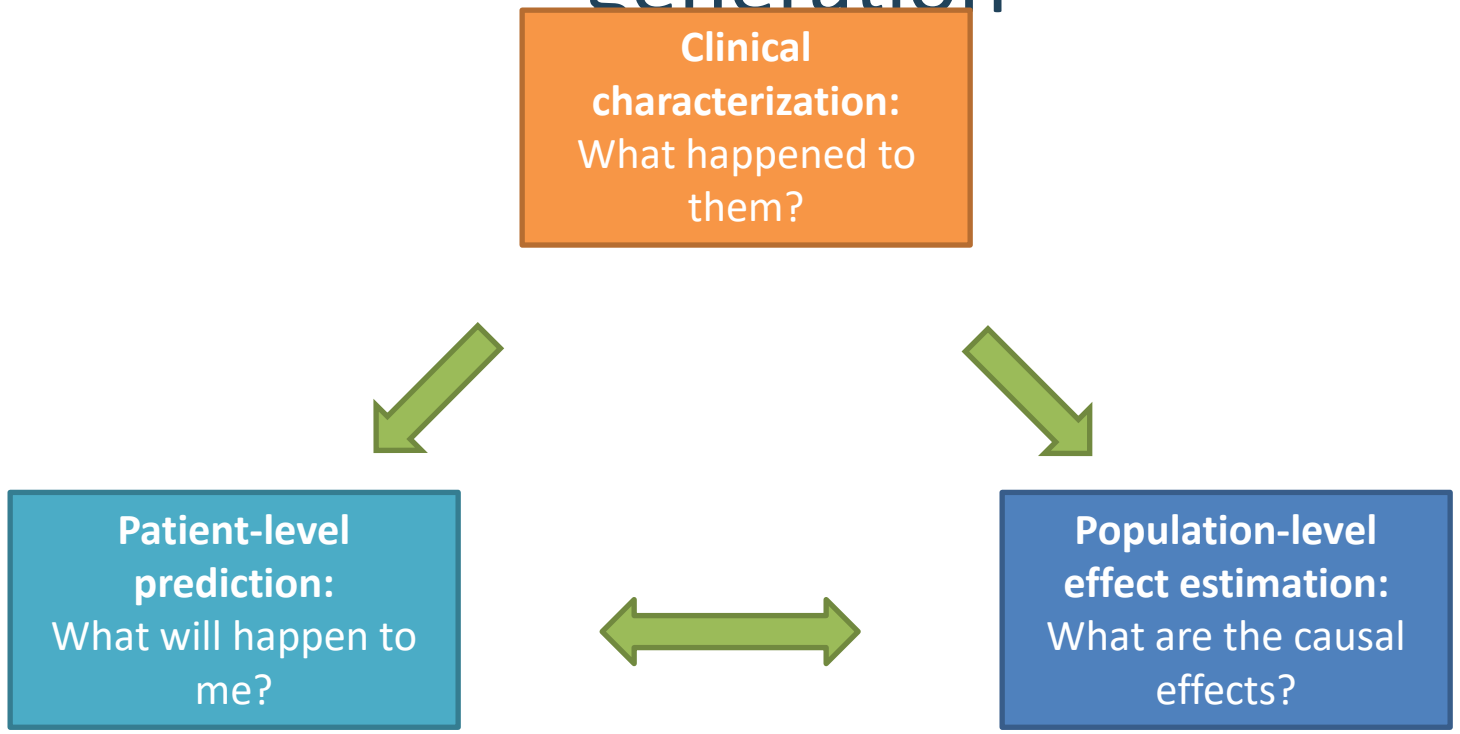



OHDSI
Observational Health Data Sciences and Informatics
Future directions of OHDSI
George Hripcsak MD MS
Director, Columbia University OHDSI Coordinating Center
Professor and Chair of Biomedical Informatics
Columbia University Irving Medical Center
NewYork-Presbyterian Hospital
Patrick Ryan PhD
Johnson & Johnson
Columbia University Irving Medical Center

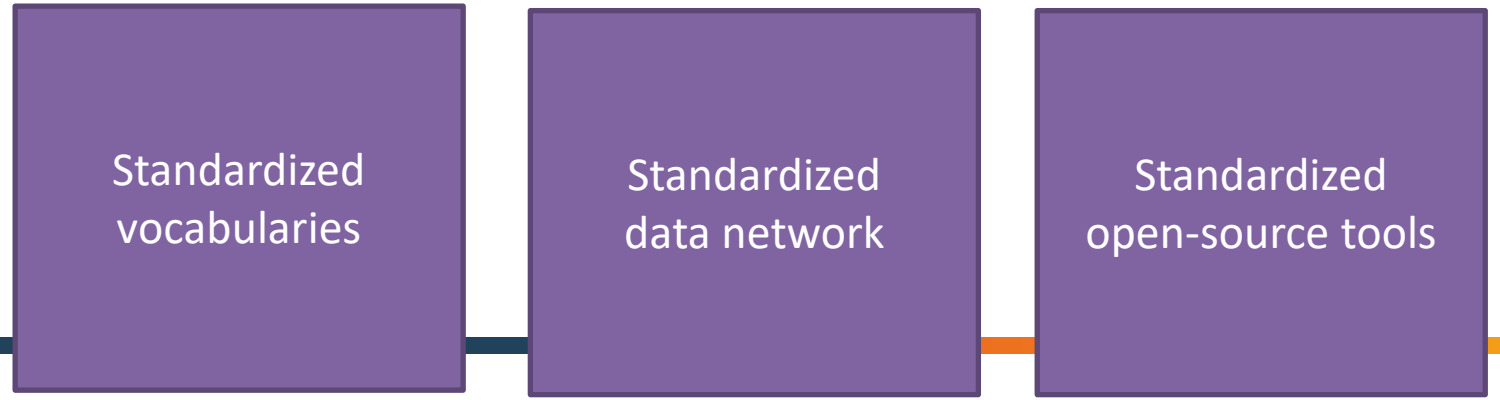
25Oct2022

Foundational elements to enable reliable evidence generation

Evidence use cases:



Foundational pillars:



Pillar #1: Standardized vocabularies

- Opportunity: Increase transparency and maturity with vocabulary development and evaluation process
- Proposed solutions:
  - Conduct landscape assessment to understand community needs
  - Develop code of conduct and developer guidelines
  - Disseminate vocabulary process and end-user documentation and roadmap
  - Establish centralized development infrastructure
  - Create standardized test development
  - Build vocabulary version release distribution service

Landscape assessment

Part I: 188 responses from 144 institutions | Part II: Vocabularies use in 60 data sources

FINDINGS

- 87% of the community feels confident about Vocabularies' integrity (to be used as a benchmark)
- Most used vocabularies: SNOMED, ICD 9/10(US and int. versions), MedDRA, ICDO3, ATC, RxNorm / RxE, ICD10PCS, ICD9Proc, CPT4, LOINC, CVX, HCPCS, UCUM, NDC, NAACCR, Cancer Modifier
- Most of the community updates their data annually or semi-annually

Vocabulary	Used in data	Used in research
SNOMED	57%	86%
RxNorm	33%	79%
ATC	45%	62%
ICD-10PCS	43%	51%
LOINC	68%	25%
ICD-9-Proc	48%	43%
CPT4	50%	40%
HCPCS	42%	33%
ICD-9(CM)	62%	<10%
ICDO3	32%	35%
ICD-10(CM)	57%	<10%
RxNorm Extension	<10%	53%
ICD-10 (int. versions)	48%	<10%
NDC	33%	<10%
MedDRA	10%	24%
ICD-9 (int. versions)	28%	<10%
NAACCR	17%	15%
CVX	18%	13%
UCUM	<10%	26%
Cancer Modifier	<10%	25%
HemOnc	10%	14%
OncoTree	10%	11%
Medicare Specialty	15%	<10%
Revenue Code (CMS)	15%	<10%
CMS Place of Service	13%	<10%
CDT	12%	<10%
DRG (CMS)	12%	<10%
Multum	12%	<10%
NCIt	12%	<10%
NUCC	12%	<10%
ABMS	10%	<10%
dm+d	10%	<10%
OncoKB	10%	<10%
ClinVar	<10%	10%
Nebraska Lexicon	<10%	10%
HGNC	<10%	10%

Roadmap

OHDSI / Vocabulary-v5.0 Public

Edit Pins · Unwatch 47 · Fork 67

Code · Issues 195 · Pull requests 28 · Discussions · Actions · Projects 3 · Wiki · Security · Insights · Settings

Release planning

Edit · New page

Anna Ostropolets edited this page last week · 1 revision

This page provides you with the planned maintenance and improvement activities around the OHDSI Standardized Vocabularies. This is to be treated as a forecast. Below you can find the content of each release and an overview of the planned improvement activites (detailed content to be posted separately).

Roadmap 2023 Q1 - 2024 Q2:

Pages 56

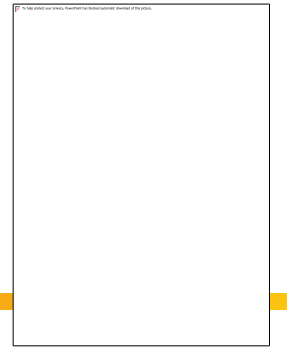
Quick access:

- Home
- Introduction
- The Vocabulary Team
- Roadmap
- Release notes
- General structure and use
- Vocabularies
- Vocabulary Statistics
- Quality Assurance
- Known Issues in Vocabularies
- Maintain your vocabulary
- Glossary
- Articles
- COVID-19 Vocabulary/ETL Instructions

Clone this wiki locally

https://github.com/OHDSI/Vocab

More information: Vocabulary-v5.0 GitHub Wiki [bit.ly/43q8vc6](bit.ly/43q8vc6)



Community contribution Part I: currently supported use cases

ADD NEW CONTENT

Does not impact the rest of the community
Can be incorporated quickly (no review)

- Adding ***non-standard*** concepts to existing vocabularies
- Adding synonyms to existing concepts
- Adding new mappings
- Adding ***non-standard*** vocabularies

MODIFY EXISTING CONTENT

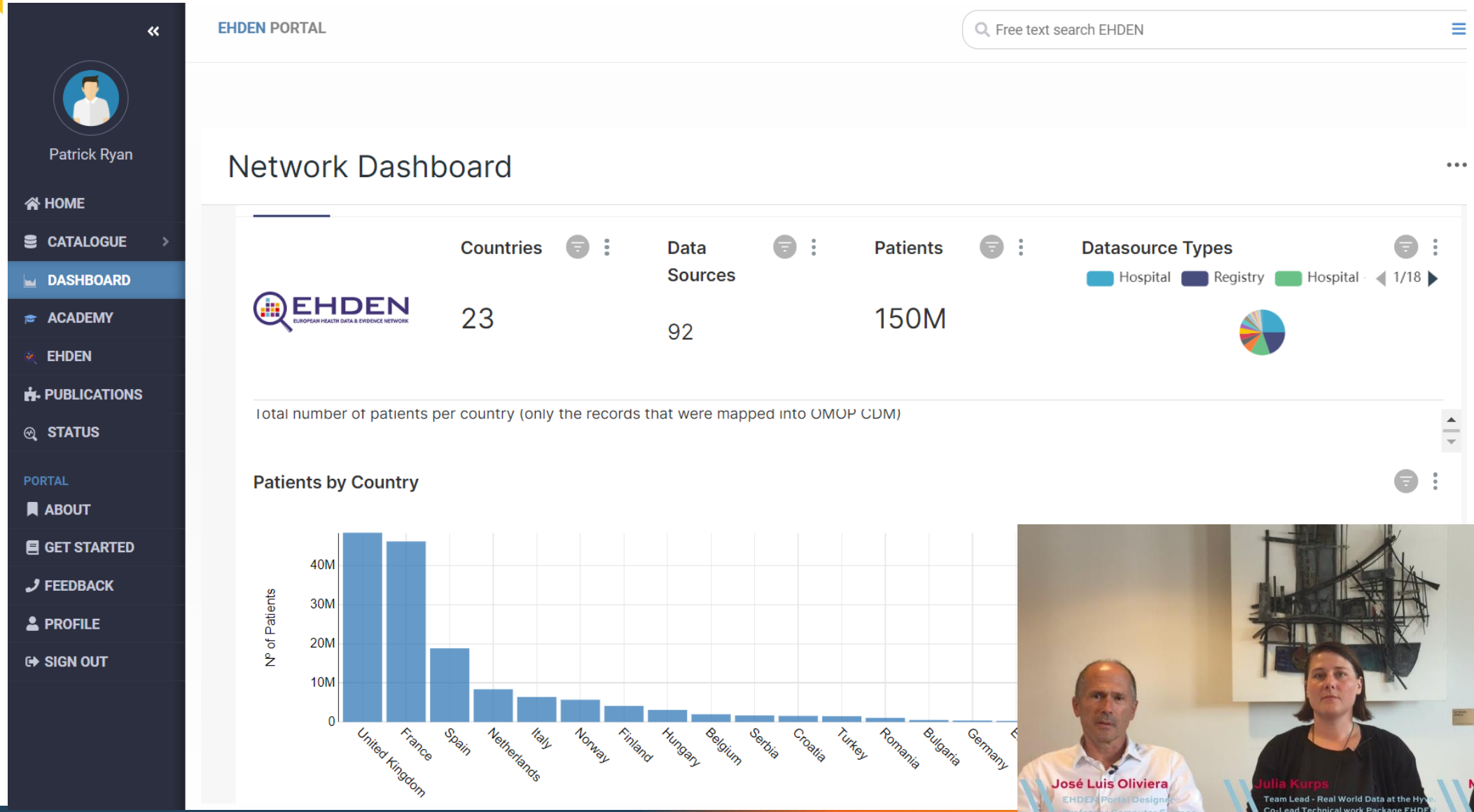
Impacts community as already is used by others
Requires review of the Vocab Team & other WGs/broader community

- Modifying existing mappings
- Modifying concept attributes (e.g., domain)
- Promoting non-standard concepts to standard

More info: bit.ly/42qOscr

Pillar #2: Standardized data network

- Opportunity: Increase transparency and maturity of OHDSI data network
- Proposed solutions:
  - Create OHDSI data network catalog to encourage network studies across interested partners and promote data quality practices
  - Generate OHDSI network concept prevalence data and make accessible for ATLAS users to enable more generalizable phenotype development
  - Promote database diagnostics by having data partners share limited subset of ACHILLES to allow for users to identify databases that satisfy study criteria



https://portal.ehden.eu/

data.ohdsi.org/DataDiagnostics/

OHDSI Analysis

DbDiagnostic

databaseId	D1: risankizumab vs. other biologics for psoriasis and risk of ischemic stroke	A1: aflibercept vs. bevacizumab for blinding diseases with esrd outcome	B1: fluoroquinolone vs. cephalosporin for urinary tract infection and risk of aortic aneurysm	C2: biologics vs disease modifying treatments for multiple sclerosis and risk of PML
truven_ccae_2324_20230201	0	0	0	0
US_PharMetrics_Plus_20230330	0	0	0	0
optum_ehr_2247_20221205	0	0	0	0
US_OPEN_CLAIMS_20230313	0	0	0	0
Japan_HIS_20220120	1	0	0	1
jmdc_2325_20230126	1	0	0	0
truven_mdcr_2322_20230127	0	0	0	0
pmtx_202203_20220831	0	0	2	0
JHM_OMOP_20230406	1	0	2	1
US_Hospital_20230130	2	0	0	1
CUIMC_20221214	1	0	2	0
Japan_Claims_20230215	1	0	0	1
VA-OMOP_20230411	1	0	2	0
optum_extended_dod_2323_20230201	0	0	0	0
optum_extended_ses_2327_20230204	0	0	0	0
truven_mdcd_2359_20230215	1	0	0	0
LPD_Italy_20221226	1	1	0	1
France_LPD_20230118	2	1	0	2
premier_2326_20230125	3	1	1	3
UK_IMRD_THIN_20221230	2	1	0	1

1–20 of 34 rows

Previous 1 2 Next

Pillar #3: Standardized open-source tools

- Opportunity: Increase adoption and ease-of-use of HADES packages and other OHDSI open-source analytic tools
- Proposed solutions:
  - Create central infrastructure to enable testing of all OHDSI tools against each of the supporting database platforms
  - Establish referent benchmark study that all organizations can execute to demonstrate that OHDSI toolstack is operational
  - Improve documentation and educational materials to promote adoption of OHDSI tools
  - Encourage greater community support of open-source development activities: we need more help to maintain our solutions!

OHDSI HADES package releases in 2023 alone…

jreps

Characterization 0.0.5 1 has been released.

Chris_Knoll

CirceR 1.3.0 2 has been released

jreps

OhdsiShinyModules v1.0.2 2 has been released.

jreps

ShinyAppBuilder v1.1.1 8 has been released.

schuemie Martijn Schuemie

BigKnn 1.0.2 3 has been released.

Gowtham_Rao

CohortExplorer v0.0.11 1 has been updated.

schuemie Martijn Schuemie

ROhdsiWebApi 1.3.2 4 has been released.

Adam_Black

Andromeda 0.6.3 has been release on Github and CRAN.

jpegilbert Jamie Gilbert

ResultModelManager 1 v0.4.0 has been released.

anthonysena

CohortGenerator v0.8.0 was released a few weeks ago

jpegilbert Jamie Gilbert

CohortDiagnostics version 3.2.1 . Has been released.

schuemie Martijn Schuemie

SelfControlledCaseSeries 4.2.0 3 has been released.

msuchard Marc Suchard

BrokenAdaptiveRidge v1.0.0 2 has been released

msuchard Marc Suchard

Cyclops v3.3.1 2 has been released and is now on CRAN.

schuemie Martijn Schuemie

CohortMethod 5.0.0 2 has been released.

fanbu

EvidenceSynthesis 0.5.0 2 has been released.

jswerdel Joel N. Swerdel

PheValuator 2.2.8 1 has been released.

Frank Frank DeFalco

Achilles 1.7.2 5 has been released.

katy-sadowski

DataQualityDashboard 2.3.0 2 has been released.

mdlavallee92 Martin Lavallee

Capr 2.0.4 3 has been released.

egillax Egill Axfjord Fridgeirsson

DeepPatientLevelPrediction 1.1.6 1 has been released.

schuemie Martijn Schuemie

ParallelLogger 3.2.0 has been released.

mdlavallee92 Martin Lavallee

Ulysses v0.0.1 1 has been released.

schuemie Martijn Schuemie

SqlRender 1.15.1 has been released.

schuemie Martijn Schuemie

DatabaseConnector 6.2.3 1 has been released.

schuemie Martijn Schuemie

MethodEvaluation 2.3.0 has been released.

anthonysena

FeatureExtraction v3.3.0 has been released.

https://forums.ohdsi.org/t/hades-development-announcements/12293

A question to ask yourself throughout the day

If you had:

- an open community of international, multi-disciplinary, cross-stakeholder collaborators
- an open community data standard used by >400 databases around the world
- established and evaluated scientific best practices that can ensure reliable evidence
- a suite of open source tools capable of supporting the entire journey from data to evidence

What would you do?

European Initiatives Using the OMOP CDM

Moderator: Renske Los, PhD, Assistant Professor of Medical Informatics

European Initiatives Using the OMOP CDM

1. **European Health Data and Evidence Network: building a sustainable ecosystem for generating reliable evidence in Europe**
   Carlos Diaz, Synapse

2. **Harmonizing rare cancer data within EURACAN**
   Dr. Maaike van Swieten, IKNL

3. **HONEUR: Building a federated network in haematology**
   Michel van Speybroeck, Janssen Pharmaceutica

4. **PIONEER and OPTIMA, two EU-IMI funded big data projects led by the European Association of Urology**
   Monique Roobol, Professor Decision Making in Urology, Erasmus MC

European Health Data and Evidence Network: building a sustainable ecosystem for generating reliable evidence in Europe

Carlos Diaz

Synapse

EHDEN

EUROPEAN HEALTH DATA & EVIDENCE NETWORK

EHDEN

Carlos Díaz, SYNAPSE

On behalf of the EHDEN consortium

EHDEN IS ABOUT...

Providing a new paradigm for the discovery and analysis of health data in Europe by building a large-scale, federated network of data sources standardised to a common data model (OMOP), significantly speeding up the generation of reliable evidence.

FEDERATION
Creation of an EU-wide architecture for federated analyses of real world data

HARMONISATION
Harmonise more than 100 million anonymised health records to the OMOP common data model

COMMUNITY
Establish a self-sustaining open science collaboration in Europe, supporting academia, industry, regulators, payers, government, NGOs and others

OUTCOMES
Enabling outcomes driven healthcare at a European level

EDUCATION
The establishment of an EHDEN Academy, webinars and face-to-face training sessions to train all stakeholders

EHDEN Basics

Start date: 1 Nov 2018
End date: 30 Oct 2024
Duration: 70 months

25 partners

~€30 million

Universities, public bodies and research organisations

Erasmus MC Universitair Medisch Centrum Rotterdam — **Academic coordinator**

Uppsala Monitoring Centre

universidade de aveiro

NICE National Institute for Health and Care Excellence

Tartu Ülikool 1632 Universitas Tartuensis

University of Oxford

Small & Mid-sized companies

SYNAPSE Research Management Partners

The Hyve

Odysseus Data Services Inc

Other organisations

EPF European Patients Forum

ICHOM

EFPIA & Associated partners

Janssen Pharmaceutical Companies of Johnson & Johnson — **EFPIA Lead**

Bayer

Celgene

Pfizer

Lilly

Boehringer Ingelheim

abbvie

Roche

Servier

AstraZeneca

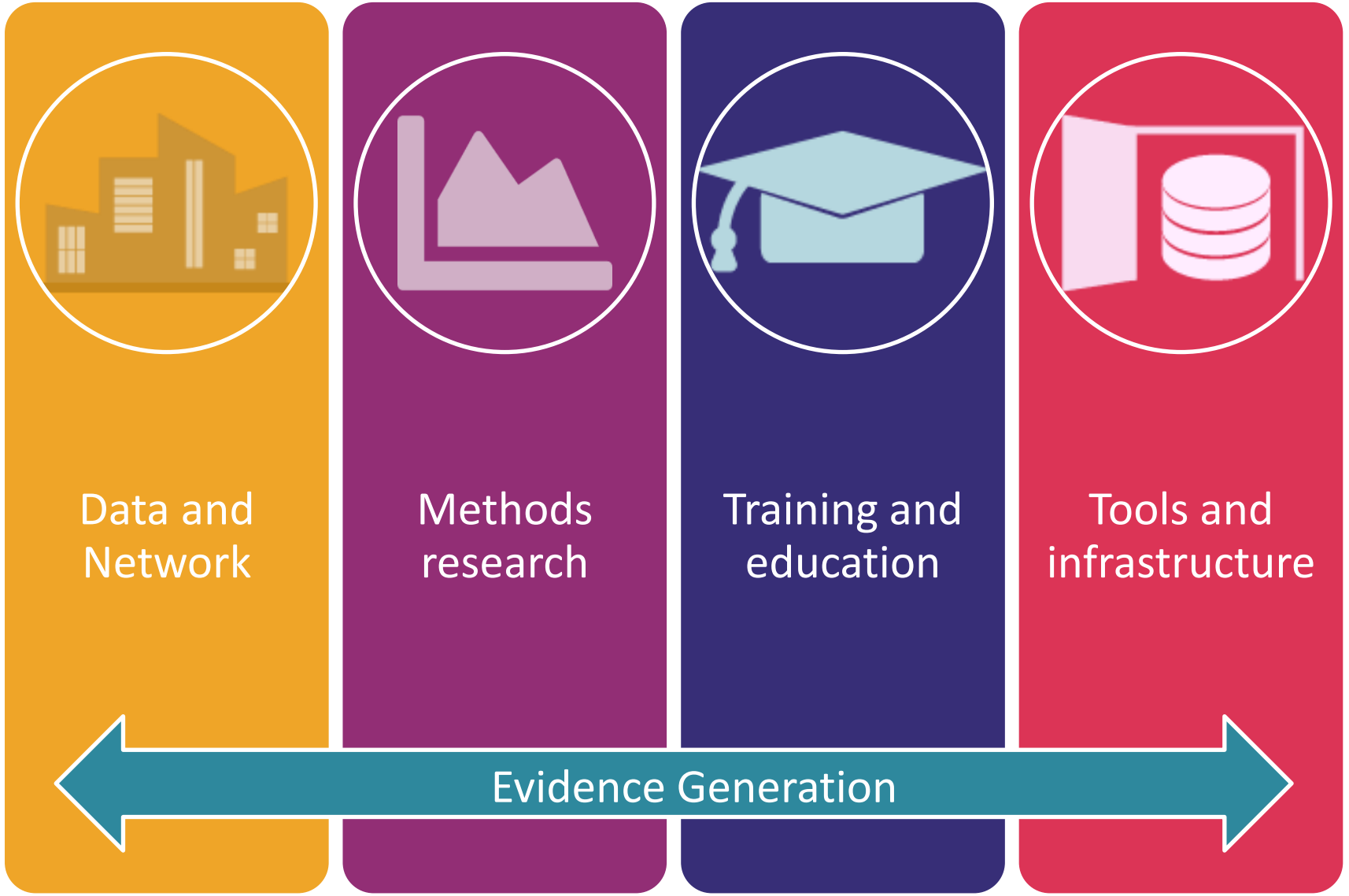
Sanofi

UCB

Novartis

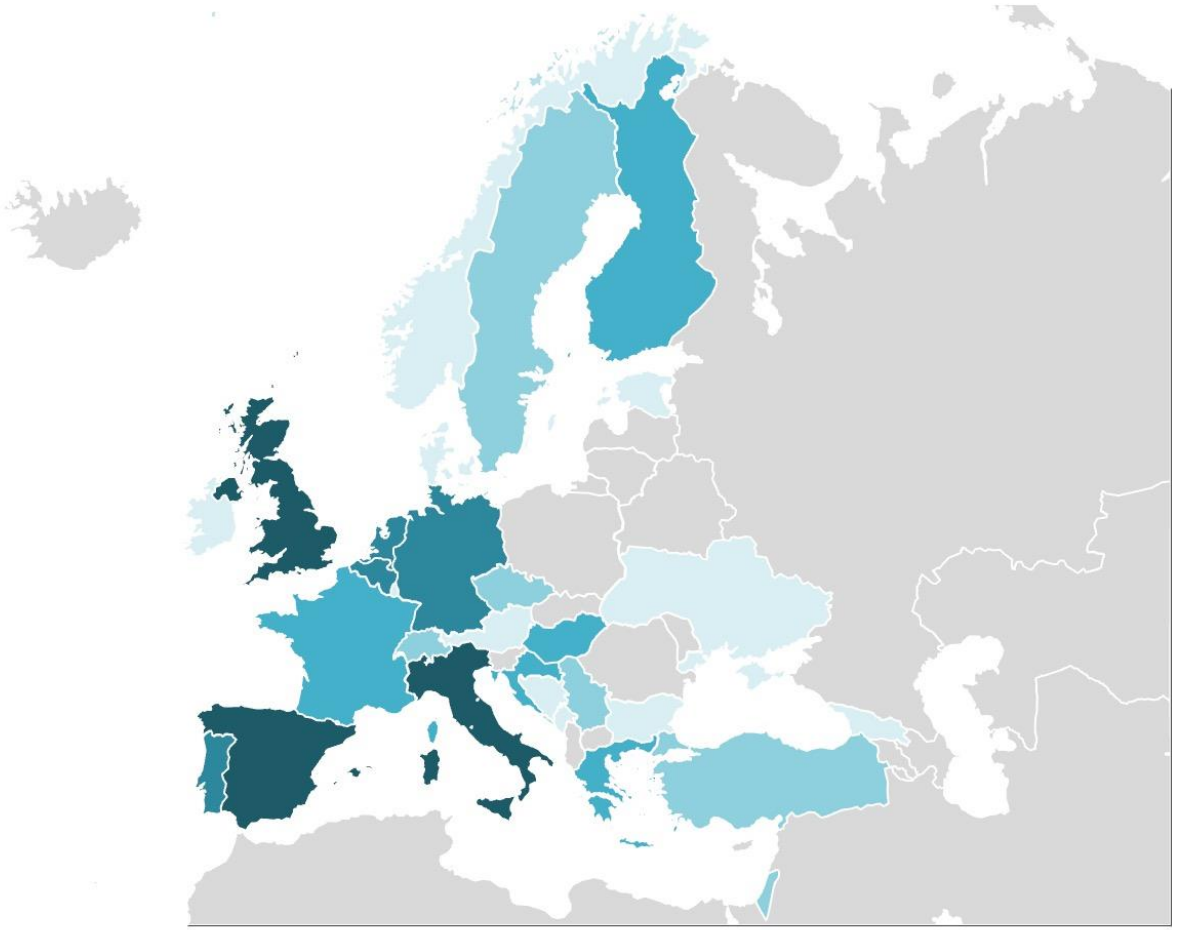
Lundbeck

EHDEN Basics

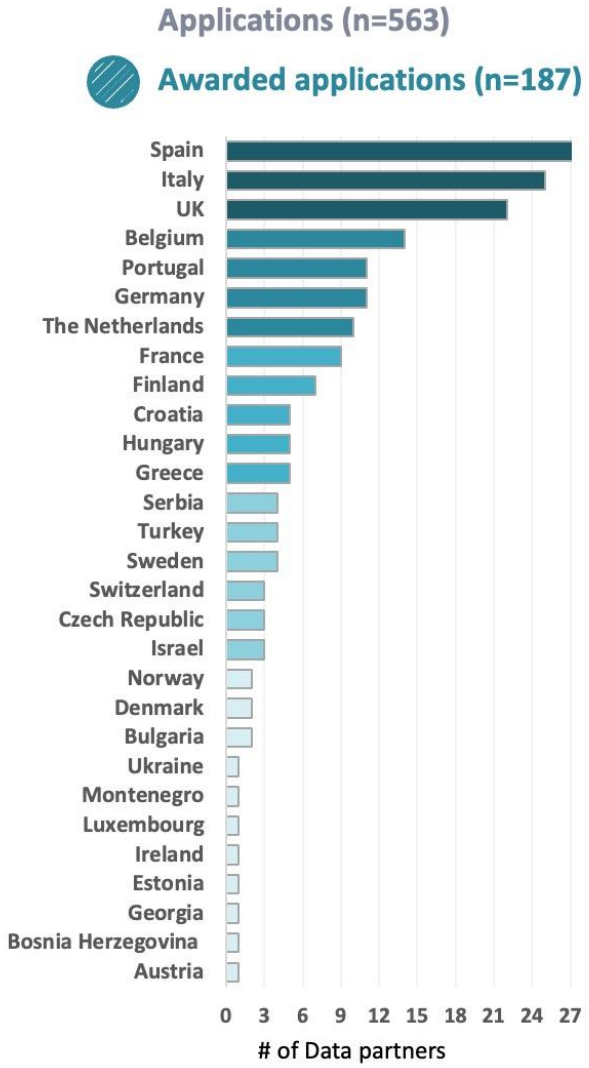


Data Partner Network [After 7 Calls]

https://www.ehden.eu/datapartners/



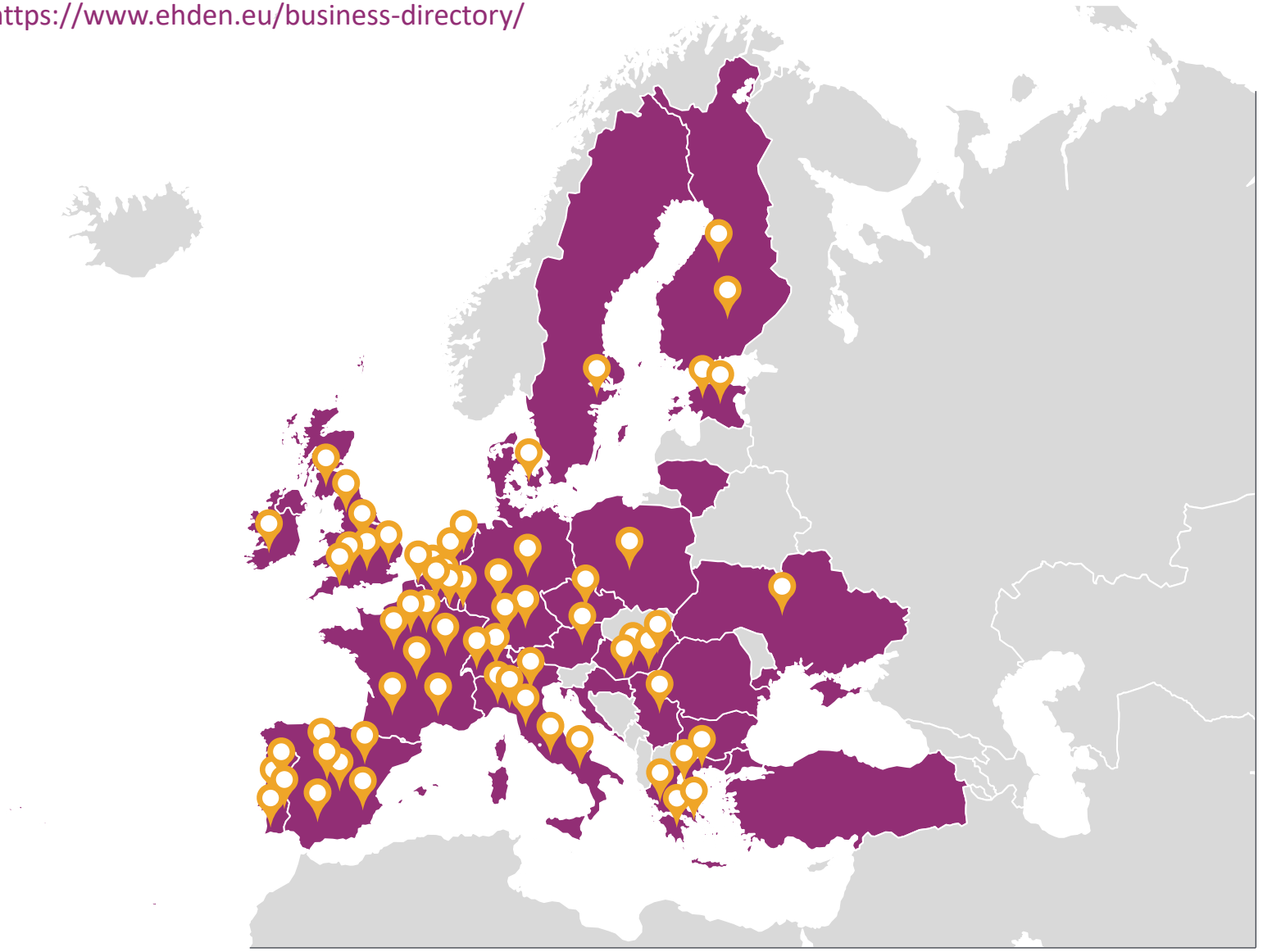
Geographic spread of data partners. The shade of blue indicates the # of data partners in that country (darker = more)



~850 million records being mapped to OMOP CDM in 29 European countries

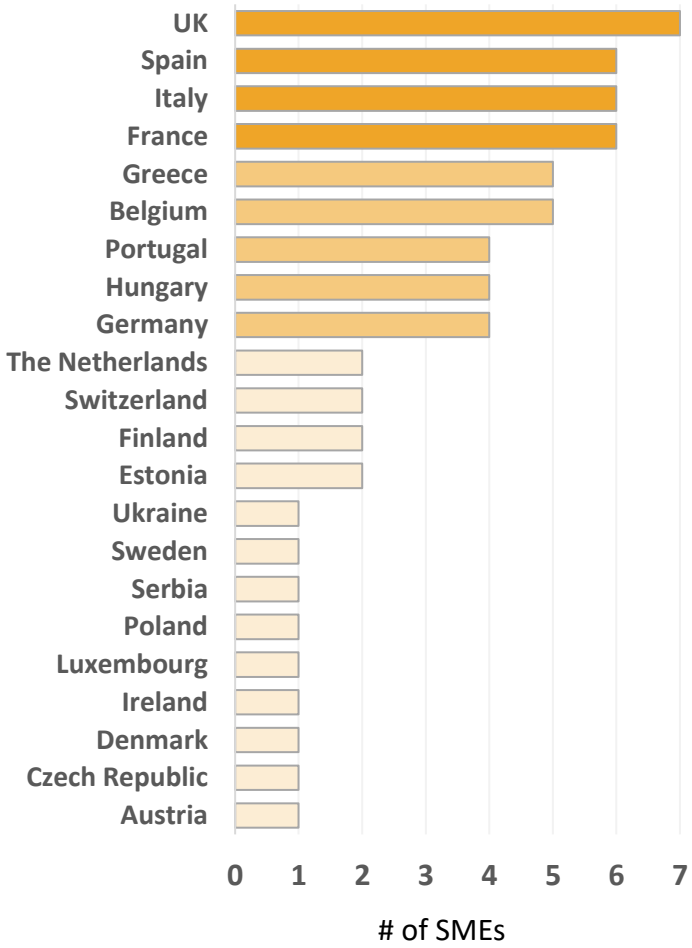
SME Network [after 4 Calls]

https://www.ehden.eu/business-directory/



Certified SMEs (n=64)

Applications (n=143)



METHODS: MANY PUBLICATIONS. SOME EXAMPLES…

Computer Methods and Programs in Biomedicine

Volume 225, October 2022, 107081

TreatmentPatterns: An R package to facilitate the standardized development and analysis of treatment patterns across disease domains

Aniek F. Markus [a], Katia M.C. Verhamme [a, b], Jan A. Kors [a], Peter R. Rijnbeek [a]

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Proceedings of Machine Learning Research 182:1–25, 2022 Machine Learning for Healthcare

Why predicting risk can't identify 'risk factors': empirical assessment of model stability in machine learning across observational health databases

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Janssen Research and Development
Raritan, New Jersey, United States

> Semin Arthritis Rheum. 2022 Oct;56:152050. doi: 10.1016/j.semarthrit.2022.152050. Epub 2022 Jun 15.

Development and external validation of prediction models for adverse health outcomes in rheumatoid arthritis: A multinational real-world cohort analysis

Cynthia Yang [1], Ross D Williams [2], Joel N Swerdel [3], João Rafael Almeida [4], Emily S Brouwer [3], Edward Burn [5], Loreto Carmona [6], Katerina Chatzidionysiou [7], Talita Duarte-Salles [8], Walid Fakhouri [9], Antj, Lembe Kullamaa [13], J, Henry Morgan Stewart, Carmen O Torre [17], Ka, Daniel Prieto-Alhambr

Affiliations + expand

PMID: 35728447 DO

Free article

Abstract

Background: Identific outcomes remains a n variety of adverse hea monotherapy.

> JAMIA Open. 2022 Mar 16;5(1):ooac021. doi: 10.1093/jamiaopen/ooac021. eCollection 2022 Apr.

Trajectories: a framework for detecting temporal clinical event sequences from health data standardized to the Observational Medical Outcomes Partnership (OMOP) Common Data Model

Kadri Künnapuu [1], Solomon Ioannou [2], Kadri Ligi [1 3], Raivo Kolde [3], Sven Laur [1 3], Jaak Vilo [1 3 4], Peter R Rijnbeek [2], Sulev Reisberg [1 3 4]

Affiliations + expand

PMID: 35571357 PMCID: PMC9097714 DOI: 10.1093/jamiaopen/ooac021

Free PMC article

Abstract

Objective: To develop a framework for identifying temporal clinical event trajectories from Observational Medical Outcomes Partnership-formatted observational healthcare data.

Materials and methods: A 4-step framework based on significant temporal event pair detection is described and implemented as an open-source R package. It is used on a population-based Estonian dataset to first replicate a large Danish population-based study and second, to conduct a disease trajectory detection study for type 2 diabetes patients in the Estonian and Dutch databases as an example.

> BMC Med Inform Decis Mak. 2022 May 25;22(1):142. doi: 10.1186/s12911-022-01879-6.

Learning patient-level prediction models across multiple healthcare databases: evaluation of ensembles for increasing model transportability

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oss D Williams # [2], Martijn J Schuemie [3], Patrick B Ry

): PMC9134686 DOI: 10.1186/s12911-022-01879-6

> J Am Med Inform Assoc. 2022 Apr 1

> Drug Saf. 2022 May;45(5):563-570. doi: 10.1007/s40264-022-01161-8. Epub 2022 May 17.

Using Iterative Pairwise External Validation to Contextualize Prediction Model Performance: A Use Case Predicting 1-Year Heart Failure Risk in Patients with Diabetes Across Five Data Sources

models that are accurate could help aid medical decisi
often contain temporal medical data for large and diver
le to learn prognostic models using the large observati
gnostic model undesirably worsens when transported t
l setting). In this study we investigate different ensemb

> Int J Med Inform. 2022 Jul;163:104762. doi: 10.1016/j.ijmedinf.2022.104762. Epub 2022 Apr 12.

Logistic regression models for patient-level prediction based on massive observational data: Do we need all data?

Luis H John [1], Jan A Kors [2], Jenna M Reps [3], Patrick B Ryan [3], Peter R Rijnbeek [2]

Affiliations + expand

PMID: 35429722 DOI: 10.1016/j.ijmedinf.2022.104762

ut Steyerberg [4]

> BMC Med Res Methodol. 2022 Jan 30;22(1):35. doi: 10.1186/s12874-022-01505-z.

Seek COVER: using a disease proxy to rapidly develop and validate a personalized risk calculator for COVID-19 outcomes in an international network

Ross D Williams # [1], Aniek F Markus # [1], Cynthia Yang [1], Talita Duarte-Salles [2], Scott L DuVall [3], Thomas Falconer [4], Jitendra Jonnagaddala [5], Chungsoo Kim [6], Yeunsook Rho [7],

Trends in the conduct and reporting of clinical prediction model development and validation: a systematic review

Cynthia Yang [1], Jan, Alexandros Rekkas, Peter R Rijnbeek [1]

Affiliations + expan

PMID: 35045179 P

Free PMC article

> Knee Surg Sports Traumatol Arthrosc. 2022 Sep;30(9):3068-3075. doi: 10.1007/s00167-021-06799-y. Epub 2021 Dec 6.

90-Day all-cause mortality can be predicted following a total knee replacement: an international network study to develop and validate a prediction model

Ross D Williams # [1], Jenna M Reps # [2], OHDSI/EHDEN Knee Arthroplasty Group;

TRAINING: EHDEN ACADEMY – FREE ONLINE TRAINING FOR ALL

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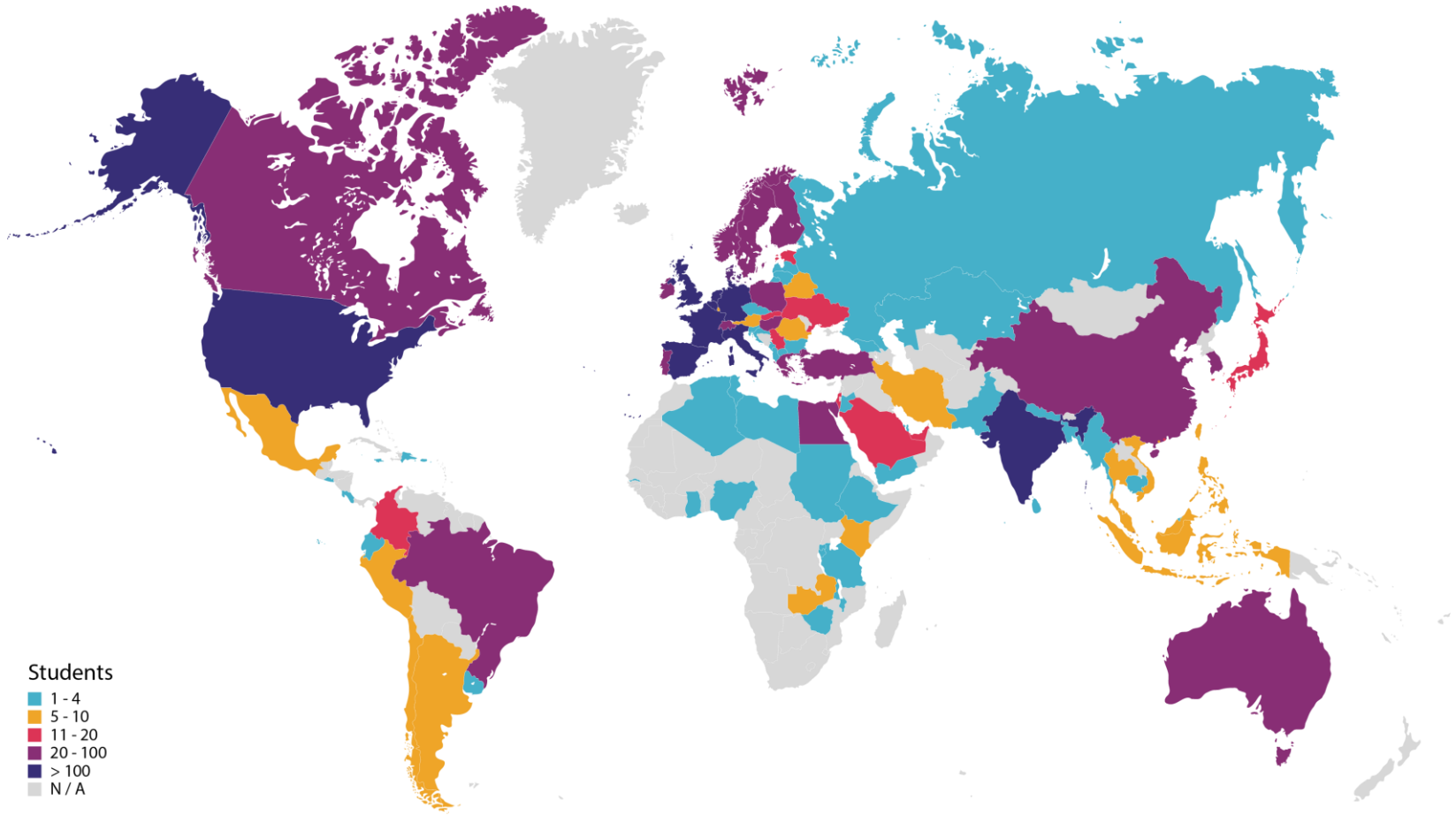
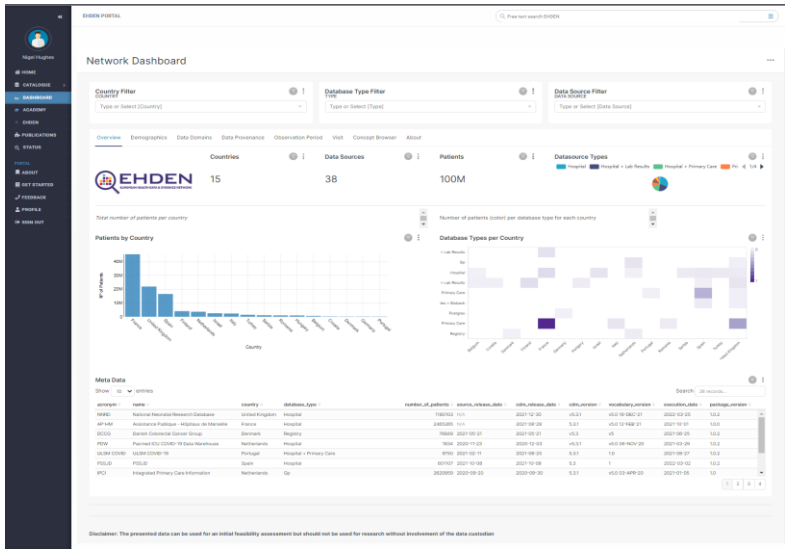


Also used as a training program for certification of SMEs to support Data Partners mapping their data to the OMOP CDM

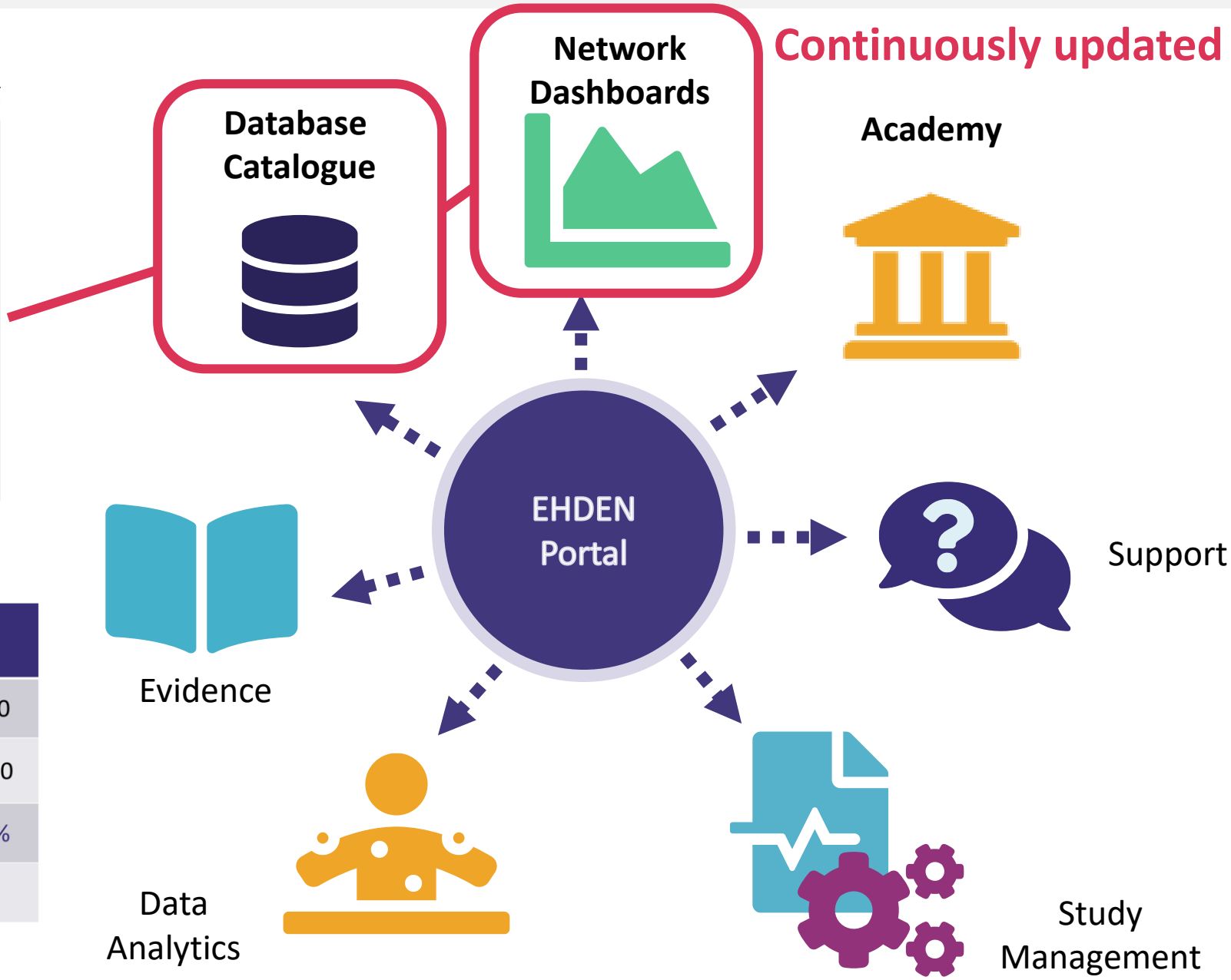
TOOLS: THE EHDEN PORTAL – ONE-STOP-SHOP LAUNCHED 24 JUNE 2022

https://www.ehden.eu/ehden-portal/



Free Enrolment!

	# databases in Database Catalogue	# databases in Network Dashboard	# countries	# patients	# users
OHDSI EU 2022 →	67	35	15	~ 44 Mio	~ 400
OHDSI EU 2023 →	118	90	23	~ 149 Mio	~ 900
	76%	157%	53%	238%	125%
Total number at end of project →	187	187	29		

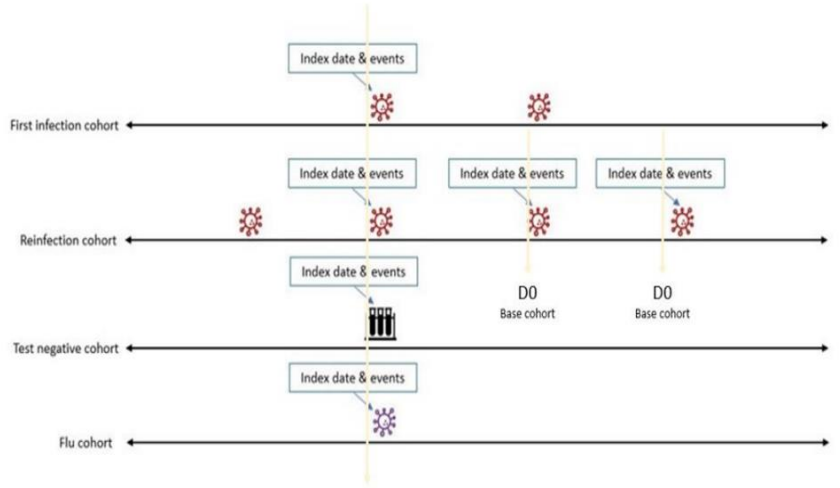


EVIDENCE GENERATION EXAMPLE: LONG-COVID STUDY-A-THON

13 Data Partners

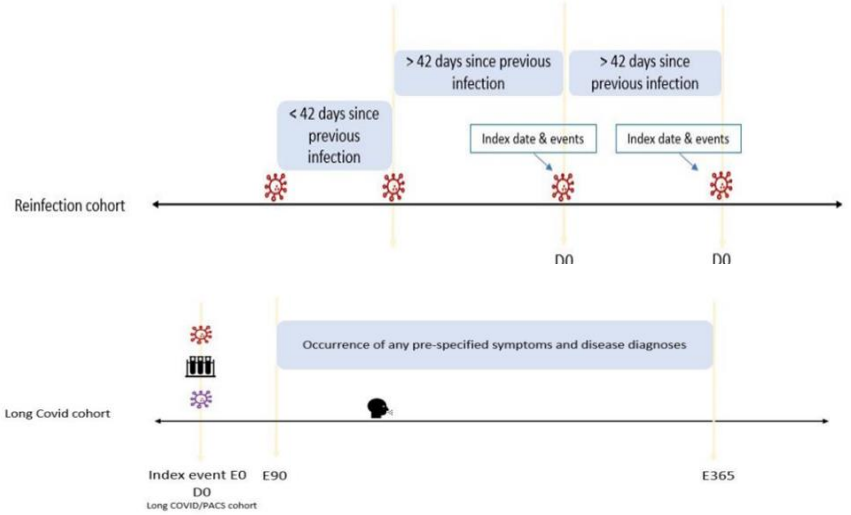
- GOLD
- AURUM

ADDITIONAL DPs (online) Pharmetrics+, IQVIA (USA), HSD (Italy), Ajou University (S Korea)



	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8.45-9.00	Technical Help desk	COFFEE			
9.00- 10.30		9.00-9.30 Intro to Github (Data Scientists) All: Presentation of Results for 1 DB	Break out session in 3 groups	Break out session in 3 groups	All: Review results from additional analyses and manuscripts together
10.30-11.00		Coffee break			
11.00-13.00		Break out in 3 groups: (1) Descriptive epi (2) Drug utilisation (3) Clusters and trajectories	Break out session in 3 groups	Break out session in 3 groups	All: Closure; Next steps beyond this study-a-thon (publication) Lunch from 12.00
13.00-14.00	LUNCH				
14.00- 15.30	Welcome and Introductions	Manuscript discussion Break out session in 3 groups	All: Progress update	All: Progress update	
15.30- 16.00	Coffee break				
16.00- 17.00	Introduction of the databases Form expert teams for the rest of the week	All: Update and Summary of Plan for the next days	Break out session in 3 groups	Break out session in 3 groups	
		Evening: Dinner		Evening: Dinner	

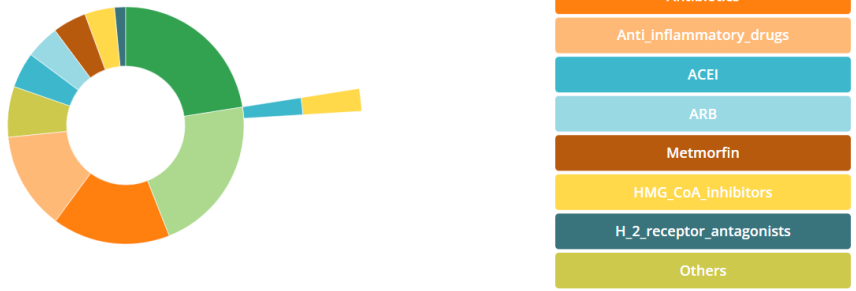
	Team 1	Team 2	Team 3	Team 4
Work Package	Incidence	Characterisation and DUS	Clustering and Trajectories	Technical Experts
Lead	**FRANK**	**ANNIKA**	**KIM**	**MARTÍ and ED**
Long COVID Experts	Roger	Cora	Lourdes	
Clinical Experts	[Dani]	Miguel-Angel	Raúl	
			[Dani]	
Data Sciences	Juan Manuel	Núria	Raivo	Aki
	Jaime	Dominique	Alvaro	
	[Ed]	Laura	[Martí]	
Pharmacists		Nhung		
		Theresa		
Epidemiologists	Kristin	Johnmary	Talita	
	Alicia	Bernardo	Daniel	
	Anneli		Gregoire	
	Jessie			



EVIDENCE GENERATION: EXAMPLE OUTPUTS

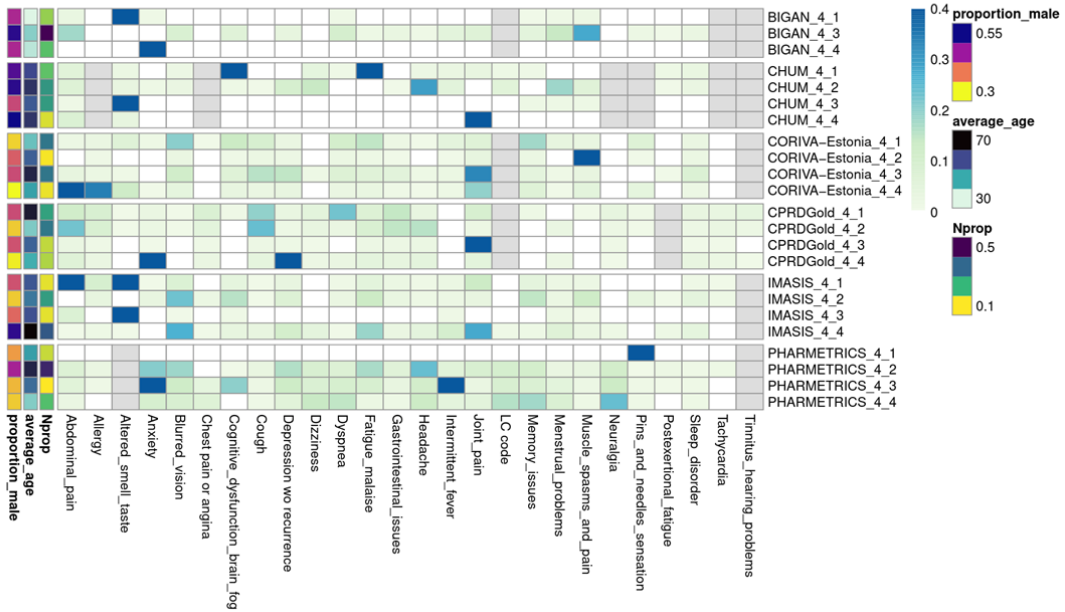
SUNBURST PLOTS

Treatments after COVID-19 diagnosis in the NL and the UK



CPRD GOLD

Preliminary clusters identified using Latent Class Analyses across 4 databases



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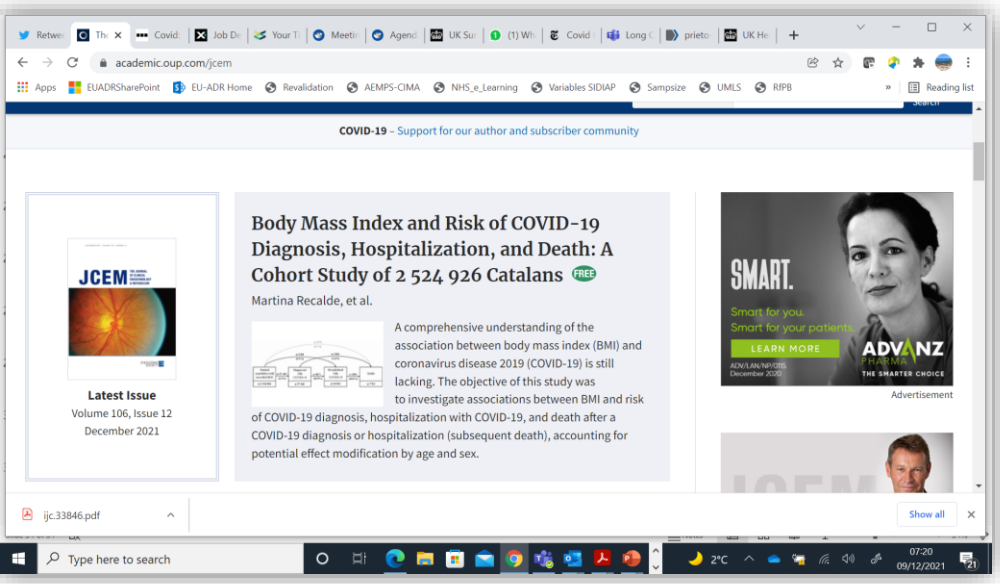
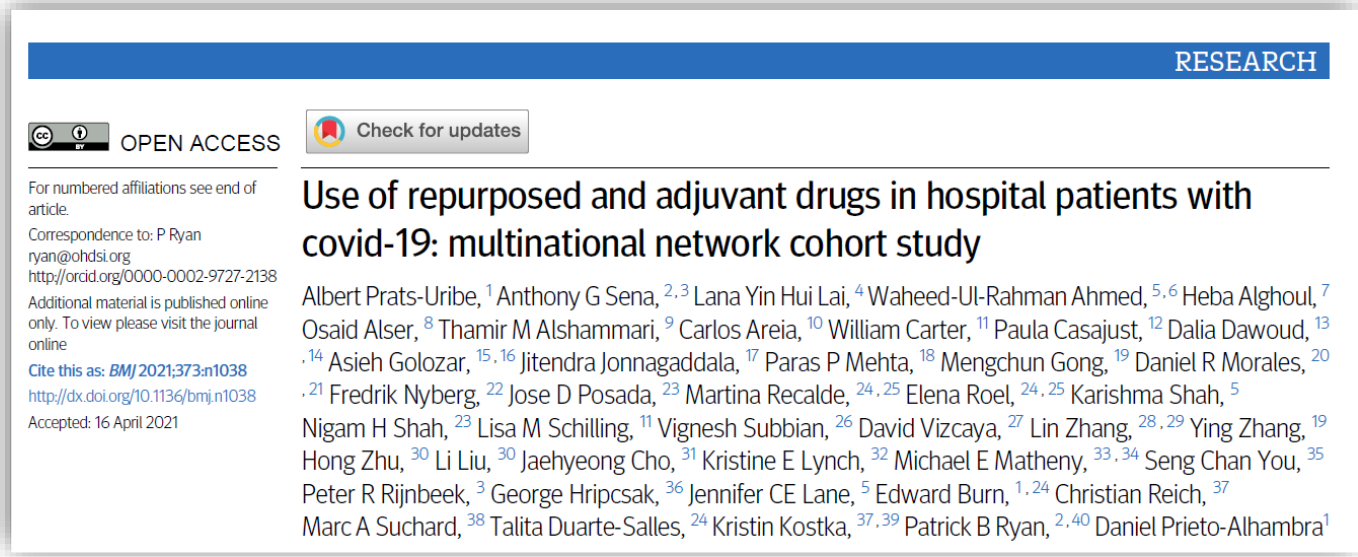


BMI in COVID-19: JCEM pick of the week!!


RESEARCH

OPEN ACCESS

Check for updates

For numbered affiliations see end of article.

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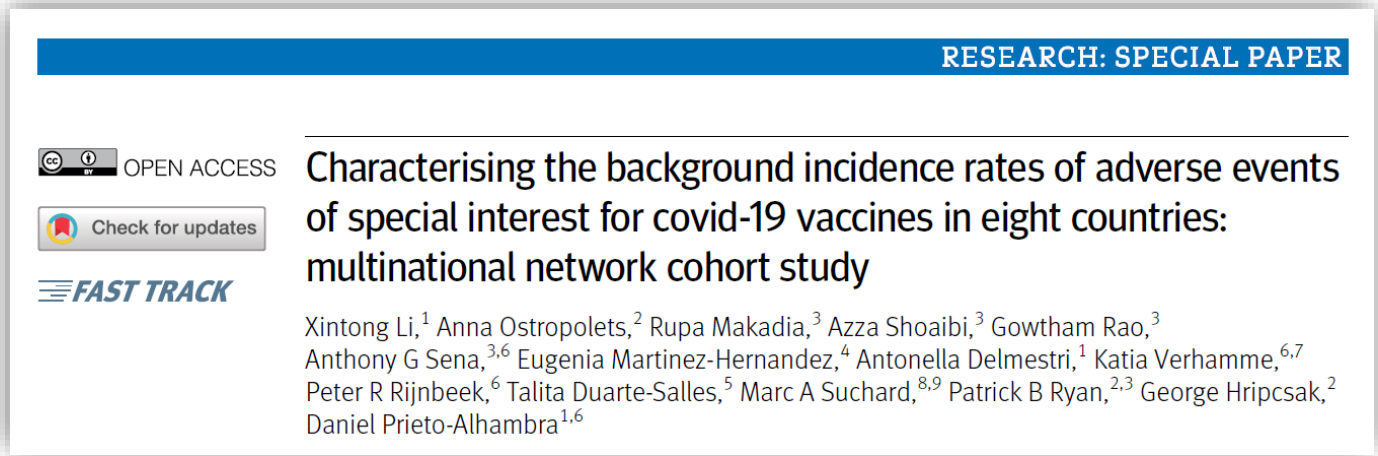
Additional material is published online only. To view please visit the journal online

Cite this as: *BMJ* 2021;373:n1038
http://dx.doi.org/10.1136/bmj.n1038

Accepted: 16 April 2021

Use of repurposed and adjuvant drugs in hospital patients with covid-19: multinational network cohort study

Albert Prats-Uribe,[1] Anthony G Sena,[2,3] Lana Yin Hui Lai,[4] Waheed-Ul-Rahman Ahmed,[5,6] Heba Alghoul,[7] Osaid Alser,[8] Thamir M Alshammari,[9] Carlos Areia,[10] William Carter,[11] Paula Casajust,[12] Dalia Dawoud,[13,14] Asieh Golozar,[15,16] Jitendra Jonnagaddala,[17] Paras P Mehta,[18] Mengchun Gong,[19] Daniel R Morales,[20,21] Fredrik Nyberg,[22] Jose D Posada,[23] Martina Recalde,[24,25] Elena Roel,[24,25] Karishma Shah,[5] Nigam H Shah,[23] Lisa M Schilling,[11] Vignesh Subbian,[26] David Vizcaya,[27] Lin Zhang,[28,29] Ying Zhang,[19] Hong Zhu,[30] Li Liu,[30] Jaehyeong Cho,[31] Kristine E Lynch,[32] Michael E Matheny,[33,34] Seng Chan You,[35] Peter R Rijnbeek,[3] George Hripcsak,[36] Jennifer CE Lane,[5] Edward Burn,[1,24] Christian Reich,[37] Marc A Suchard,[38] Talita Duarte-Salles,[24] Kristin Kostka,[37,39] Patrick B Ryan,[2,40] Daniel Prieto-Alhambra[1]


RESEARCH: SPECIAL PAPER

OPEN ACCESS

Check for updates

FAST TRACK

Characterising the background incidence rates of adverse events of special interest for covid-19 vaccines in eight countries: multinational network cohort study

Xintong Li,[1] Anna Ostropolets,[2] Rupa Makadia,[3] Azza Shoaibi,[3] Gowtham Rao,[3] Anthony G Sena,[3,6] Eugenia Martinez-Hernandez,[4] Antonella Delmestri,[1] Katia Verhamme,[6,7] Peter R Rijnbeek,[6] Talita Duarte-Salles,[5] Marc A Suchard,[8,9] Patrick B Ryan,[2,3] George Hripcsak,[2] Daniel Prieto-Alhambra[1,6]

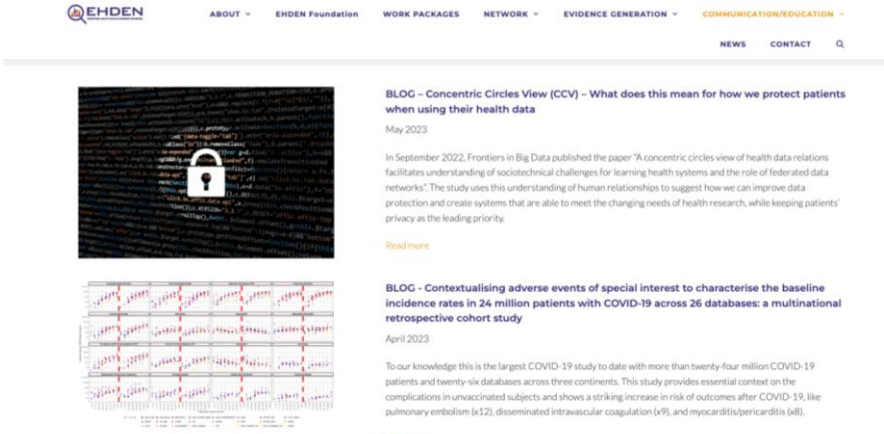
EVIDENCE GENERATION: EXAMPLES OF UPCOMING STUDIES

- **Heavy menstrual bleeding**
  - *To describe the incidence and prevalence of women diagnosed with HMB*
  - *To characterise women with a diagnosis of HMB*
  - *To describe the treatment pathways of multiple therapeutic options for HMB*
  - *To estimate the frequency of guideline-compliant treatment for HMB, and to characterise women with guideline-compliant versus non-guideline compliant treatment*
- **Alopecia Areata study-a-thon**
  - *To identify & characterise a cohort of European patients diagnosed with AA*
- **Paediatrics research**
  - *To identify data sources suitable for paediatric studies – characterise and generate background rates of selected phenotypes in paediatric and adult subjects*
- **EHDEN Mega-Study**
  - *To describe the incidence and prevalence of medicines with suggested shortages between 2015 and 2023*
  - *To characterise incident users of medicines with suggested shortages between 2015 and 2023*

EHDEN AS A CONNECTED COMMUNITY

1 Webpage with all the latest news

2 Monthly BLOG

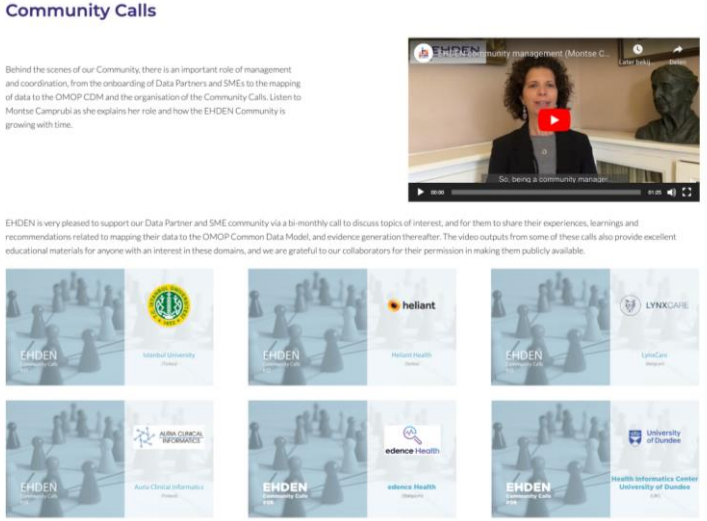


3 Podcast

THE VOICE OF EHDEN
EUROPEAN HEALTH DATA & EVIDENCE NETWORK
Ethics, Legal & Social Implications

4 Social media

5 Meetings dedicated to our Community



THE VOICE OF EHDEN
EUROPEAN HEALTH DATA & EVIDENCE NETWORK
season 4

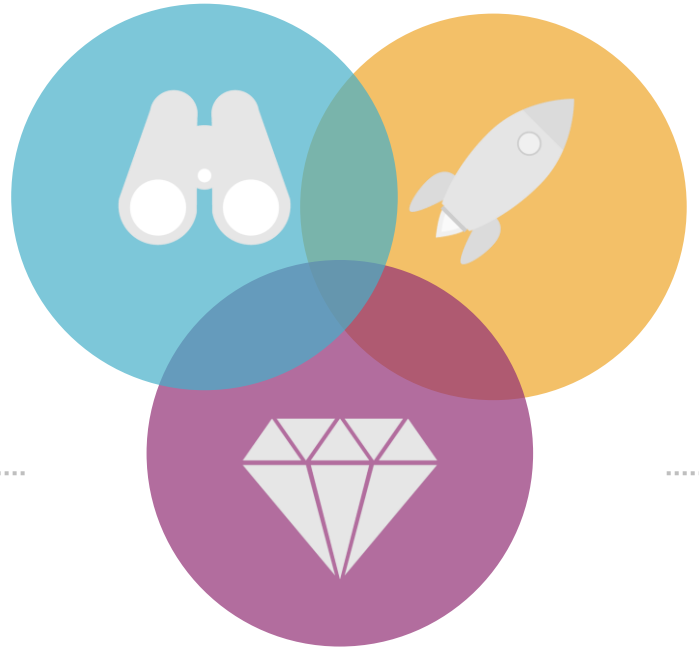
FUTURE OF EHDEN

- Need for high-quality RWE increasing and recognised by all stakeholders.
- Project’s legacy needs to be sustained and further developed.
- IMI consortium construct creates huge opportunities to fuel and build this system but enabling it for external collaborations requires a different focus of resources.
- Acting on sustainability now is the best way to ensure smooth and progressive transition to a project after-life.
- Legal entity in the Netherlands established in late 2021 (EHDEN Foundation)
- Consistent with the EHDEN project's vision, workplan and results
- Flexible and scalable by design to prepare for the future

Vision and Mission

Vision

The EHDEN Foundation aspires to be the trusted key actor in Europe to facilitate and accelerate the generation of high-quality real-world evidence to improve healthcare of patients



Mission

Our mission is to operationalize a new paradigm for the discovery and analysis of health data, building on a large-scale federated network of data sources standardised to the OMOP common data model .

Values

Innovative

Professional

Inclusive

Independent

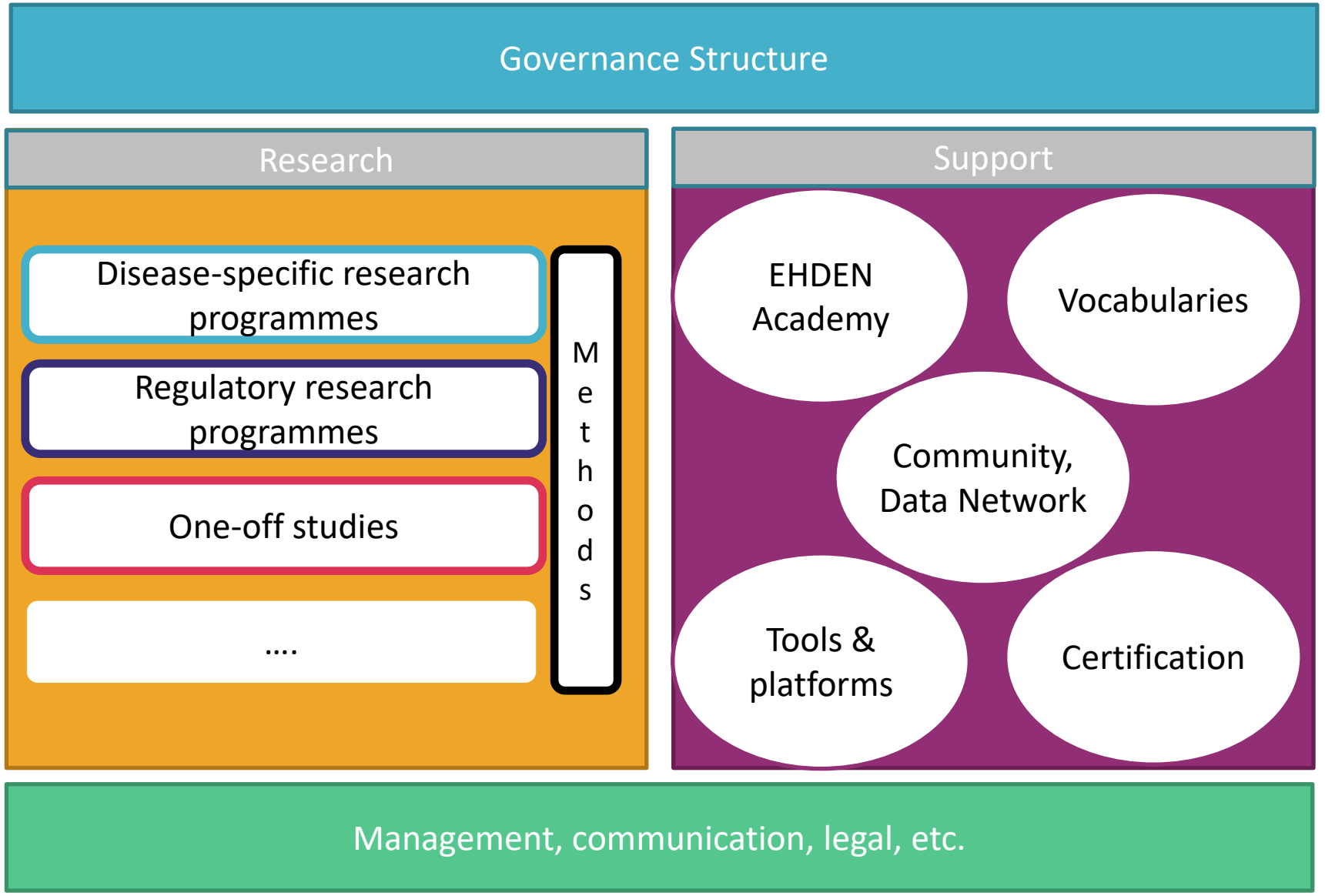
Trustworthy

Actionable

Efficient

Passionate

EHDEN Foundation blueprint



EHDEN Foundation – Initial Pilot Services

Advisory	Guidance or advice, e.g., preliminary study exploration, or methodological
Data Landscaping	Provisional look at Data Partner network datasets, e.g., variable detection
Feasibility	Feasibility study/studies on likelihood of full study implementation
Simple Studies	Rapid, quick to deploy studies, dashboards and/or recurrent
Complex Studies	More time consuming, complicated (methodologically) and with customisations
Study-a-thon	Deployment of study-a-thons as in-house study/training events
Research Programmes	Public Private Partnerships, multi-year research programmes in specific TAs

CURRENT STATUS

- Initiation of the first Research Programme on Neuroscience
- Discussing EHDEN value streams for transition to Foundation (training, certification, studies, tools…)
- Managing considerable interest from industry for all services
- Piloting procedures and workflows for prioritised services
- Setting up core team, support team, consultants, etc.
- Establishing MoU (as precedent to Collaboration Agreements) with interested Data Partners
- Participation in Horizon Europe Calls

EHDEN Foundation

- EHDEN, in liaison with OHDSI, has been a a driving force contributing to the European uptake of OMOP CDM
- Impressive array of results on all pillars: data network, methods, training, tools and evidence generation
- EHDEN Foundation aims to leverage the network created for real-world implementation and ultimate patient benefit

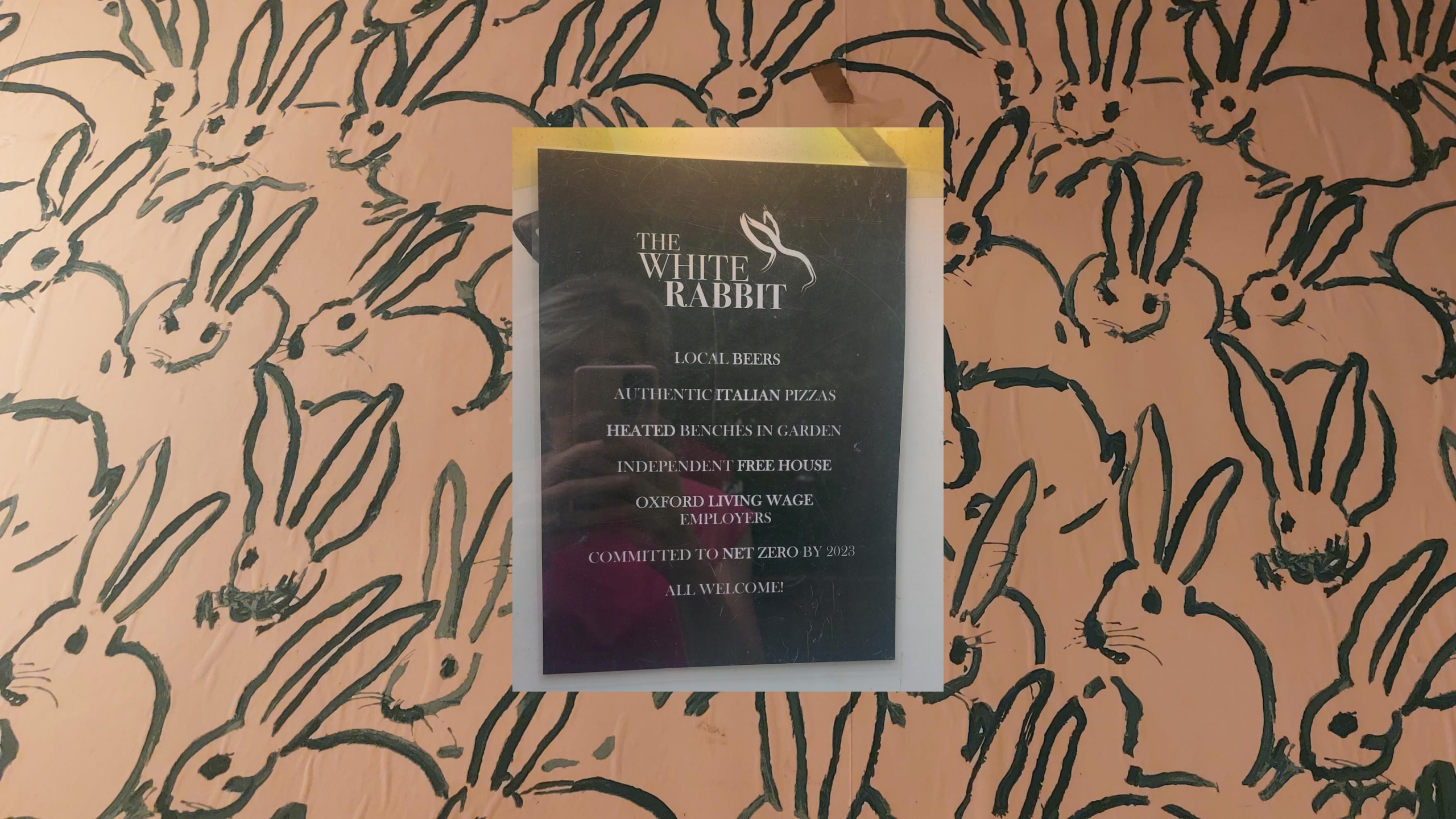
www.ehden.eu

@IMI_EHDEN

IMI_EHDEN

github.com/EHDEN

This project has received funding from the Innovative Medicines Initiative 2 Joint Undertaking (JU) under grant agreement No 806968. The JU receives support from the European Union's Horizon 2020 research and innovation programme and EFPIA.


THE WHITE RABBIT
LOCAL BEERS
AUTHENTIC ITALIAN PIZZAS
HEATED BENCHES IN GARDEN
INDEPENDENT FREE HOUSE
OXFORD LIVING WAGE EMPLOYERS
COMMITTED TO NET ZERO BY 2023
ALL WELCOME!

Harmonizing rare cancer data within EURACAN

Dr. Maaike van Swieten

IKNL

European Reference Network

https://euracan.eu

Harmonizing rare cancer data within EURACAN

Dr. Maaike van Swieten

Clinical Data Scientist (IKNL)

KWF Funded by the EU

Outline

- EURACAN Introduction
- Data Harmonization Strategy
- Challenges in Data Harmonization
- Overcoming Challenges
- Putting it into perspective
- Conclusion & Next Steps

Background

EURACAN (European Reference Network for Rare Adult Solid Cancers) is a **collaborative initiative** aimed at improving the diagnosis, treatment, and research of **rare adult solid cancers** across Europe.

- Low incidence (less than 6 per 100 000 people)
- Diverse clinical manifestations
- 25% of all cancer diagnoses

» **Lack of data interoperability**

Two EURACAN projects: Blueberry & IDEA4RC

Blueberry

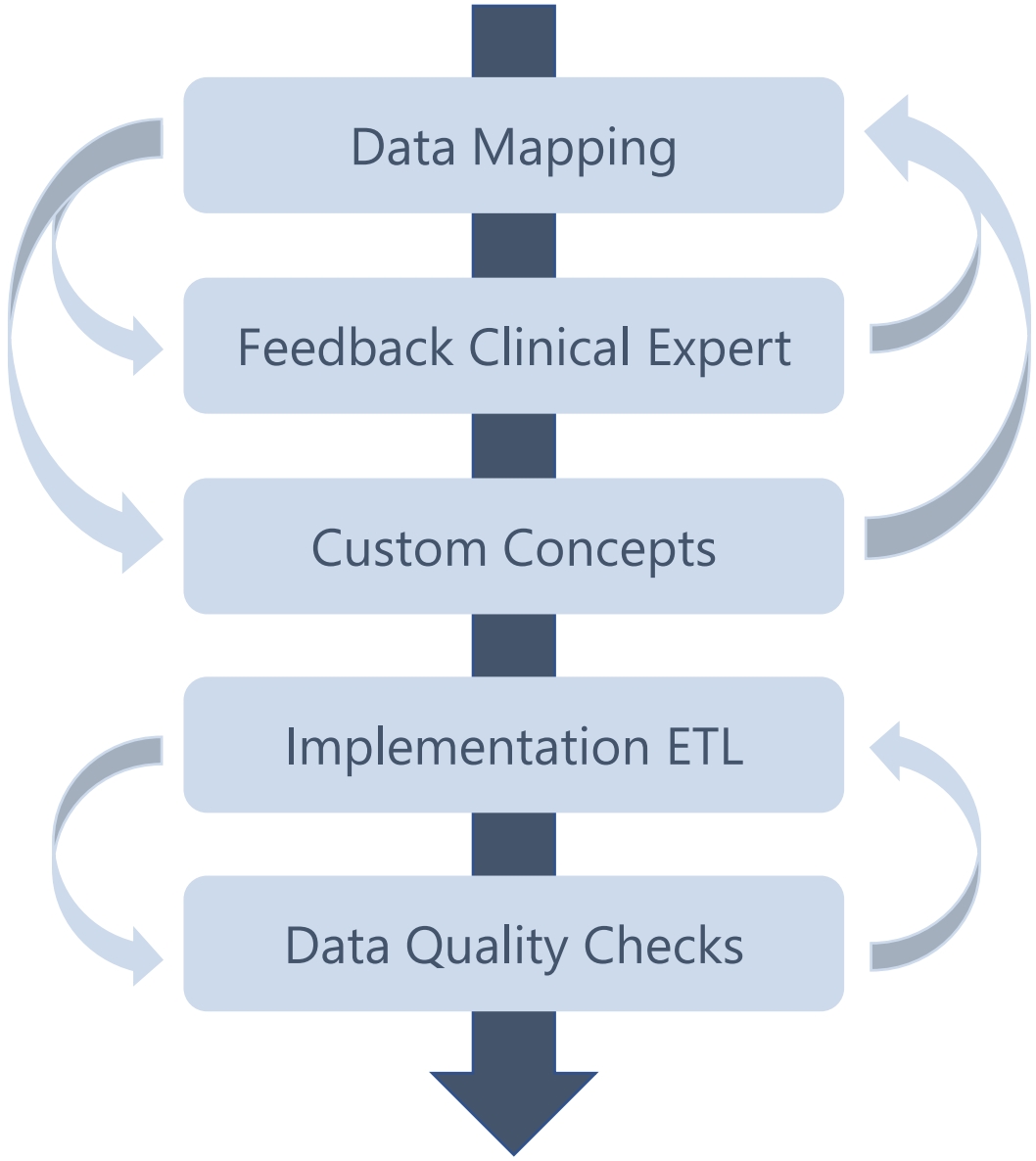
- Blueprint for a sustainable, effective, scalable EURACAN registry
- 7 data partners
- OMOP CDM

IDEA4RC

- An intelligent data ecosystem for rare cancers
- 25 partners from 12 European countries
- FHIR and OMOP CDM

From health data to registry data

Data Harmonization Strategy

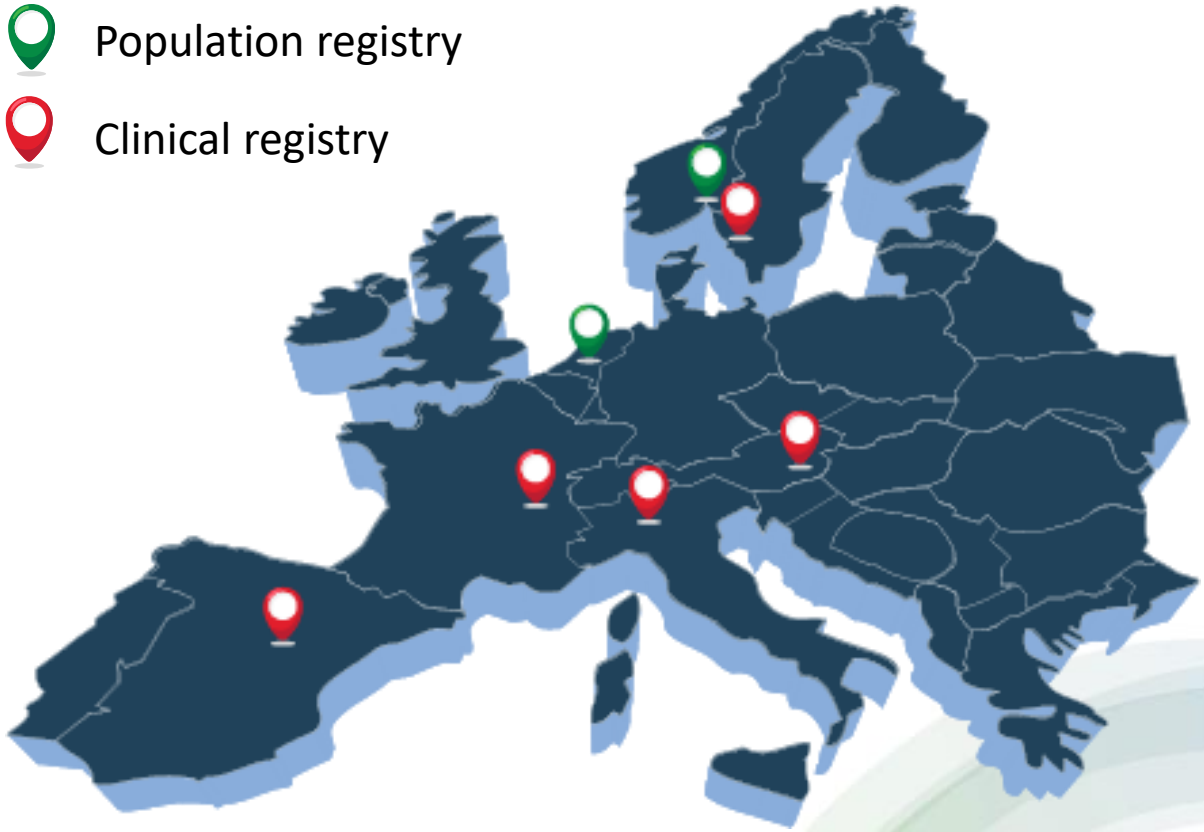


Challenges in Data Harmonization

- Missing data elements
- Data heterogeneity
- Data quality

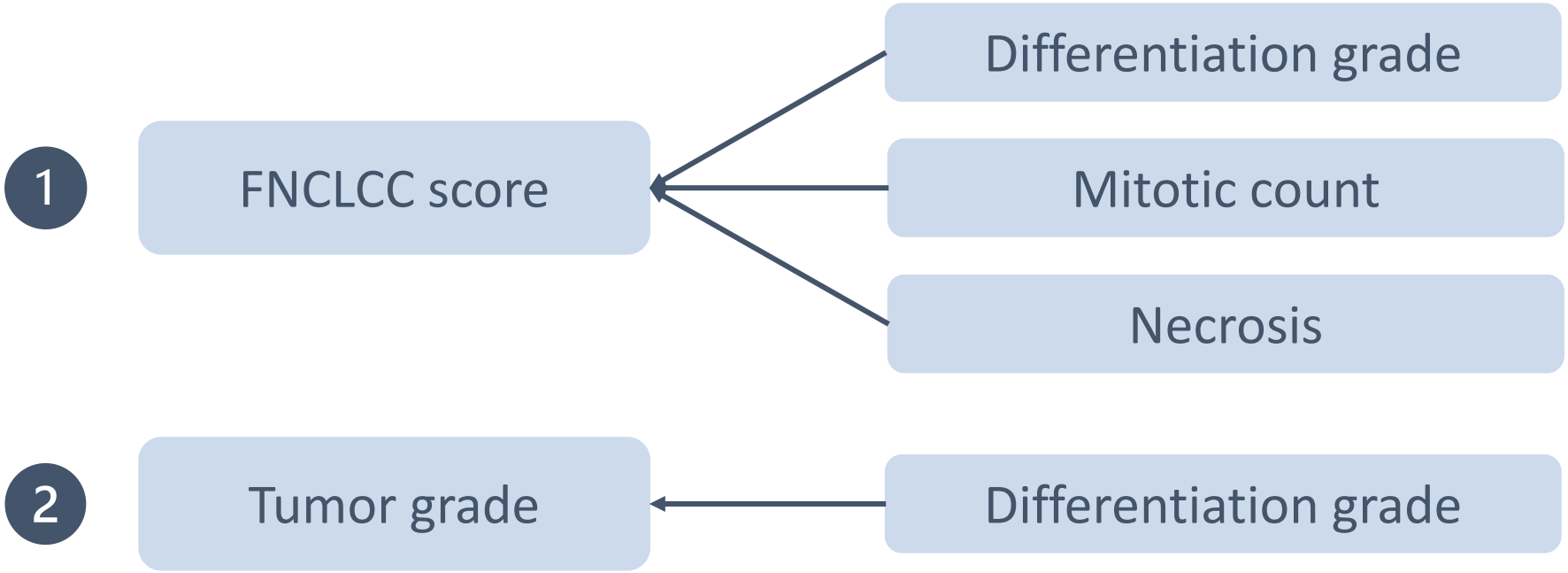
Population registries vs Clinical registries

- Patient specific data
- Risk factors and co-morbidities
- Disease specific data
- Treatment related information
- Follow up information

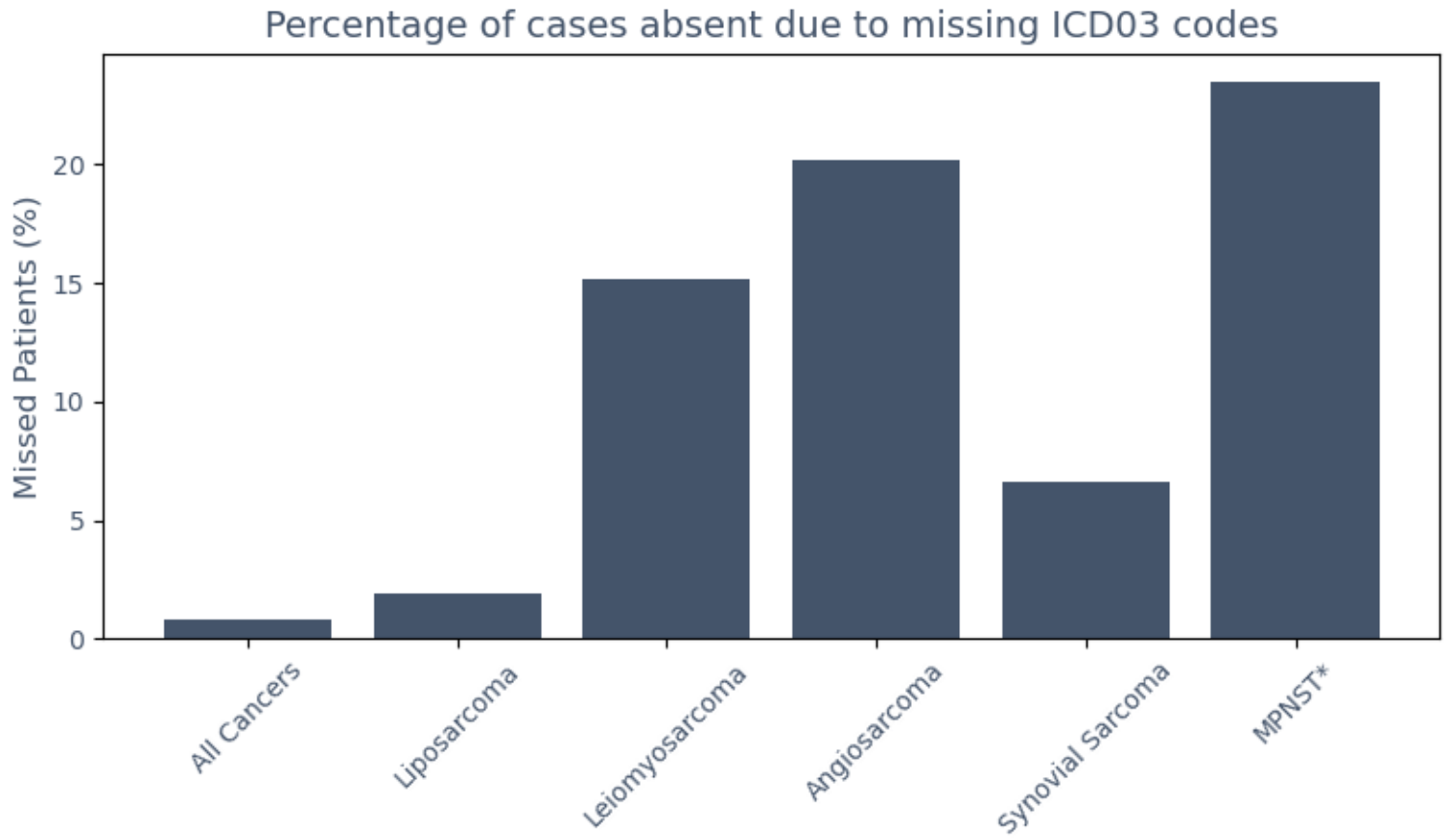


Different data coding systems

Tumor grade



Data that cannot be converted to OMOP CDM



*mpnst: malignant peripheral nerve sheath tumor.

Overcoming challenges

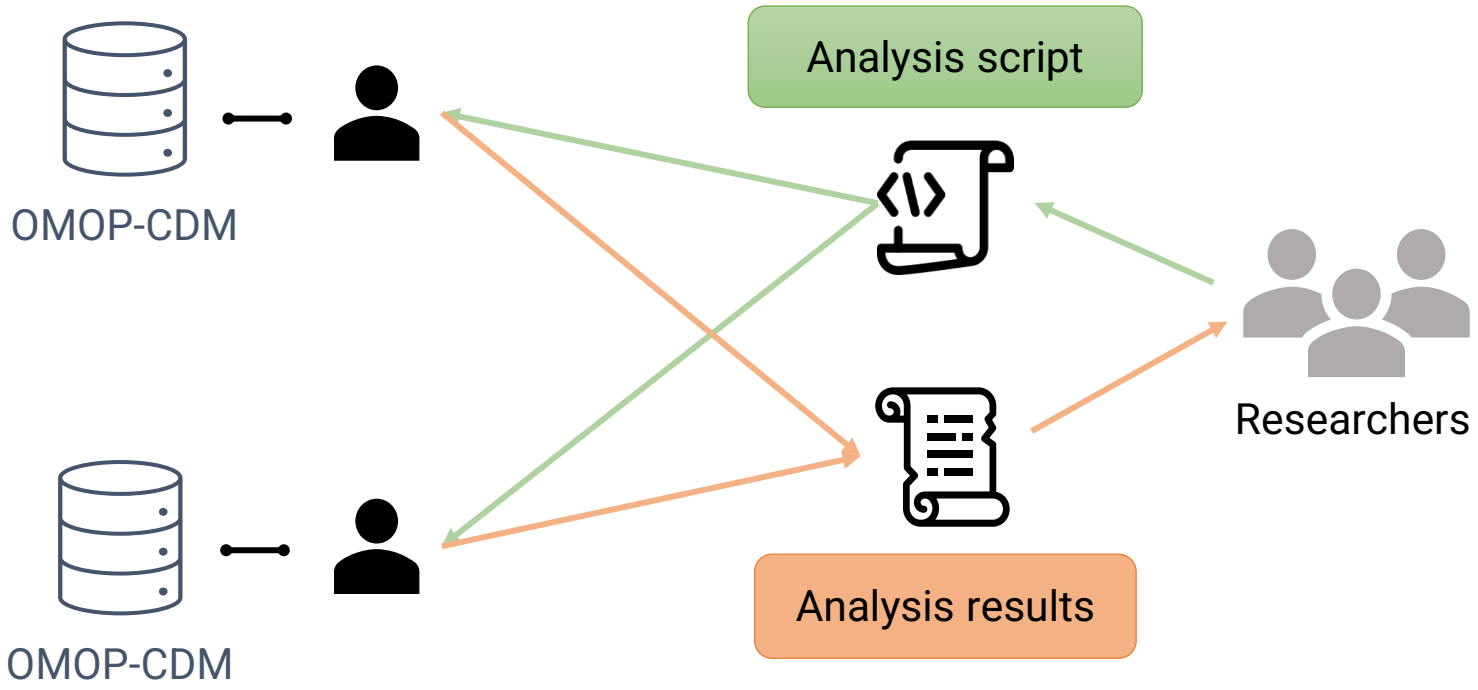
- Collaborative efforts with the **OHDSI community**
  - Model implementation validation
  - Vocabulary extensions
- Collaborative efforts **within the network**
  - Mapping & Data Quality
  - Model implementation validation
  - Expert knowledge from clinicians and data experts
- Collaborative effort with **EHDEN**
  - Ontology platform for semantic mapping

Putting it into Perspective

- Governance and Legal Framework
- Implementation of a federated learning network
- Use case implementation
- Valorization and Financial Sustainability

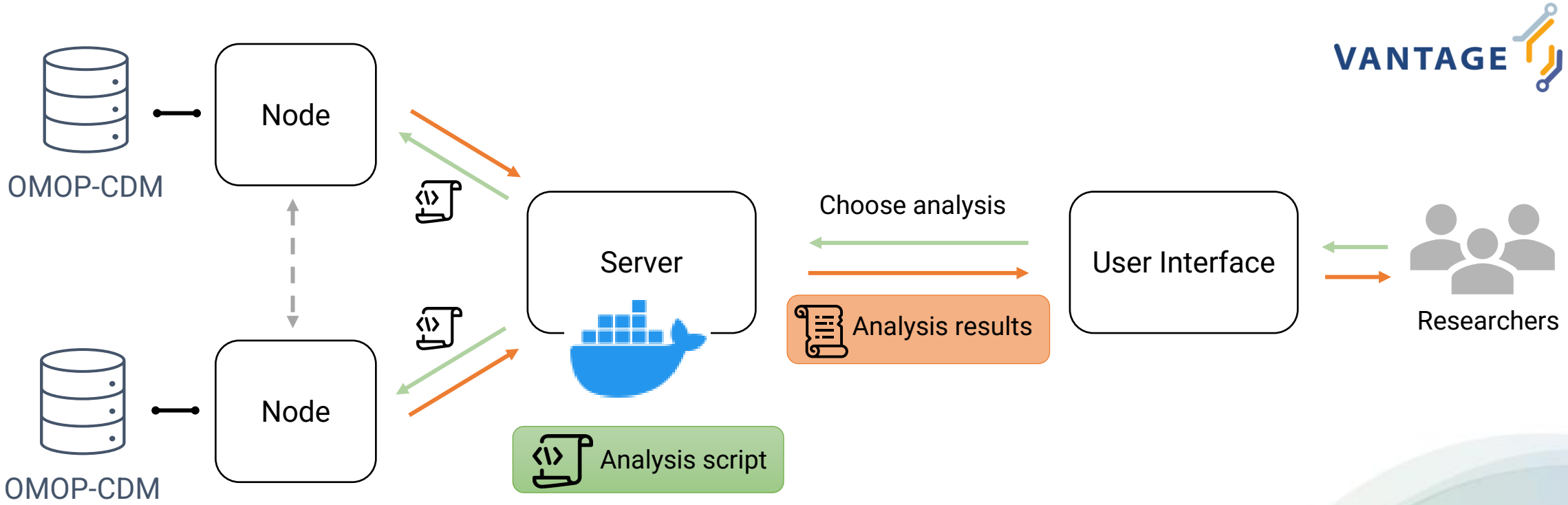
From health data to registry data

From registry data to OHDSI network



Each data partner runs the same script locally and sends back the results

From registry data to federated learning network



‘Grouped’ analysis of different data sources as if data is stored locally

Sarcoma use cases

1. **Simple use case**

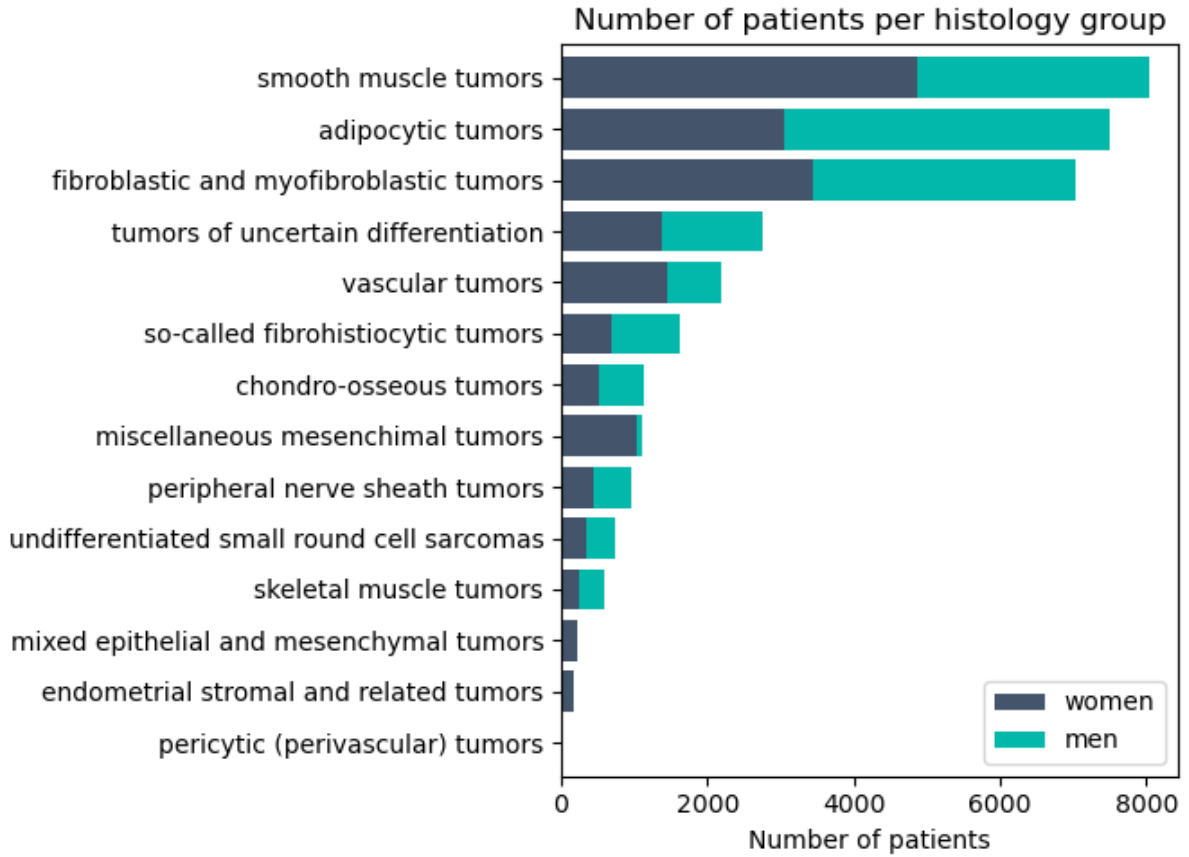
   > Distribution of patients

2. **Clinically relevant use case**

   > RWE of STRASSII trial

3. **Sustainability relevant use case**

   > Improve SARCULATOR app



Conclusion & Next Steps

- 4 out 7 data sources converted

- First successful study-a-thon in May 2023

- Finalize OMOP conversion for remaining partners
- Implement federated learning network
- Execute the use cases

Acknowledgements

m.vanswieten@iknl.nl

EHDEN EUROPEAN HEALTH DATA & EVIDENCE NETWORK
KWF
Funded by the EU
Hospital Universitario Fundación Jiménez Díaz Grupo quirónsalud
BIOMERIS
FONDAZIONE IRCCS ISTITUTO NAZIONALE DEI TUMORI
NKR 30 jaar Nederlandse Kankerregistratie
Medical University of Graz
Oslo University Hospital
CENTRE DE LUTTE CONTRE LE CANCER LEON BERARD
VÄSTRA GÖTALANDSREGIONEN SAHLGRENSKA UNIVERSITETSSJUKHUSET
OHDSI OBSERVATIONAL HEALTH DATA SCIENCES AND INFORMATICS
IDEA4RC
BlueBerry a blueprint for the EURACAN registry

National Nodes

- Belgium
- Germany
- Greece
- Italy
- Luxemburg
- Netherlands
- Portugal
- Spain
- United Kingdom

HONEUR: Building a federated network in haematology

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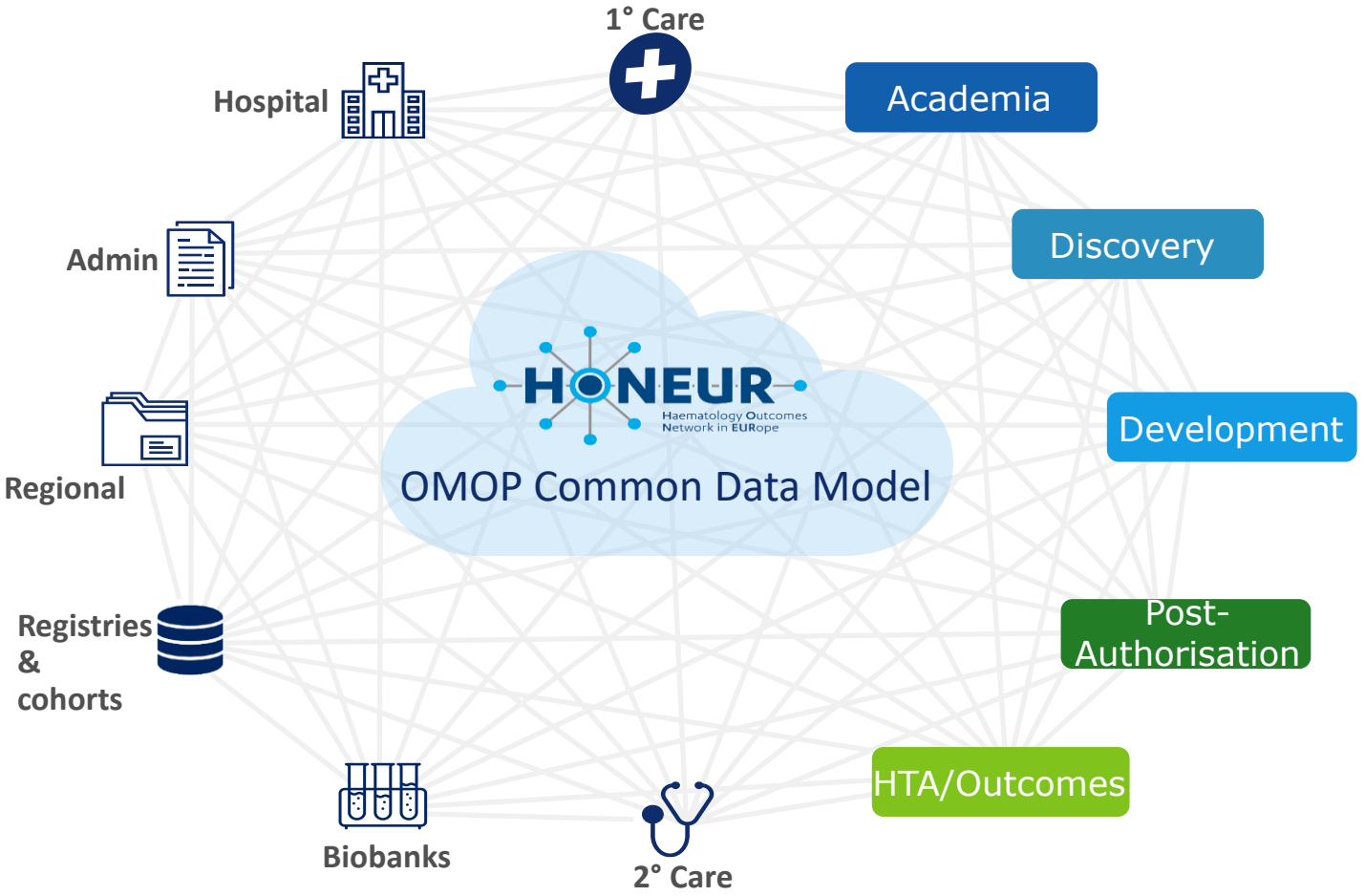
Janssen Pharmaceutica

A Federated Data Network for the study of Haematological Diseases

Michel Van Speybroeck | Janssen Pharmaceutica

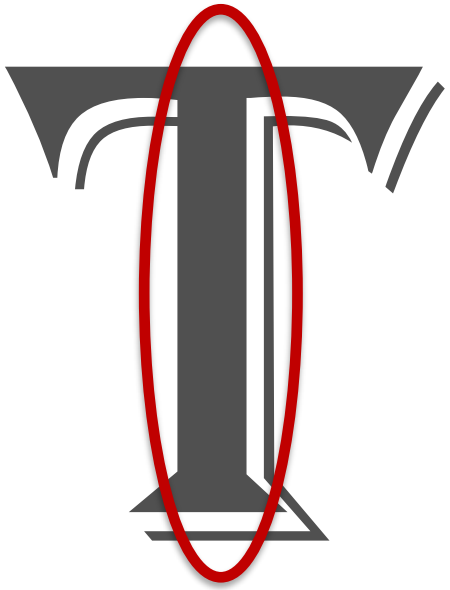
CP-398022
Preparation date: 27Jun 23

What is HONEUR?



A federated data network of real world datasets in haematological diseases in Europe

Working with Disease Specific Datasets

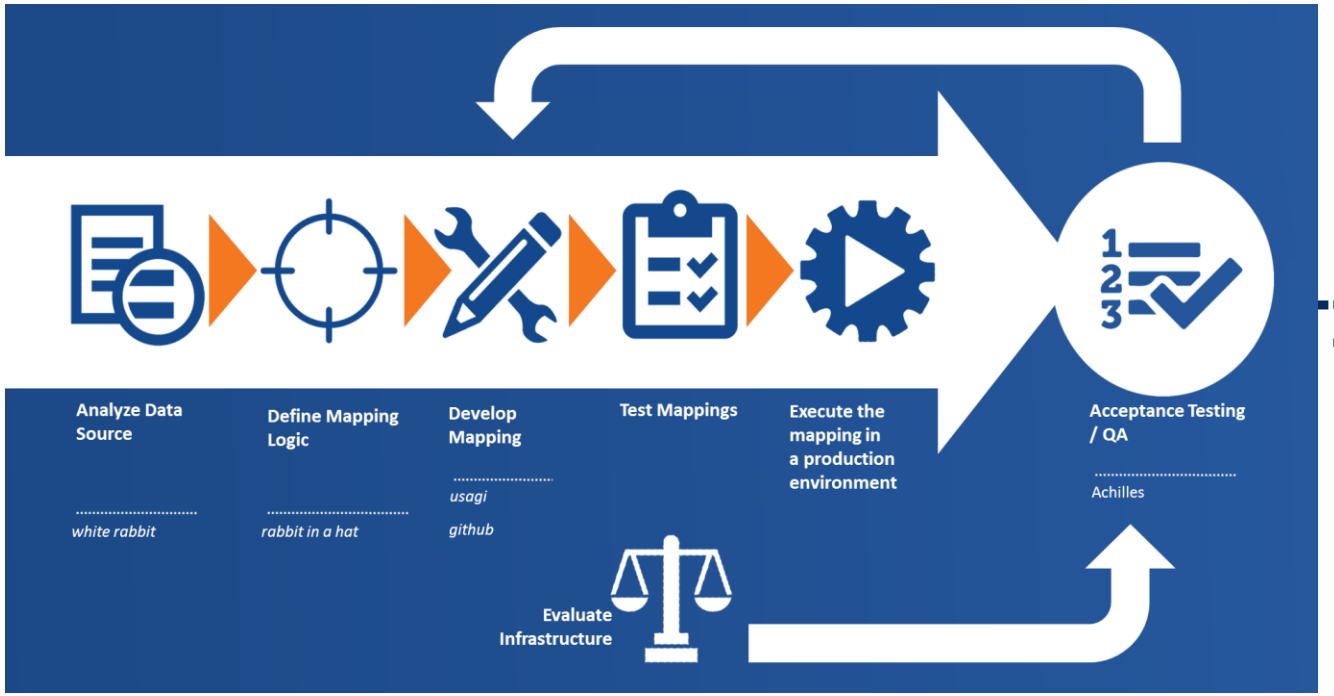


Focus on deep clinical data:

- Specific variables that are often not available as structured data:
  - Regimens across different lines of treatment
  - Response / Minimal Residual Disease
  - Staging
  - Information on lesions (#, size, ..)
  - Cytogenetic risk factors
  - Reason for stopping a regimen

- Important variables can often be in text -> manual curation

Scaling of OMOP'ing in haematology



TION (YET)

- The mapping is coordinated by one single team with predefined conventions
- Predefined variables of interest
- DQD extended to check on conventions
- Data profiler to get insight into mapped data

HONEUR Architecture – the central infrastructure

HONEUR Website

Portal

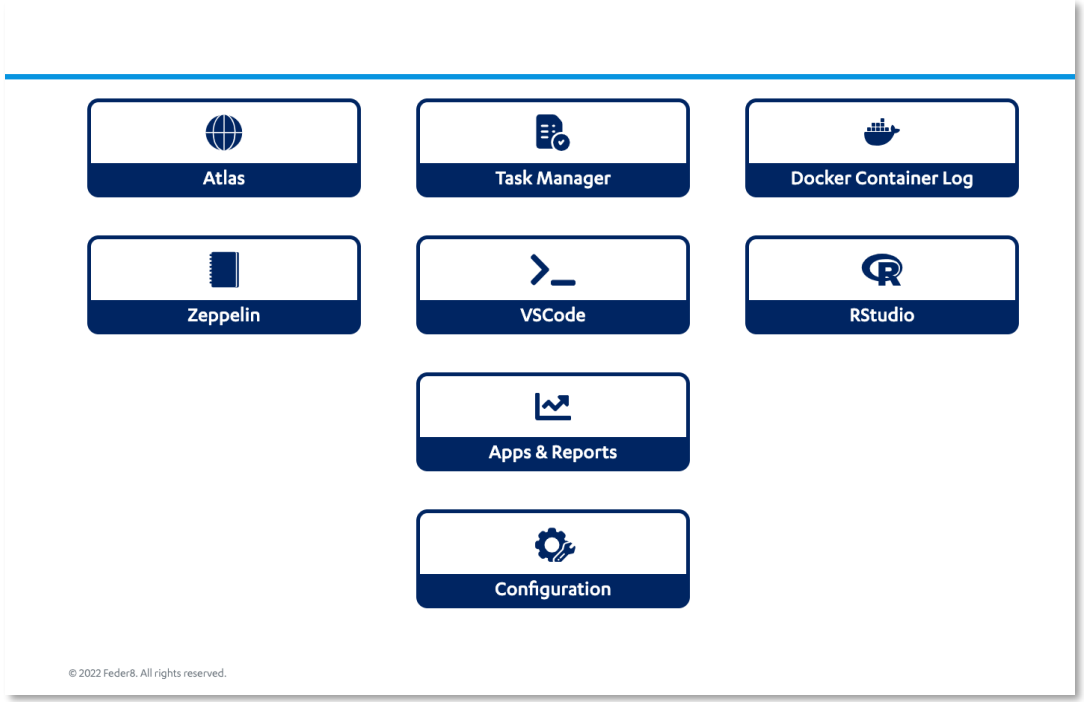
Data Catalogue — Metadata and high-level aggregate data about

Study Catalogue — Definition of studies, selection of data partners, exchange of scripts and results

Dataset Profiler — Univariate stats on data across participating sites

Concept browser — Availability of variables across different data partners

HONEUR Architecture – local infrastructure



OMOP instance for HONEUR

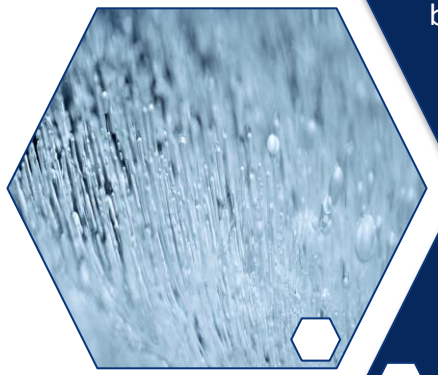
Script execution:
- As docker containers
- R scripts
- Python scripts

Local dashboards (Posit , Streamlit, Dash, Notebook)

Configuration: API, database connection, central account

Cornerstones of our approach

Traceability:
Results can be tied back to a script and to a particular data-cut

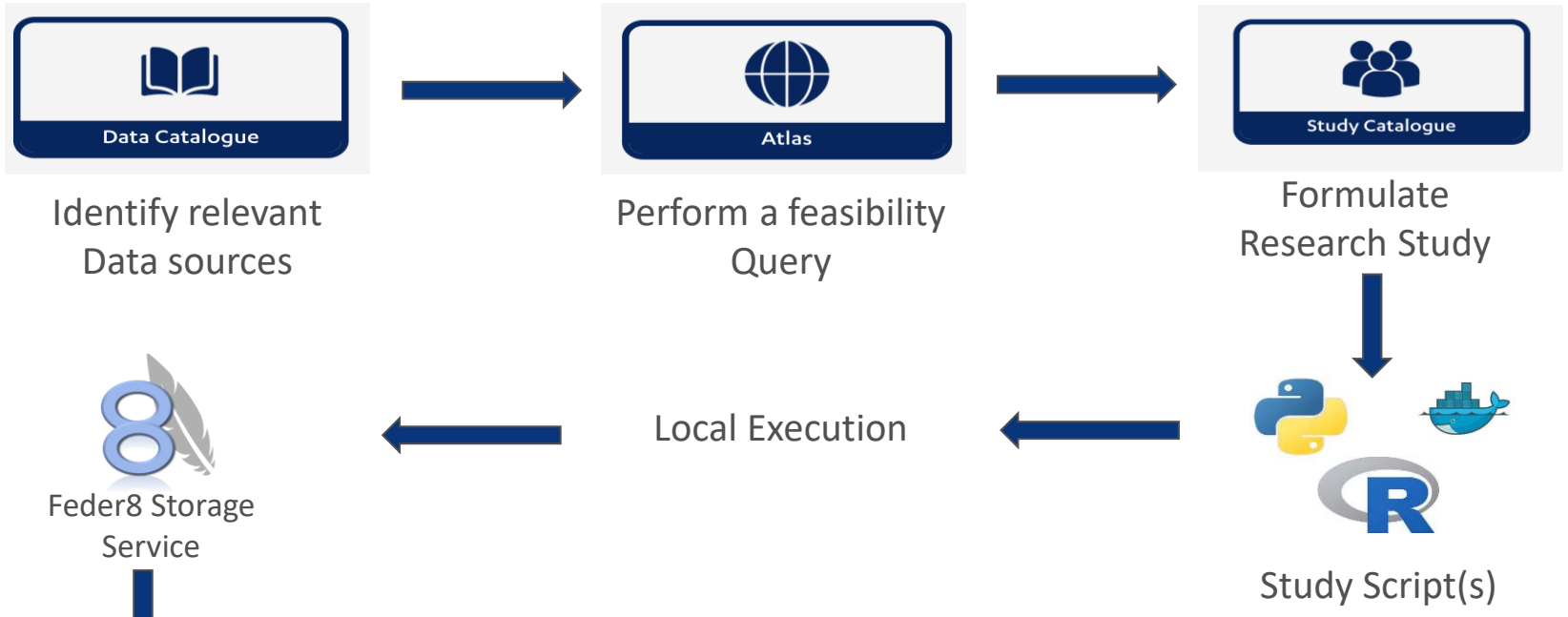


Ease-of-use:
Execute with the 'click of a button'to avoid ad-hoc adptations

Reliability:
We must ensure that the shared code, is also what is executed

Transparency:
Data Partner(s) must be able to see what they are asked /agreed to execute

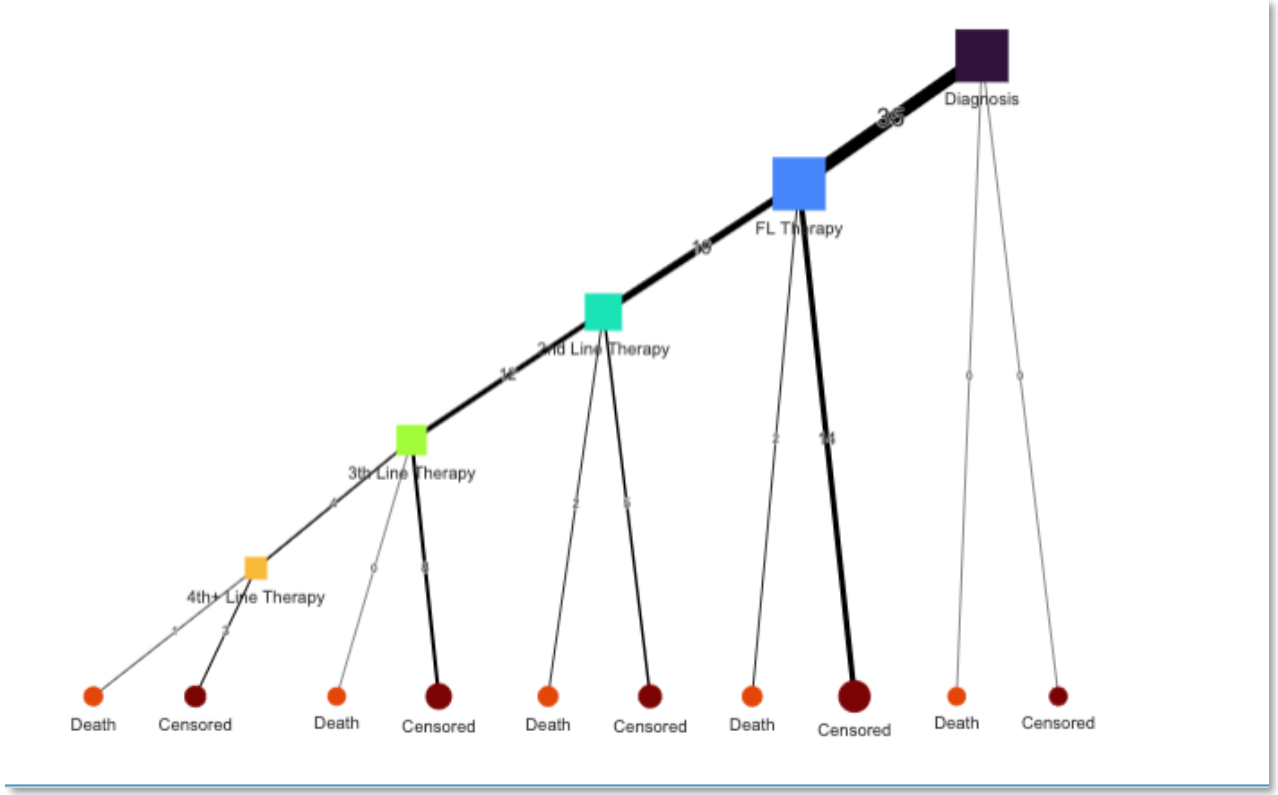
From feasibility to result – technical flow



Aside the technical flow, the governance aspect includes an HONEUR board, forum and study Working group

Analysing your own data – Disease Trajectory Analyser (DiTrAn)

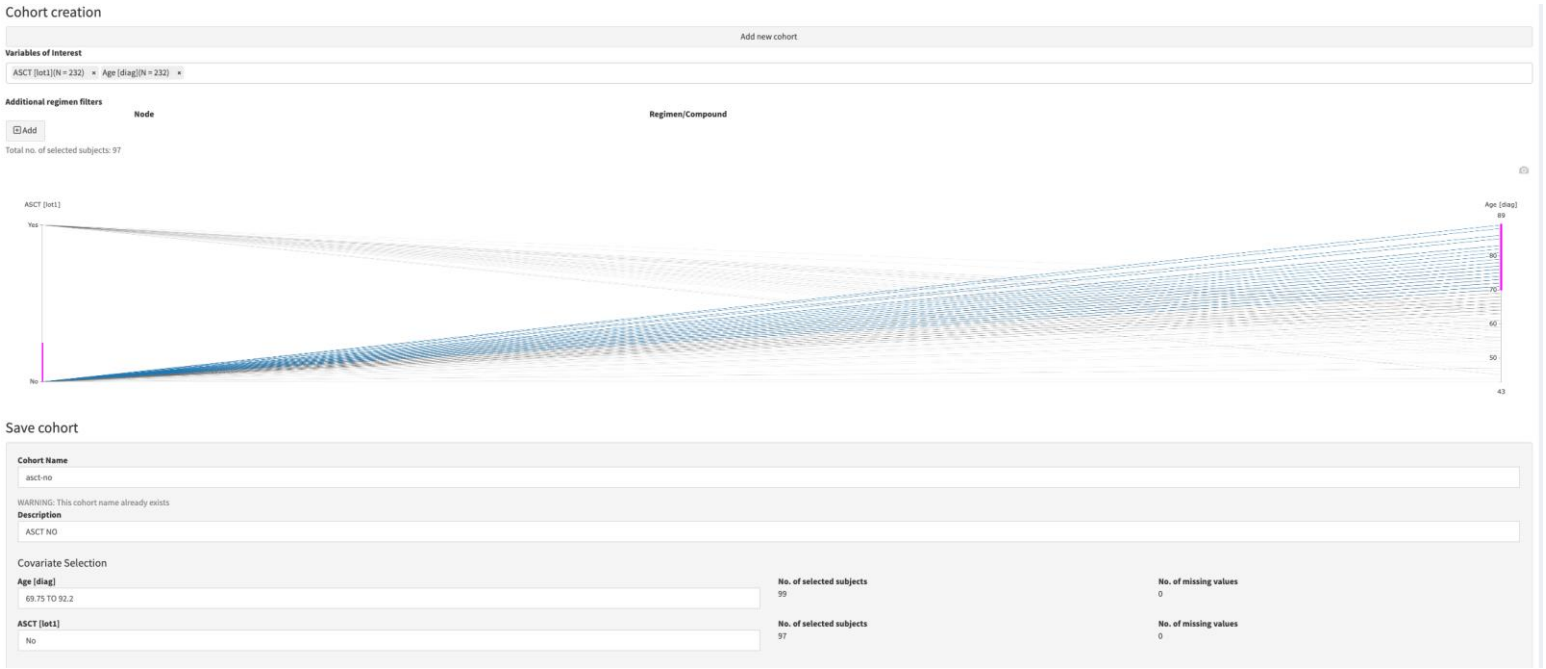
DiTrAn allows the clinical expert, non-technical user to see and explore her/his own data



- On basis of a custom clinical event model
- OMOP data are re-mapped to this event model
- Descriptive stats, treatment analysis, time-to-event analysis
- Flexible cohort definitions
- Export of results (pdf, html, csv)

Cohort Creation in DiTrAn

- Integration with Atlas – import of cohorts
- From the clinical event model: any subgraph can be converted into a cohort
- Interactive cohort creation on list of selected attributes



Working with cohorts in DiTrAn

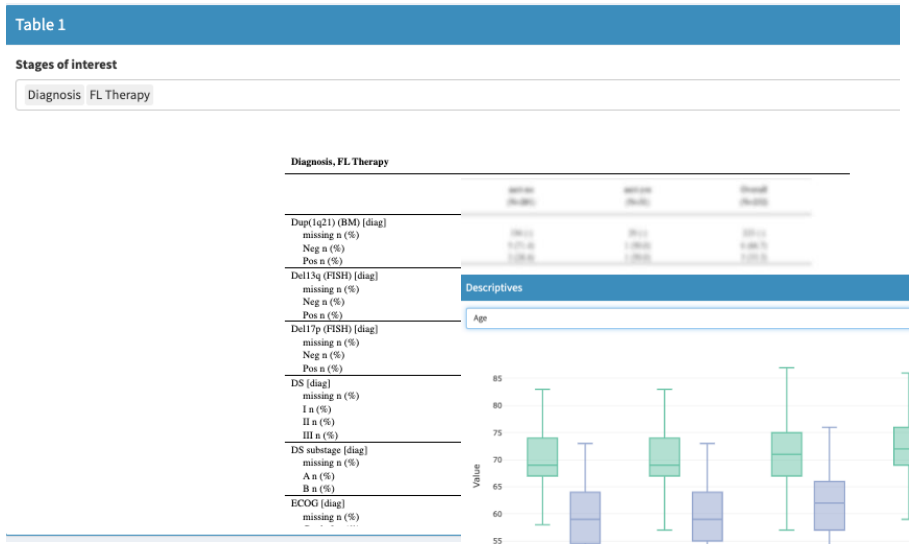
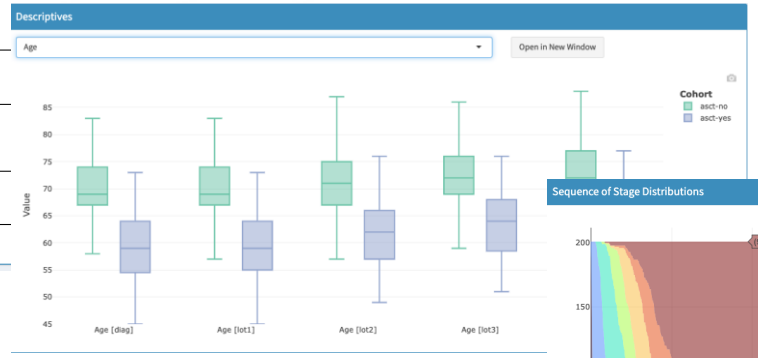
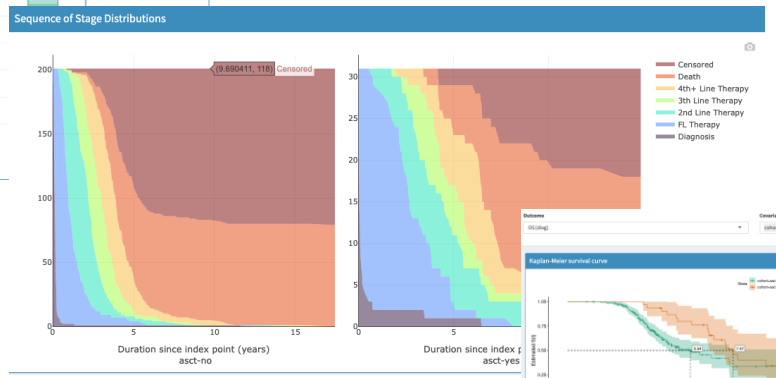


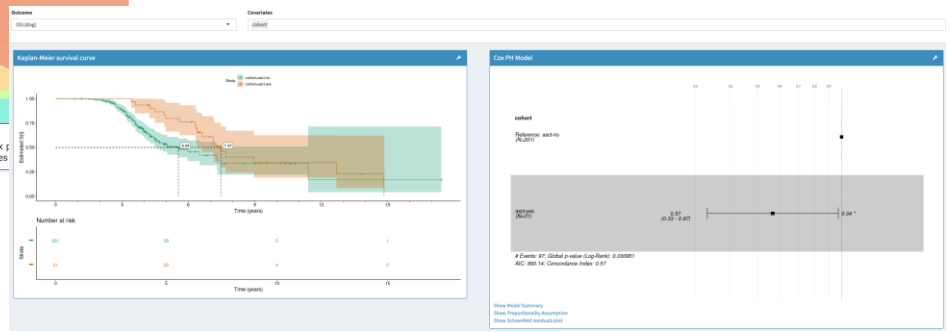
Table 1 format to compare different cohorts



Graphical format of evolution of variables across disease stages



Stage sequence diagram per cohort

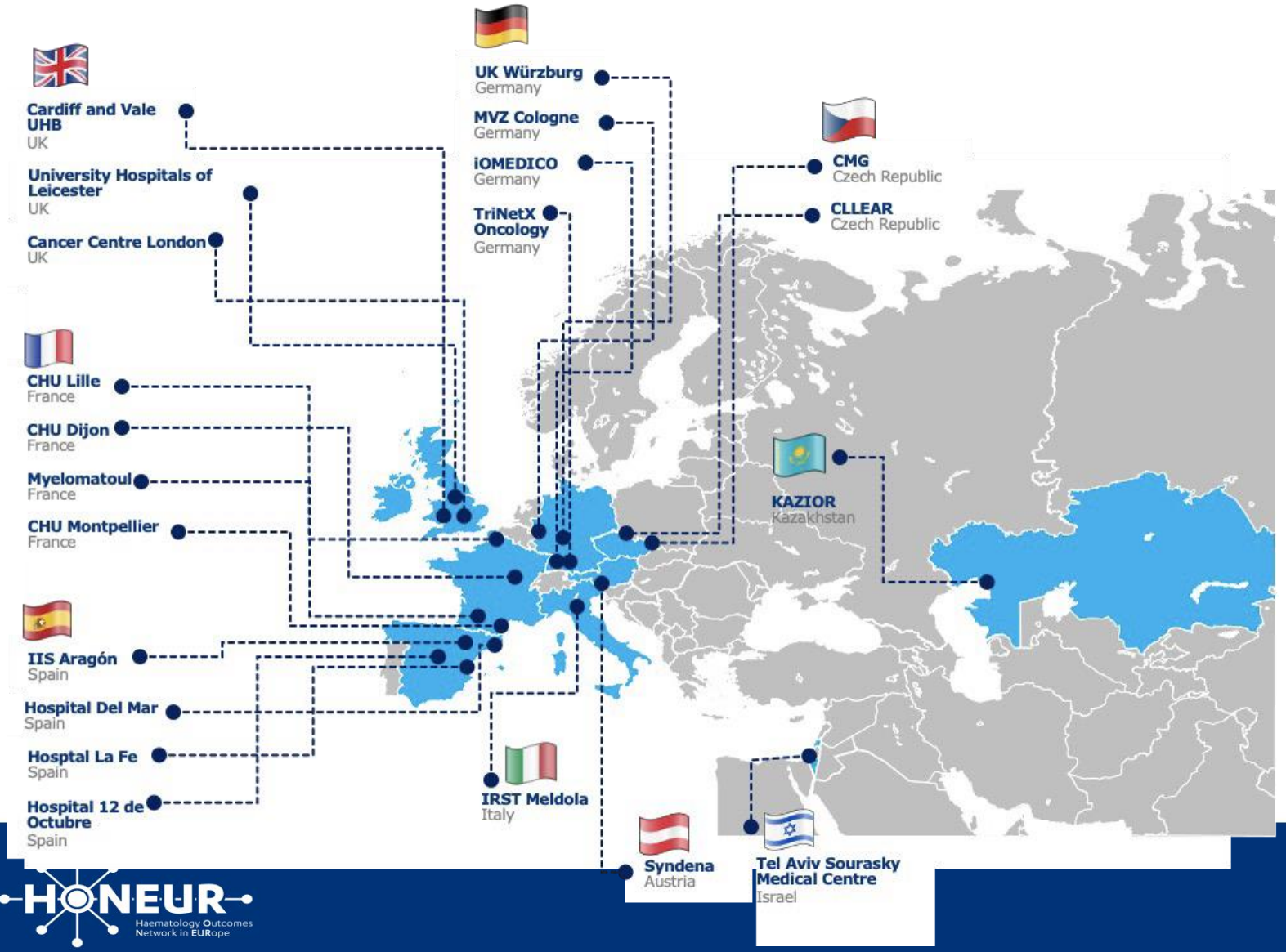


Outcomes analysis per cohort

What else…

- eCRF Lite solution for data enhancement
- Federated statistics
- Federated Machine Learning
- Application of synthetic data in the ETL process (underway)
- Integration of genomics data (underway)
- Integration of image analysis (just starting)
- Underlying platform - Feder8 setup across disease areas

Where are we now?



55,000 patients

21 partners

HONEUR
Haematology Outcomes Network in EURope

Janssen
Pharmaceutical Companies of Johnson & Johnson

Acknowledgements & Links

- The HONEUR core team: Kristina Bardenheuer, Solenn Salaun, Romy Goossens, Wout Vekemans, Ido Lapidot, Eric Schoenamsgruber, Cristian Benza

- The technical team: Peter Moorthamer, Shawn Gyina, Flavio Camarrone, Lars Halvorsen, Freija Descamps, Rehan Sonmez

- Our data partners

More information:

Bardenheuer, K., Van Speybroeck, M., Hague, C., Nikai, E., & Price, M. (2022). Haematology Outcomes Network in Europe (HONEUR)—A collaborative, interdisciplinary platform to harness the potential of real-world data in hematology. *European Journal of Haematology*, *109*(2), 138-145.

HONEUR
Haematology Outcomes Network in EURope

Thank you!

janssen
PHARMACEUTICAL COMPANIES OF
Johnson & Johnson

PIONEER and OPTIMA, two EU-IMI funded big data projects led by the European Association of Urology

Monique Roobol

Professor Decision Making in Urology, Erasmus MC

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PIONEER and **OPTIMA**, two EU-IMI funded big data projects led by the European Association of Urology

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www.prostate-pioneer.eu

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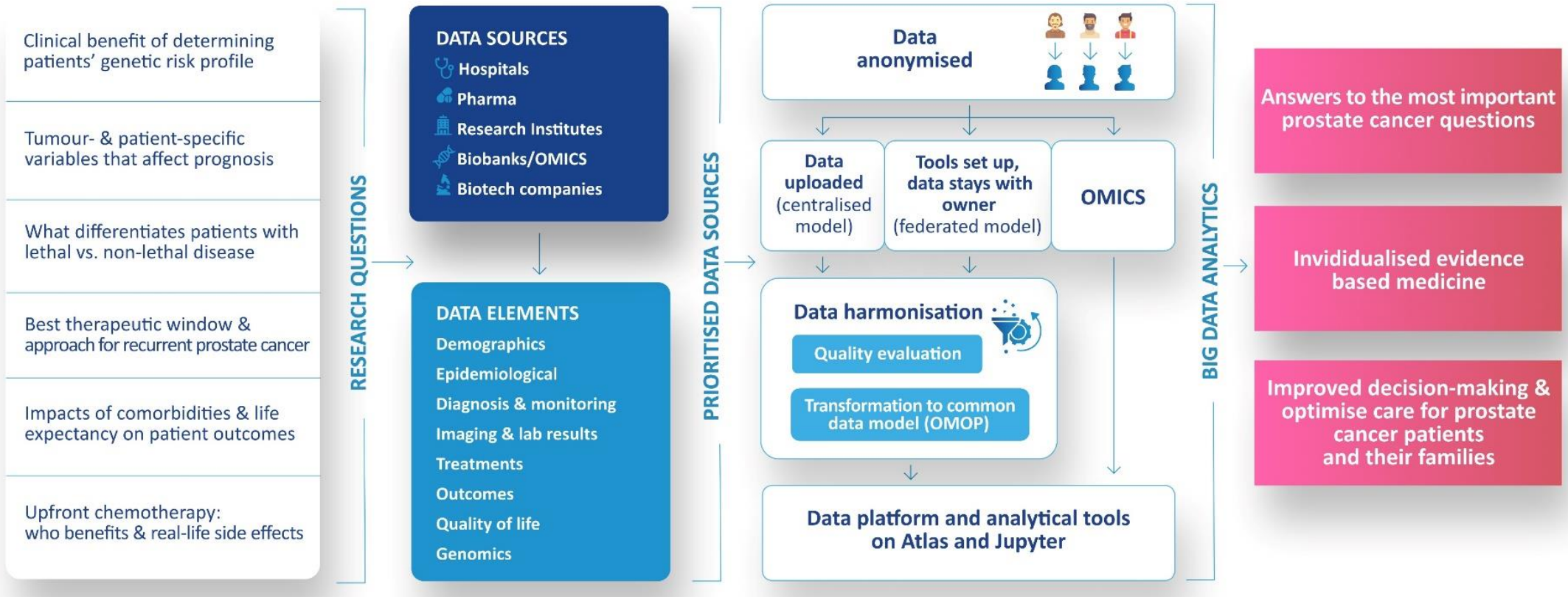
2018-2023

PIONEER

BIG DATA PLATFORM

THE EUROPEAN NETWORK OF EXCELLENCE FOR BIG DATA IN PROSTATE CANCER

Together we can ensure each individual patient receives the right treatment for them at the right time.



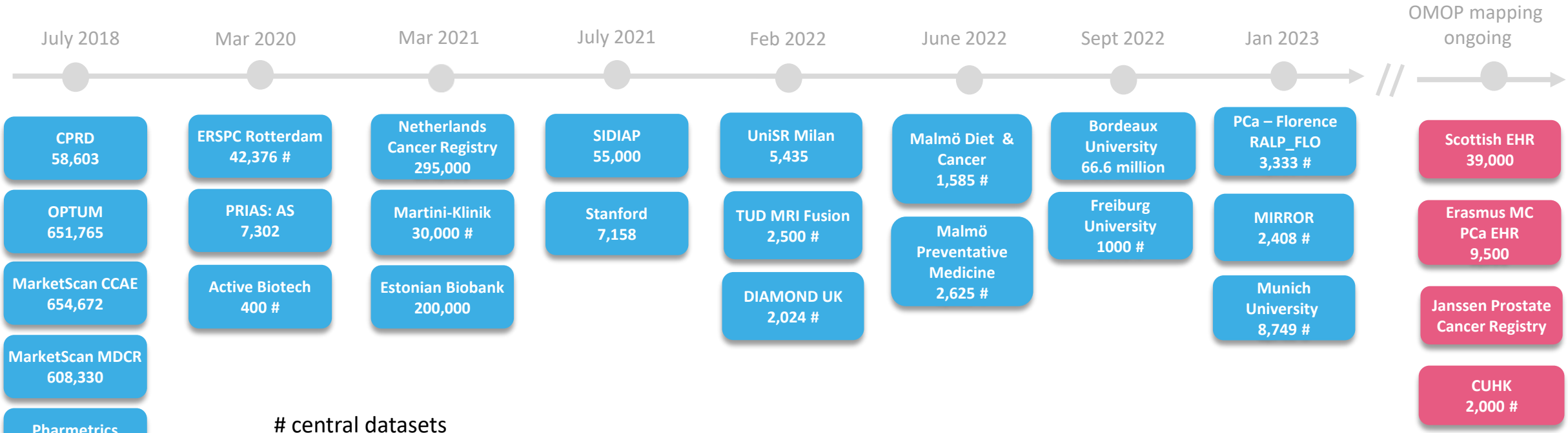
KNOWLEDGE GAPS | DATA SOURCES | BIG DATA PROCESSING | PIONEER OUTCOMES

PIONEER Data sources and access overview

- 95 Data sources identified
- 23 Datasets ready in platform
- 4 Datasets being OMOP mapped
- 1 Datasets in priority pipeline

Dataset onboarding to the PIONEER Platform

(number of prostate cancer patients per dataset shown)



central datasets

Studyathon 1

March 8th to 12th 2021

Collaborative effort:

PIONEER

OHDSI
OBSERVATIONAL HEALTH DATA SCIENCES AND INFORMATICS

EHDEN
EUROPEAN HEALTH DATA & EVIDENCE NETWORK

245 participants including patients
20 countries & 5 time zones
5 days

8 datasets
Initial cohort > 100,000,000

Studyathon 1 - A

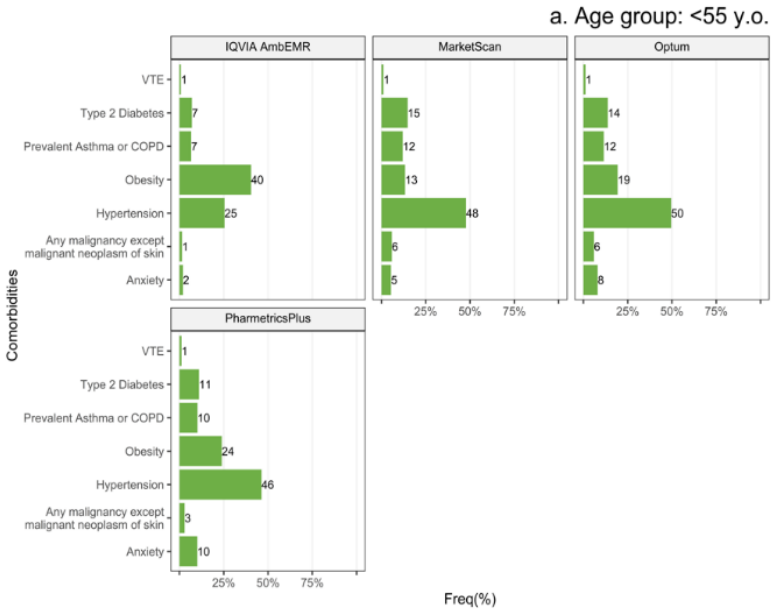
Objective: To describe the **clinical characteristics and long-term outcomes** of PCa patients **on conservative management** by using an international large network of real-world data.

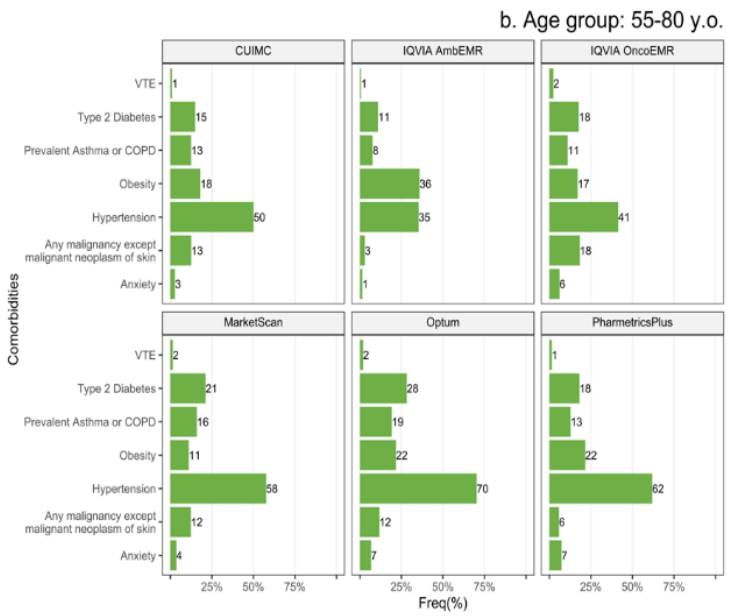
Design, setting & participants:

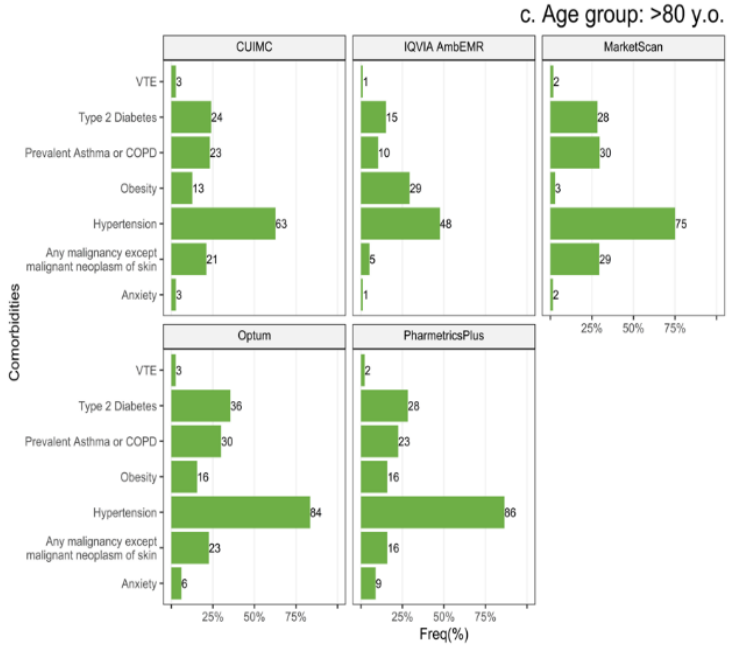
- Initial cohort > 100,000,000 adult subjects included in 8 databases
- From this 527,311 newly diagnosed PCa cases were identified
- **123,146** patients who did not receive curative or palliative treatment within six months from diagnosis were further selected

Studyathon 1 - A

Results : The most common comorbidities were hypertension (35-73%), obesity (9.2-54%) and type 2 diabetes (11-28%). The rate of PCa-related symptomatic progression ranged between 2.6-6.2%.

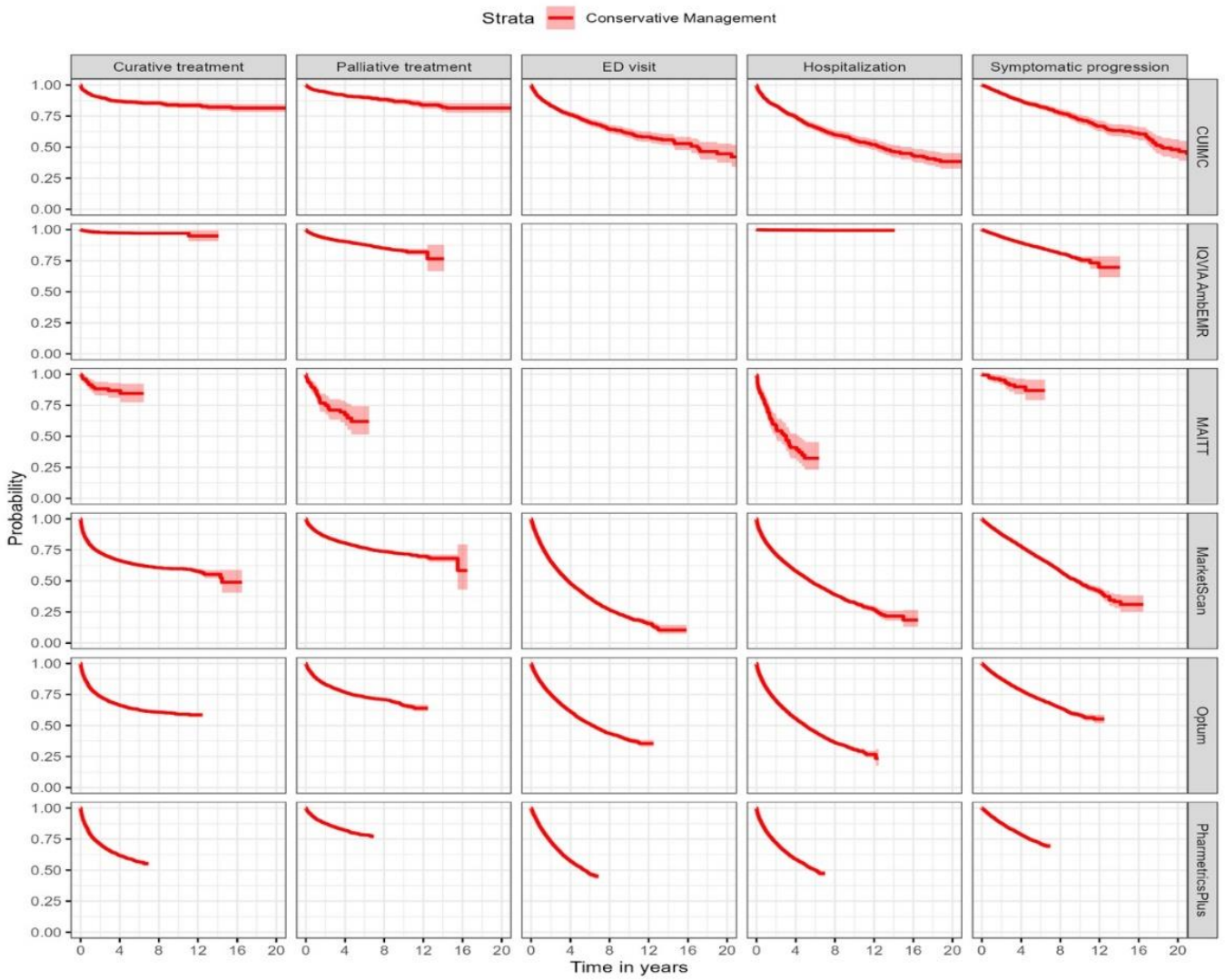






Studyathon 1 - A

Results : The probability of being free from both palliative and curative treatments decreased during follow-up.



Studyathon 1 - A

Conclusions:

- During the first year of follow up, up to 6% of men who were managed with conservative approach experienced PCa-related symptomatic progression, and up to 25% and 14% experienced a hospitalisation and ED events.
- The probability of receiving curative and palliative intent therapies decreased according to time elapsed between diagnosis and patient assessment.
- Older age and selected comorbidities identified patients at higher risk of adverse outcomes.
- Paper accepted (awaiting publication)

Studyathon 1 - B

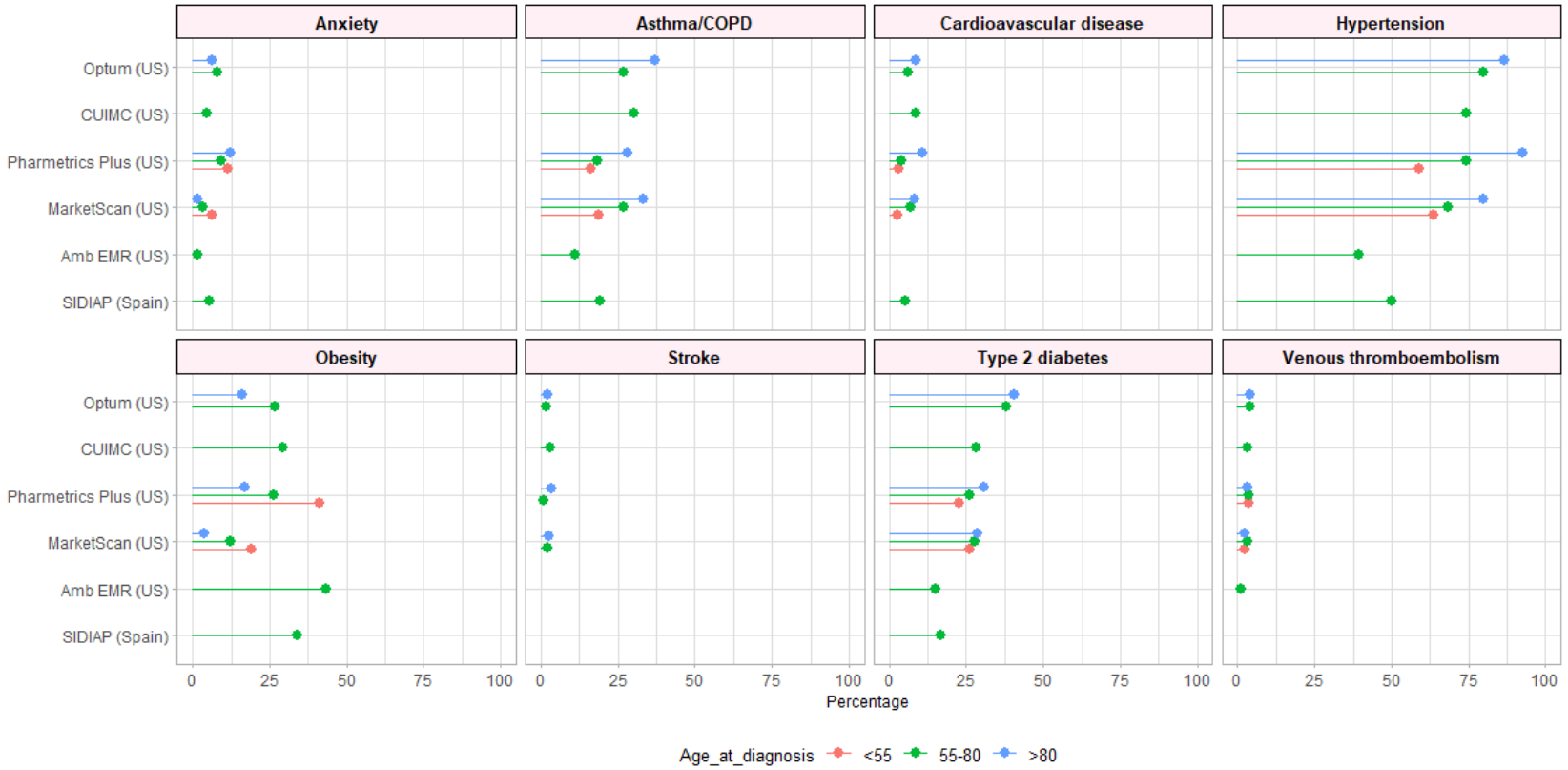
Objective: To describe **clinical baseline characteristics and outcomes** of PCa patients on **deferred palliative management** by using an international network of real-world data.

Design, setting & participants:

- Descriptive study of patients with a diagnosis of PCa on delayed management from 6 databases
- **17,659 men**, with a median age range of 68-75 and Charlson Comorbidity index of 5-8 were included

Studyathon 1 - B

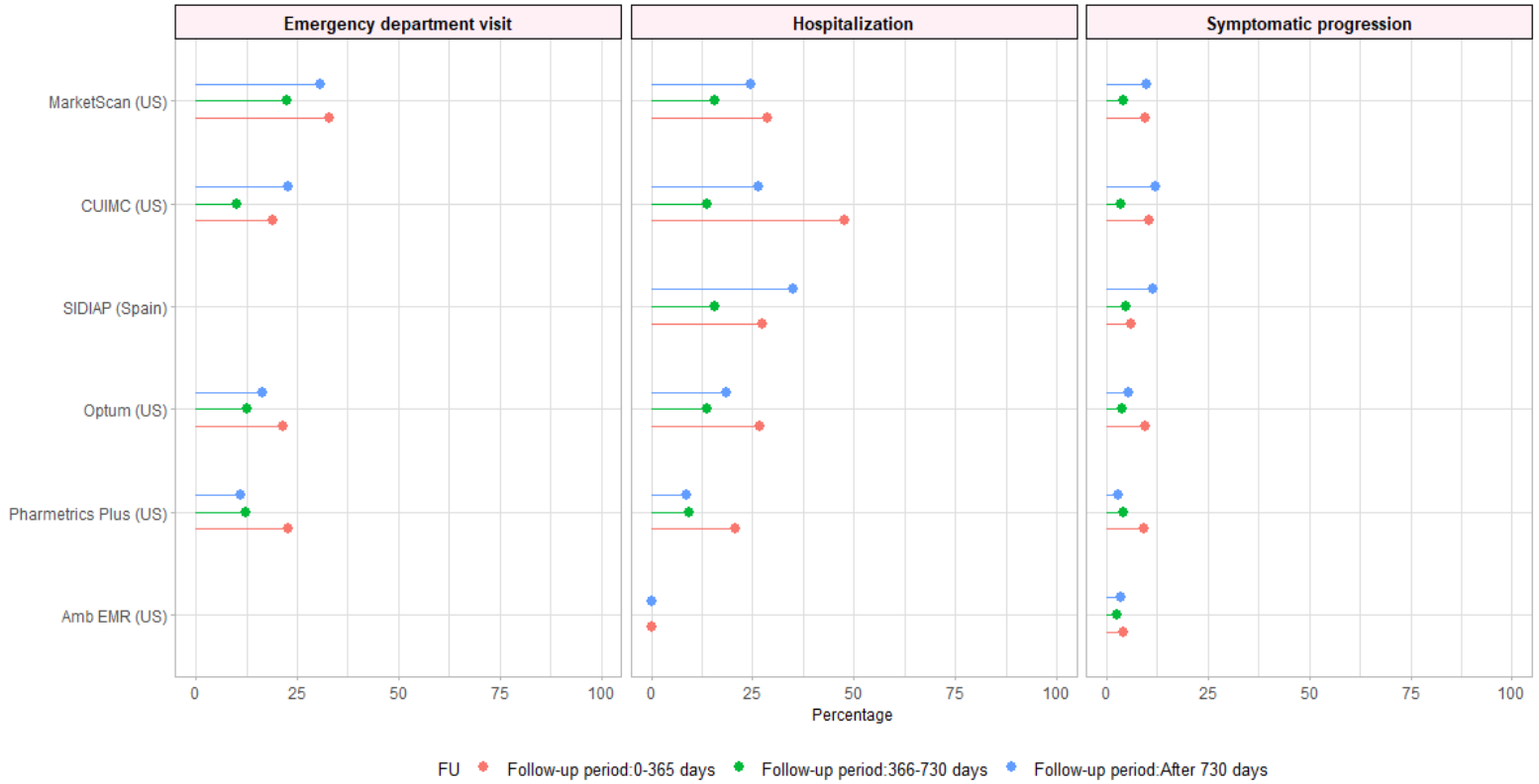
Results: The most common comorbidities were hypertension (80%-93%), type 2 diabetes (29%-41%) and asthma/chronic obstructive pulmonary disease (COPD) (28%-37%). Obesity was more prevalent among younger patients (19%-41%).



Studyathon 1 - B

Results & limitations:

- Emergency department visits and hospitalisations were highest across databases in the first year of follow-up (19-33% and 21-48% respectively).
- There were no significant differences in symptomatic progression across databases.



Studyathon 1 - B

Conclusions:

- Men on delayed palliative management were in their mid-seventies, with the three most common comorbidities being hypertension, type 2 DM and asthma/COPD, regardless of age groups.
- ED visits, hospitalisations and symptomatic progression were similar across databases and were highest within the first year of follow-up.
- This study reflects the potential of PIONEER as an international federated network of databases that may be used to harness big data in PCa research.
- Manuscript drafted

Studyathon 2 October 31st to November 4th, 2022

Research question:

- Which specific patient will **benefit** the most according to the **different treatment schemes** in metastatic hormone-sensitive prostate cancer?
- Two parts – characterisation & prediction

35 participants including patients
10 countries
5 days hybrid event

16 datasets
Study package successful completed in 10 datasets

Current status & next steps

Status:

1. Study protocol published
2. Final study package run on 2 data sets
3. Protocol accepted for publication in International Journal of Surgery Protocols (accepted on June 24th)

Nex steps:

1. Review of study package results
2. Afterwards outreach to other data owners
3. Write manuscript(s) depending on depth of results

PIONEER

Studyathon 3

June 13th and 16th 2023.

53 participants including patients
9 countries
4 days hybrid event

20 datasets identified
2 test R packages successfully run on 5 datasets

Research goal:

- An observational health data analysis on the **adverse events of systemic treatment** in patients with metastatic hormone-sensitive prostate cancer (mHSPC)

- Systemic treatment: Androgen deprivation therapy (ADT); Taxane chemotherapy; and Androgen receptor Signalling Inhibitor (ARSI)

Current status & next steps

Status:

1. Study package ready and data collected from 5 data sets
2. 1st version of the protocol under finalisation
3. 2 shiny apps:
   - cohort diagnostics & characterisation
   - incidence rates analysis (new development)

Next step:

1. Review of results and outreach to 15 more data sets
2. Characterisation analysis and incidence rates analysis
3. 4 publications planned so far

Online search Tool

Diagnostic and prognostic factors are:

- Multiple diagnostic and prognostic factors or biomarkers are available for prostate cancer
- A diagnostic biomarker or factor allows the early detection of prostate cancer
- A prognostic biomarker or factor is a clinical or biological trait that provides information on the likely course of the disease
- However, due to limited data the use of these factors is not routinely implemented in clinical practice

Identification of prostate cancer diagnostic & prognostic factors:

Studies included

- Quantitative studies in English
- Published between Jan 2014 & 2020
- Patient population adult men (≥18) diagnosed with localised, locally advanced, metastatic, or non-metastatic castration-resistant prostate cancer
- Included studies must report on an outcome which is part of the PIONEER core outcome sets
- Interventions considered are treatments supported by the 2019 EAU guidelines

Which biomarkers have been reported in the literature?

Identification and selection of biomarkers

Assessment of the quality of the evidence for the identified biomarkers

Outcome: Online search tool which summarises systematic review findings to facilitate development of new diagnostic & prognostic factors or for setting up future studies, including clinical trials

OPTIMA

www.optima-oncology.eu

Optimal treatment for patients with solid tumours in Europe through artificial intelligence

2022 - 2027

Funded by

imi efpia

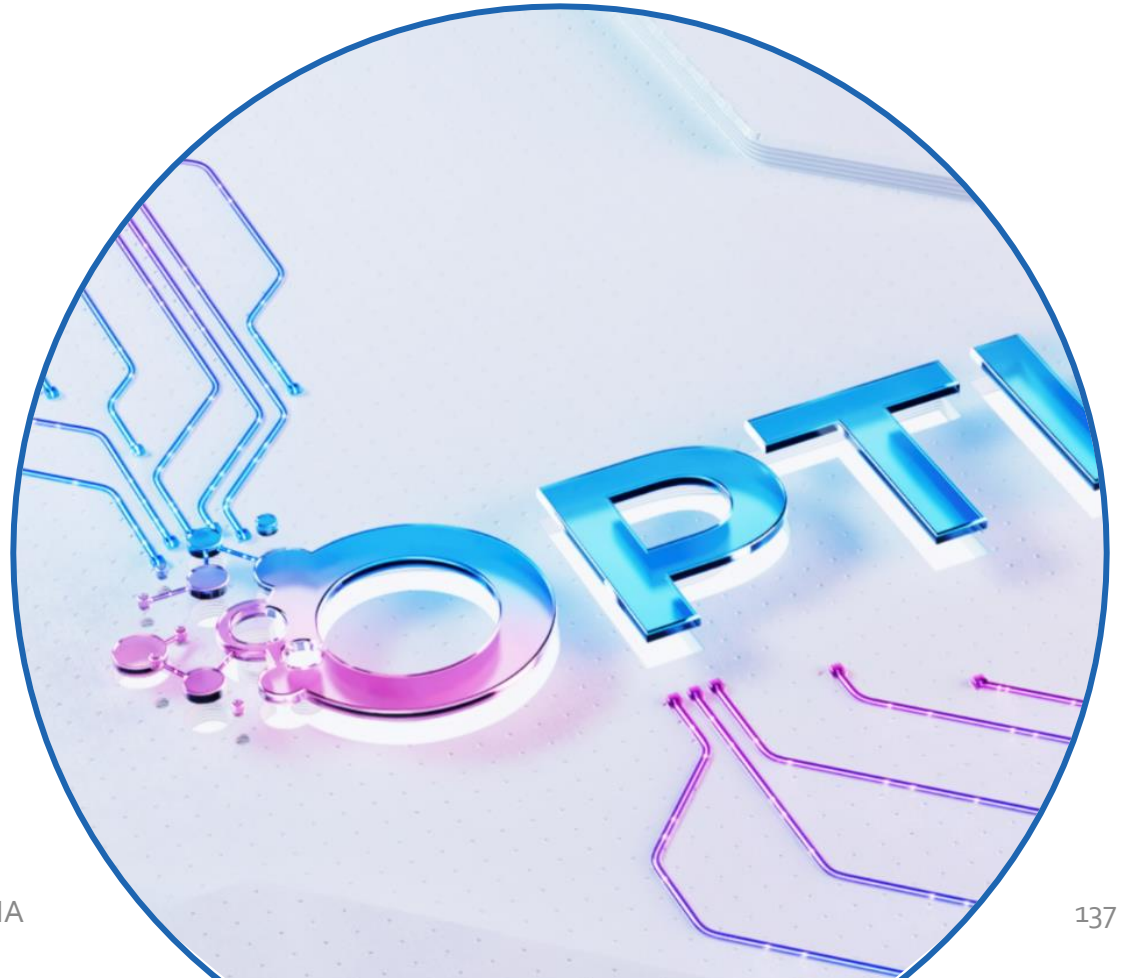
A strong alliance of public & private partners

39 Partners across 9 countries in different fields.

- IMI experienced researchers / SMEs
- Medical societies
- Opinion leaders in oncology
- Leading guideline authors
- Patient organisations
- Committed industrial partners
- Members of the EMA Steering Group
- Healthcare AI Experts
- Implementation Scientist

Objectives

1. To establish a **data catalogue**.
2. To develop a secure and **interoperable platform**.
3. To develop a scalable and regularly updated **guideline decision-support toolset**.
4. To drive new **knowledge generation**.
5. To ensure the **sustainability** of OPTIMA's platform.



Research areas of interest for OPTIMA

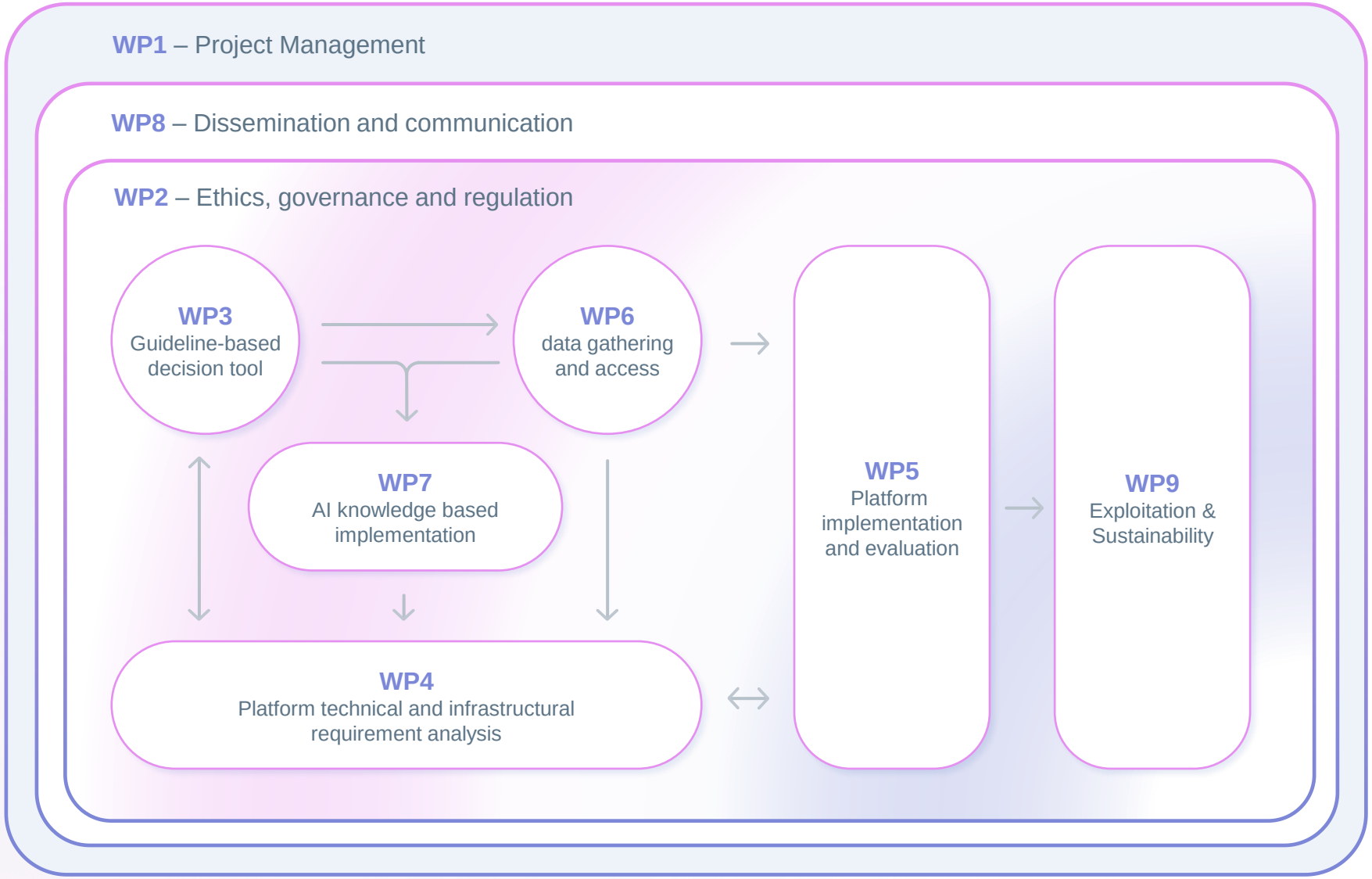
Prostate Cancer

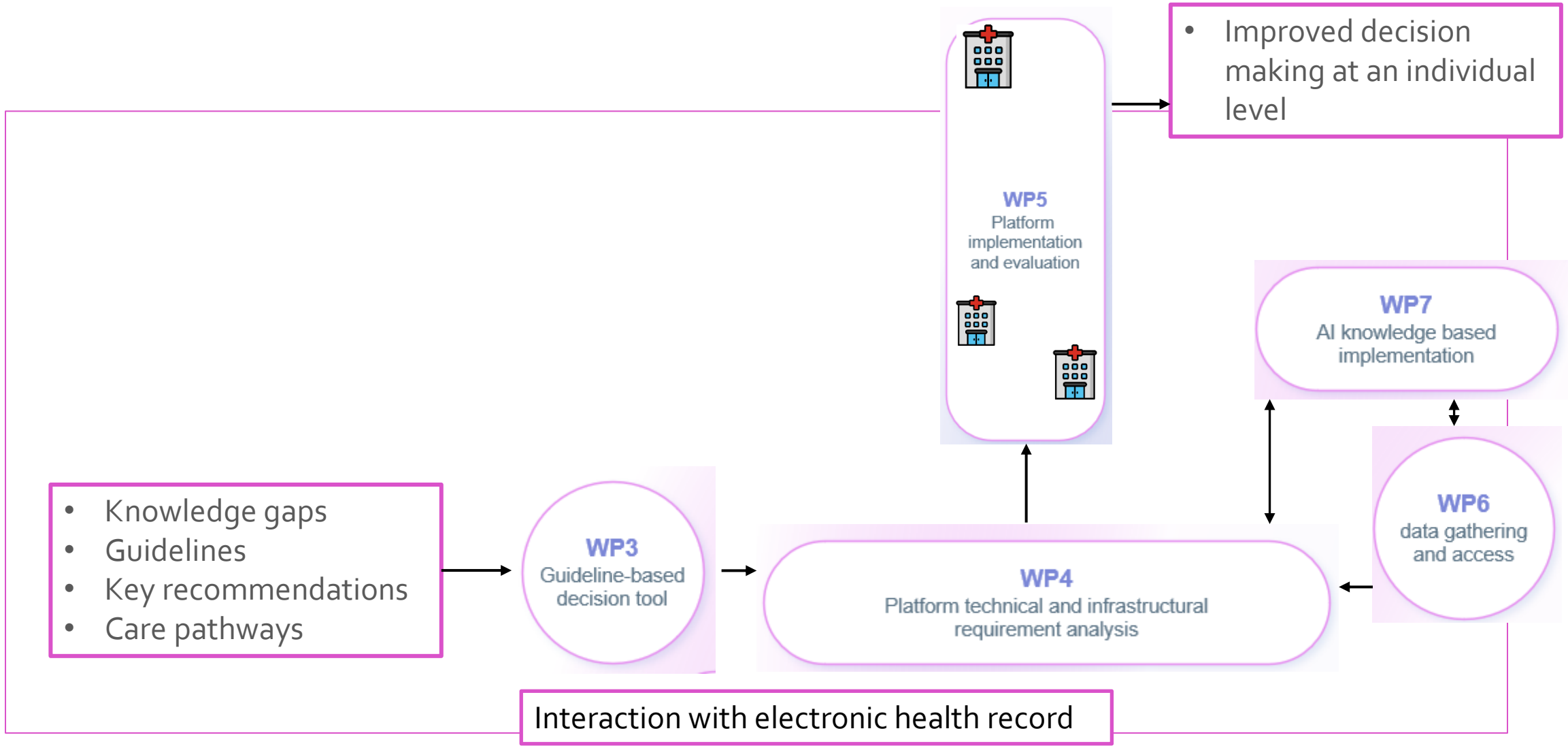
Breast Cancer

Lung Cancer

9 Work packages

OPTIMA is divided into 9 work packages, which all work closely together.
WP 1, 2 and 8 in particular work across all packages.




• Improved decision making at an individual level
WP5
Platform implementation and evaluation
WP7
AI knowledge based implementation
WP6
data gathering and access
• Knowledge gaps
• Guidelines
• Key recommendations
• Care pathways
WP3
Guideline-based decision tool
WP4
Platform technical and infrastructural requirement analysis
Interaction with electronic health record

2022 – 2027

What we have achieved so far.

WP 6
Identified 11 data assets with completed / planned mapping to OMOP core data management

WP 2
Initial Data Protection Impact Assessment finalized

WP 2
Initial Report on the Legal and Ethical Framework of the Project

WP 3
Development of Research Questions Surveys and subsequent prioritization

WP 5
identified list of user personas and organised the platform development in waves accordingly : IT and data scientists, care providers and patients, AI-aware physicians, external users

WP 7
First draft of an ML-OPs pipeline and set-up of the first software for the pipeline with WP4

WP 4
Requirement and Specification Analysis Document

WP 4
Initial Data management plan finalized

WP 6
Signed memorandum of understanding with EHDEN to leverage on efforts to generate analytical packages

WP 3
Prototype of decision support tool built and tested

WP 3
Assessments of Clinical Practice Guidelines for Prostate Cancer, Breast Cancer and Lung Cancer and identified care pathways

Contact: communication@optima-oncology.eu

OPTIMA

PIONEER

Thank you for your attention!

OPTIMA is funded through the IMI2 Joint Undertaking and is listed under grant agreement No. 101034347. IMI2 receives support from the European Union's Horizon 2020 research and innovation programme and the European Federation of Pharmaceutical Industries and Associations (EFPIA). IMI supports collaborative research projects and builds networks of industrial and academic experts in order to boost pharmaceutical innovation in Europe.

European Initiatives Using the OMOP CDM - discussion

Carlos Diaz, Maaike van Swieten,
Michel van Speybroeck, Monique Roobol

Coffee break! Next session starts here @ 11:30!

This coffee break is sponsored by Promptly Health.