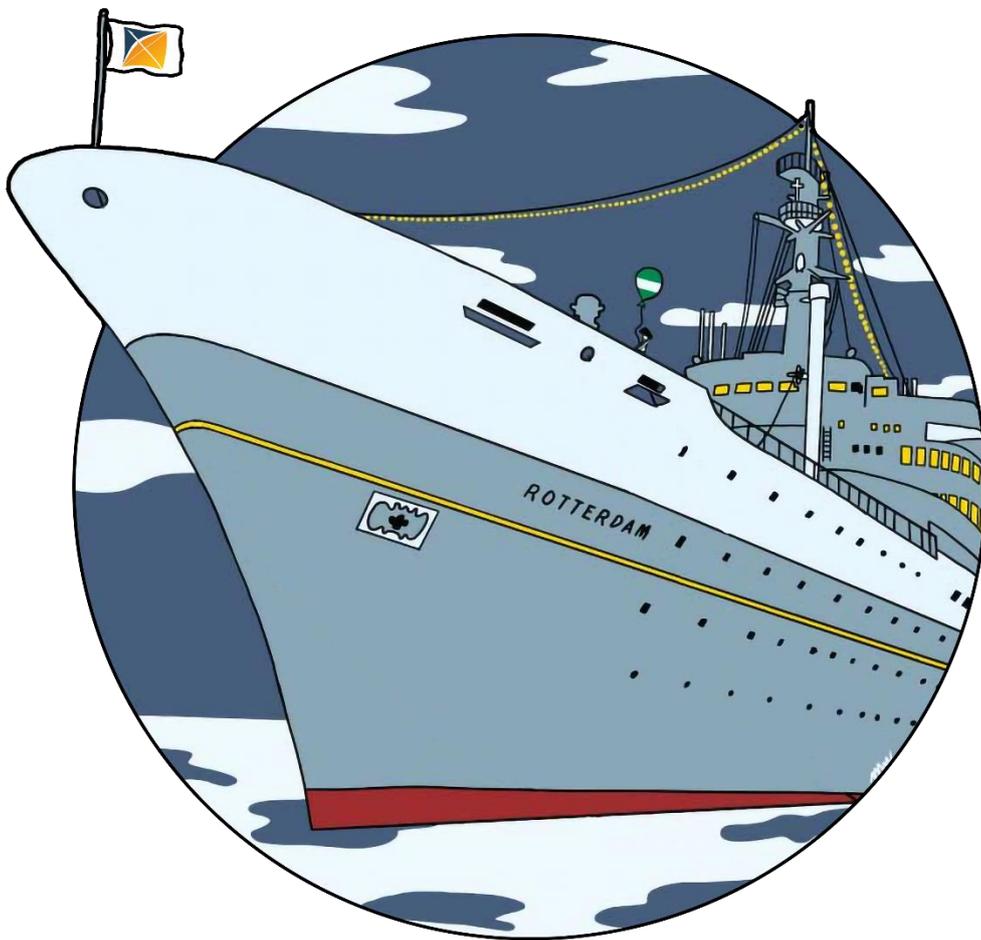




# OHDSI

OBSERVATIONAL HEALTH DATA SCIENCES AND INFORMATICS

## EUROPEAN OHDSI SYMPOSIUM 2023



*“Full steam ahead!”*



# OHDSI Symposium Agenda

July 3rd, 2023

## The Steam Ship (SS) Rotterdam

Time	Description	Location
8:00	Registration and Coffee	Queen's Lounge
9:00	<b>Welcome to the European OHDSI Journey</b> Peter Rijnbeek, PhD, Chair, Department of Medical Informatics, Erasmus MC	Theatre
9:10	<b>Journey of OHDSI: Where have we been and where we can go together?</b> Patrick Ryan, PhD, Janssen Research and Development, Department of Biomedical Informatics, Columbia University Medical Center	Theatre
9:40	<b>European Initiatives Using the OMOP CDM</b> Moderator: Renske Los, PhD, Assistant Professor of Medical Informatics, Department of Medical Informatics, Erasmus MC  <ol style="list-style-type: none"><li><b>European Health Data and Evidence Network: building a sustainable ecosystem for generating reliable evidence in Europe.</b> Carlos Diaz, Synapse</li><li><b>Harmonizing rare cancer data: lessons learned in EURACAN</b> Maaïke van Swieten, IKNL</li><li><b>HONEUR : Building a federated network in haematology</b> Michel van Speybroeck, Janssen Pharmaceutica</li><li><b>PIONEER and OPTIMA, two EU-IMI funded big data projects led by the European Association of Urology.</b> Monique Roobol, Professor Decision Making in Urology, Erasmus MC</li></ol>	Theatre
	Panel Discussion and Q/A	
11:00	Coffee Break	Queen's Lounge

11:30

**Collaborator Showcase: Rapid fire presentations**

Theatre

Moderator: Katia Verhamme, MD, Associate Professor of Use and Analysis of Observational Data, Department of Medical Informatics, Erasmus MC, Rotterdam.

1. **Tools for the collaborative maintenance of national vocabularies and mappings**  
Javier Gracia-Tabuenca
2. **Implementation of the ARES application to monitor network-wide data quality and mapping coverage for 16 unique OMOP sources across Rwanda**  
Jared Houghtaling
3. **Multi-site Cost-effectiveness and Markov Chain analysis of heart failure**  
Markus Haug
4. **Deep Learning Comparison**  
Henrik John
5. **The association of short-, medium and long-term cardiovascular sequelae with COVID-19 infection: a multinational pilot study**  
Ian Wong
6. **Supporting pharmacovigilance signal validation and prioritization with analyses of routinely collected health data – lessons learned from an EHDEN network study**  
Judith Brand
7. **Pattern of long COVID symptoms and conditions: clustering analysis based on large multinational cohorts as part of an EHDEN Study-A-Thon**  
Kim López-Güell
8. **Evaluation of treatment effect heterogeneity in the LEGEND-Hypertension study**  
Alexandros Rekkas
9. **Characteristics and outcomes of over a million inflammatory bowel disease subjects in seven countries: a multinational cohort study**  
Chen Yanover
10. **Prediction of 30-day, 90-day and 1 year mortality after colorectal cancer surgery using a data-driven approach**  
Ismail Gögenur

12:45 – 13:45	<b>Lunch</b>	<b>La Fontaine &amp; Odyssee Room</b>
13:00	<b>OHDSI Collaborator Showcase</b>  <b>Poster presentations:</b> - Observational data standards and management - Open-source analytics development - Clinical applications - Methodological research  <b>Special areas:</b> - National nodes - Software demonstrations	<b>La Fontaine &amp; Odyssee Room</b>
13:00	<b>Early Investigators Mentor Meetings</b> Lead: Ross Williams, Department of Medical Informatics, Erasmus MC Rotterdam	<b>Queen's Lounge</b>
16:00	<b>Real-World Evidence use in Medicines Regulation</b> Andrej Segec, European Medicines Agency	<b>Theatre</b>
16:30	<b>Data Analysis and Real World Interrogation Network (DARWIN EU®)</b> Multiple speakers from the DARWIN EU® Coordination Center  Questions and Answers Session	<b>Theatre</b>
17:45	<b>Closure</b>	<b>Theatre</b>
18:00 – 19:30	<b>Networking Reception</b>	<b>Queen's Lounge</b>

## Sponsors

This year's symposium would not have been possible without the generous support of our sponsors. The OHDSI community is grateful for their help and look forward to working closely with these organizations to improve health outcomes for patients around the world.



The Erasmus University Medical Center is the largest of the eight university medical centers in The Netherlands. The Department of Medical Informatics is an interdisciplinary research group within Erasmus MC that studies new methods for acquiring, representing, processing, and managing data and knowledge in health care and biomedical sciences and has developed land marking infrastructure and software for distributed analysis of electronic health records. The group is leading the European OHDSI Chapter and EHDEN, and is representing the DARWIN EU Coordination Centre.

[www.erasmusmc.nl](http://www.erasmusmc.nl)



IQVIA (NYSE:IQV) is a leading global provider of advanced analytics, technology solutions, and clinical research services to the life sciences industry. IQVIA creates intelligent connections across all aspects of healthcare through its analytics, transformative technology, big data resources and extensive domain expertise. IQVIA Connected Intelligence™ delivers powerful insights with speed and agility — enabling customers to accelerate the clinical development and commercialization of innovative medical treatments that improve healthcare outcomes for patients. With approximately 85,000 employees, IQVIA conducts operations in more than 100 countries.

[www.iqvia.com](http://www.iqvia.com)



# The Hyve

The Hyve is an IT company that provides professional services for open source software. We specialize in the fields of real world data harmonization and analytics, cancer genomics, translational data warehousing and research data management. Our customers include the majority of top 20 pharmaceutical companies, major academic medical centers in U.S. and Europe as well as biobanks, registries and patient organizations throughout the world.

[www.thehyve.nl](http://www.thehyve.nl)



BIOMERIS was founded in 2012 as academic spin-off of the University of Pavia, from the Laboratory of Biomedical Informatics “Mario Stefanelli”, active since 1982 in the field of medical informatics. We are among the first companies in Europe certified by IMI2-EHDEN. We are actively collaborating with the University of Pavia to run the Italian node of OHDSI Europe. BIOMERIS is UNI EN ISO 9001 certified and under UNI EN ISO 27001 certification.

The technical-scientific know-how of our team, mostly Biomedical Engineers and PhDs in Bioinformatics and Bioengineering, constitutes the real added value of our company: we have more than ten years of experience in data integration projects and construction of infrastructures for the reuse of clinical data for research purposes.

Some summary figures: 130+ Projects, 10.000.000+ Patients, 2.000.000.000+ Clinical observations.

We have experience in many OMOP-related data harmonization and development projects: 11 IMI2-EHDEN projects with clinical research partners; integration with REDCap; HL7 FHIR API layer; ShinyApp for data export and an ETL quality validation framework.

[www.biomeris.it](http://www.biomeris.it)



# LYNXCARE

LynxCare is a healthcare Big Data company and an EHDEN-certified SME, providing an AI-powered clinical data platform. We help hospitals harmonize and aggregate their structured and unstructured data into a clinical-grade OMOP data warehouse, unlocking previously unavailable clinical insights for improved patient outcomes and scientific research. Founded by Georges De Feu and Dries Hens in 2015, LynxCare today is a fast-growing Belgian scale-up company, employing 50 people and is accelerating research at the leading Health Systems across Europe and beyond.

[www.lynx.care](http://www.lynx.care)



# edence Health

edenceHealth (from 'evidence' and 'Health') focuses on developing solutions to support Real World Data (RWD) and Real-World Evidence (RWE) projects. Our international, multidisciplinary team has many years of experience in designing and implementing health data harmonization solutions, working with many data partners across different initiatives such as the EHDEN project (edenceHealth is a certified EHDEN SME). We participate in and support the open science/open source community and collaborate with multiple research institutions, and we have a solid knowledge of the health data market.

<https://edence.health>



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We are a R&D laboratory specialized in Data Harmonisation, Real World Evidence and Implementation Science, with activities covering the complete healthcare spectrum in public and private sector. Our team is composed of expert biomedical scientists, doctors, academics and engineers that are passionate about understanding diseases, injuries and improving the quality of healthcare systems. Our lab covers every aspect of the study lifecycle for Data Harmonisation, Real World Evidence and Implementation Science, fostering truly collaborative and federated research with institutions across the globe. We are an EH DEN certified SME for data harmonisation according to the OMOP-CDM.

[www.mtg.pt](http://www.mtg.pt)

# PROMPTLY

Promptly is an emerging global provider of end-to-end Real-World Evidence solutions. Together with a selected network of Partners, Promptly generates new knowledge from harmonized high-quality clinical, socioeconomic and claims data, augmented with the collection of longitudinal patient-reported data and patient-generated digital biomarkers.

Within a secure and privacy-preserving environment, Promptly processes these harmonized datasets to deliver valuable insights to leading health systems, payers, and life-science companies across multiple therapeutic areas, including cardiometabolic, oncology, and immunology.

<https://www.promptlyhealth.com>



IOMED has developed an AI-powered Natural Language Processing technology that allows hospitals to structure their information identifying clinically relevant variables from medical notes and structuring them into datasets, which can then be easily queried. Thanks to this data structuring, professionals and researchers from the hospitals can access to the information stored in their facilities more quickly thus accelerating patient recruitment by reducing the time invested in this process. At the same time, it allows hospitals to improve the quality of their services.

Data protection is IOMED's priority and we work to ensure a safe and secure environment: each hospital decides and authorizes all data uses and participation in projects, the data is stored entirely within the hospital, and always following international and Spanish legislation.

[www.iomed.es](http://www.iomed.es)



**ODYSSEUS**  
DATA SERVICES INC

Odysseus Data Services, Inc. (Odysseus) is an established real-world evidence (RWE) solution provider enabling standardized systematic analytics of observational data at scale. Odysseus providing its customers with Software, Data Engineering and Data Science solutions supporting large-scale RWE generation. Odysseus is an active OHDSI contributor in multiple key initiatives and working groups, including design and development of such OHDSI platforms as ATLAS/WebAPI, ARACHNE and ATHENA, OMOP CDM standards, curating and maintaining OMOP standard vocabularies as well as development of OHDSI analytical methods (HADES) and OHDSI distributed network research. Odysseus created the ARACHNE platform with a goal of linking multiple distributed life science and healthcare organizations into a single network to enable standardized federated analytics of observational data.

[www.odysseusinc.com](http://www.odysseusinc.com)

## **Collaborator showcase: Software demonstrations**

### **FinnGen ETL using BigQuery SQL**

“The FinnGen project is a large-scale research project aimed at studying the genetic and health data of 500,000 individuals from Finland. FinnGen receives the data from different national registers and stores it in Google BigQuery tables in a secure environment called Google Sandbox. Utilization of OHDSI tools and custom scripts to generate dummy data, develop the SQL conversion scripts, manage unit tests, and execute the tested scripts on the register data.”

~ ***Sam Padmanabhuni***

### **Software demonstration for PatientProfiles: an R package for patient characterisation based on pre-defined phenotypes and cohorts**

“PatientProfiles is an R package developed for the Darwin EU project to simplify and standardise the analytic code for characterising patient-level information for cohorts in the OMOP CDM. PatientProfiles contain two groups of functions: addDemographics and addCohortIntersect. addDemographics allows for adding patient-level characteristics (e.g. age, sex, prior history etc..) as columns to CDM tables. In contrast, addCohortIntersect identifies the intersections between a cohort table and OMOP CDM tables or other cohort tables. In this demonstration, we will provide examples of how to apply the functions from PatientProfiles for cohorts in the OMOP CDM.”

~ ***Mike Du***

### **ReportGenerator: An R Package to automate study reports from Darwin EU research**

“This demonstration will show how ReportGenerator integrates parametrized reporting into a Shiny application. It will consist of an overview of the main interface in which the user can load several datasets in ZIP or CSV format, see what tables and figures are available according to the data provided, a preview of the objects, and then generate the report in Word format. The demo will include also a review the source code and how ReportGenerator will help automate scientific reports for the Darwin project.”

~ ***Cesar Barboza Gutierrez***

## **IncidencePrevalence: An R package to calculate population-level incidence and prevalence rates using the OMOP Common Data Model**

"This software demonstration will summarise the approach taken to develop and validate the IncidencePrevalence R Package which can be used to calculate incidence rates and prevalence in data mapped to the OMOP CDM."

*~ Edward Burn*

## **DrugUtilisation, an R Package to implement Patient-level Drug Utilisation Studies analysis using the OMOP common data model**

"Drug Utilisation package aims to provide the tools needed for the standardization of Population-level and Patient-level Drug Utilisation Studies within the DARWIN-EU framework.

In this software demo, main functionalities of the package will be shown. Examples with synthetic data will be shown on: (1) how to create cohorts for the different purposes; (2) flag prespecified indications; (3) determine drug use (e.g., dosage, duration); and (4) characterise a cohort.

The package also aims to standardise how to compute daily dose in OMOP data; functionality that has been implemented for oral and some parenteral drugs."

*~ Yuchen Guo*

## Collaborator showcase: National nodes



In several European countries, National OHDSI Nodes have been established. Their common goal is to facilitate collaboration on an (inter)national level. More information can be found online at: <https://www.ohdsi-europe.org/index.php/national-nodes>

During this year's symposium, the following National Nodes are present in the poster area:

Country	Node leads
Belgium	Liesbet Peeters & Annelies Verbiest
Germany	Michele Zoch & Ines Reinecke
Greece	Pantelis Natsiavas
Italy	Lucia Sacchi
Netherlands	Aniek Markus & Renske Los
Spain	Miguel Angel Mayer & Talita Duarte Salles
United Kingdom	Dani Prieto Alhambra

... ask not what your country can do for you - ask what you can do for your country 😊

*Join your national node today!*

# Collaborator showcase: Posters

## Room Odyssee (Deck B)

### National nodes

Visit your national node: Belgium, Germany, Greece, Italy, Netherlands, Spain, United Kingdom

### Observational data standards and management

1	The EH DEN Portal – Simplifying the access to OMOP CDM databases	João Rafael Almeida, Nigel Hughes, Peter Rijnbeek, José Luís Oliveira
2	Privacy-preserving using k-anonymity and l-diversity in OMOP CDM databases	João Rafael Almeida, José Luís Oliveira
3	The Dutch ICU Data Warehouse: towards a standardized multicenter electronic health record database	Ameet Jagesar, Martijn Otten, Tariq Dam, Laurens Biesheuvel, Patrick Thorat, Armand Girbes, Harm-Jan de Grooth, Paul Elbers
4	Community Contribution to the OHDSI Vocabularies, User-Level QA and a New Entity Mapping System SSSOM	Oleg Zhuk, Anna Ostropolets, Nicolas Matentzoglou, Melissa Haendel, Alexander Davydov, Christian Reich
5	Extract, Transform, and Load of the Infectious Disease CDM for Harmonizing and Accessing Data in Real-time Infectious Disease Surveillance	Byungjin Choi, Junhyuk Chang, Soobeen Seol, Seongwon Lee, Rae Woong Park
6	Roadmap and improvement of OHDSI Vocabularies	Christian Reich, Alexander Davydov, Anna Ostropolets
7	Integrating the OMOP CDM into the AI Sandbox of the German Health Data Lab	Elham Taghizadeh, Maxim Moinat
8	ARACHNE Execution Engine – Next Generation: Adaptive runtime environment to run federated studies	Sergey Suvorov, Adam Black, Alexey Manoylenko, Vitaly Koulakov, Konstantin Yaroshovets, Gregory Klebanov
9	European Health Data & Evidence Network – Learnings from Building out a Standardized International Health Data Network	Erica A. Voss, Clair Blacketer, Sebastiaan van Sandijk, Maxim Moinat, Michael Kallfelz, Michel Van Speybroeck, Dani Prieto-Alhambra, Martijn J. Schuemie, Peter R Rijnbeek
10	Mapping Data of Patients with Hematological Malignancies to the OMOP Common Data Model: A Case Study of Chronic Lymphocytic Leukemia	Evangelia Minga, Dimitra Chamou, Thomas Chatzikonstantinou, Pantelis Natsiavas, Kostas Stamatopoulos, Evangelos Handakas, Anastasia Chatzidimitriou
11	An Evaluation and maintenance of cohorts and concept sets in OMOP Vocabulary Evolution	Frank DeFalco, Anthony Molinaro, Clair Blacketer
12	Standardization of the French national database SNDS in OMOP-CDM	Gaëlle Rimaud, Cécile Charles, Elena Mylonas, Gil Lampe, Lorien Benda
13	The LAISDAR project – hospital EHR harmonization in Rwanda through mapping to OMOP CDM; outcome, challenges and lessons learned	Lars Halvorsen, Jared Houghtaling, Emma Gesquiere, Benjamin Burke, Charles Rurangae, Marc Twagirumukizah, Gilbert Rukundo, Clarisse Musanabaganwa, Claude Mambo Muvunyi, Jean Claude Semuto Ngabonziza, Aurore Nishimwe
14	The EH DEN Academy - Solidifying Our Foundations	LH John, R Los, M Miani, P Nagy, I Soinenen, R Tischler, PR Rijnbeek

15	Standardizing European sarcoma registry data to the OMOP Common Data Model	Maaïke van Swieten, Vittoria Ramella, Anna Alloni, Matteo Gabetta, Peter Prinsen, Chiara Attanasio, Espen Enerly, Siri Larønningen, Roberto Lillini, Paolo Lasalvia, Joanna Szkandera, Stefan Janisch, Andreas Muth, Emelie Styring, Julien Bollard, Annalisa Trama, Gijs Geleijnse
16	Implementation of the ARES application to monitor network-wide data quality and mapping coverage for 16 unique OMOP sources across Rwanda	Jared Houghtaling, Emma Gesquiere, Lars Halvorsen, Marc Twagirumukiza, and Charles Ruranga
17	Framework and approach to establish a multi-registry OMOP cluster with shared OHDSI tooling and access specificity	Jared Houghtaling, Emma Gesquiere, Lisa McDowell, Cathy Enright, Claire Donohoe, Tom Feusels, Lars Halvorsen
18	Hierarchical clustering of microbial resistance profiles and ventilation protocols using the oncology extension	Jared Houghtaling, Frederic Jung, Ankur Krishnan, Marc Padros Goossens, Frank Leus, Lauren Maxwell, Tom Feusels, Freija Descamps
19	Capture and consolidation of renal specific concepts into a cohesive OMOP dataset	Jared Houghtaling, Jose Antonio Ramírez García, Clémence Le Cornec, Lore Vermeylen, Nir Assaraf, Lars Halvorsen
20	Creation of a reusable OMOP transformation workflow for Belgian electronic health record systems	Jared Houghtaling, Lore Vermeylen, Louise Vandenbroucke, Korneel Bernaert, Brecht Dekeyser, Freija Descamps
21	Construction of a central ontology platform for semantic mapping coordination and vocabulary augmentation across a multi-partner oncology consortium	Jared Houghtaling, Peter Prinsen, Maaïke van Swieten, Chiara Attanasio, Lars Halvorsen
22	Application of the R-CDM extension to capture metadata and features extracted from quantitative brain MRI and CT data	Jelle Praet, Jared Houghtaling, Frederic Jung, Steve De Backer, Jeroen Pinxten and Dirk Smeets
23	NNRD-AI: a national neonatal research database for rapid insights with machine learning and artificial intelligence	Julia Lanoue, Kayleigh Ougham, Neena Modi, Sam Greenbury
24	OMOP-CDM Data conversion for the Papageorgiou General Hospital in Greece	Achilleas Chytas, Maria Bigaki, Pantelis Natsiavas
25	Development of a GA4GH Beacon for structured Clinical Data Discovery using the OMOP-CDM	Alberto Labarga, Sergi Aguiló
26	Quality Management System of the OHDSI Standardized Vocabularies	Vlad Korsik, Anna Ostropelets, Christian Reich, Alexander Davydov
27	Transforming Estonian cancer data to episode table in OMOP	Marek Oja, Sirli Tamm, Raivo Kolde
28	Transforming EBMT Registry to the OMOP Common Data Model	Maria Paula Busto, Marina Atlija, Freija Descamps, Ben Burke
29	Automatic Data Import from OMOP to REDCap	Matteo Gabetta, Francesco Pozzoni, Mauro Bucalo, Cristiana Larizza, Nicola Barbarini
30	DARWIN EU®: Assessing the data quality at data partner onboarding	Maxim Moinat, Anne van Winzum
31	Building an OMOP CDM repository from OpenEHR: implementation experience of INFOBANCO	Miguel Pedrera-Jiménez, Antonio Díaz Holgado, David Moner-Cano, Paula Rubio-Mayo, Noelia García-Barrio, Julián Jiménez-Carramiñana, Diego Boscá-Tomás, Juan Luis Cruz-Bermúdez, Javier de la Cruz-Bertolo, José Luis Bernal-Sobrino, Pablo Serrano-Balazote

32	A Simple Standard for Sharing Ontological Mappings (SSSOM) Workshop for OHDSI Europe	Nicolas Matentzoglou, Melissa Haendel
33	Conceptual architecture for the Digital Oncology Network for Europe - an OMOP based European federated, automated cancer care quality ecosystem	Olivier Bouissou, Ismini Chatzitheofilou, Gennaro Ciliberto, Marco Denti, Xosé Fernández, Dennis Kadioglu, Stelios Theophanous, Joëlle Thonnard, Alberto Traverso, Piers Mahon
34	Building a European cancer OMOP network in hospitals with limited OMOP experience using tiered and modular protocolised research	Atif Adam and Piers Mahon
35	Data OMOPisation of cancer data at Cliniques universitaires Saint-Luc	Joëlle Thonnard, Frédéric Calay, Audrey Timmermans, Cédric Van Marcke
36	OMOP for oncology data: a single-centre and network perspective	Stelios Theophanous, Kieran Zucker, Louise Hick, Edward Bolton, Majid Riaz, Hayley Fenton, John Corkett, Sue Cheeseman, Geoff Hall
37	Oslo University Hospital Participation in a European Cancer OMOP Network	Olivier Bouissou, Ingrid K. S. Hanto, Elisabeth Ross
38	The DigiONE FORGE Approach to Providing OMOP Oncology Data for Federated Analyses	Daniel Maier, Fabienne A. U. Fox, Abishaa Vengadeswaran, Andrea Wolf, Christian Brandts, Daniel P. Brucker, Holger Storf, Jörg Janne Vehreschild, Timo Schneider, Dennis Kadioglu
39	Lessons learned from four population-based cancer registries: Mapping of ICD-O-3 codes to standard concepts	Peter Prinsen, Maaïke van Swieten, Chiara Attanasio, Espen Enerly, Siri Larønningen, Elisabetta Rapiti, David Marcic, Evelyne Fournier, Pierre Künzli, Michael Schnell, Sophie Couffignal, Claudine Backes
40	Interoperability through Collaboration: Developing a Global Oncology Standard	Robert Miller, Asieh Golozar, Georgina Kennedy, Kim W. Carter
41	Tools for the collaborative maintenance of national vocabularies and mappings	Shanmukha Sampath Padmanabhuni, Anna Hammais, Pasi Rikala, Gustav Klingstedt
42	A new route of administration hierarchy derived from dose forms supporting standardised drug dose calculations	Theresa Burkard, Artem Gorbachev, Kim Lopez-Güell, Daniel Prieto-Alhambra, Martí Català, Christian Reich
43	Paving the way to estimate dose in OMOP CDM for Drug Utilisation Studies in DARWIN EU	Theresa Burkard, Kim Lopez-Güell, Artem Gorbachev, Annika M Jödicke, Nuria Mercadé-Besora, Talita Duarte-Salles, Dani Prieto-Alhambra, Christian Reich, Marti Catala
44	Extending OMOP-CDM for registering tomography imaging metadata and subsequent annotation and curation processes.	Varvara Kalokyri, Haridimos Kondylakis, Stelios Sfakianakis, Katerina Nikiforaki, Simone Mazzetti, Nikolaos Tachos, Konstantinos Marias, Manolis Tsiknakis
45	A reusable method to assess the quality of the ETL process	Vittoria Ramella, Matteo Gabetta, Mauro Bucalo, Nicola Barbarini

## Room La Fontaine (Deck B)

### Software demonstrations – Round I (13:00-14:30)

FinnGen ETL using BigQuery SQL	Javier Gracia-Tabuenca, Mary Pat Reeve
Software demonstration for PatientProfiles: an R package for patient characterisation based on pre-defined phenotypes and cohorts	Mike Du, Yuchen Guo, Kim Lopez-Guella, Xintong Li, Nuria Mercade Besora, Daniel Prieto-Alhambra, Edward Burn, Marti Catala

ReportGenerator: An R Package to automate study reports from Darwin EU research	Cesar Barboza Gutierrez, Ger Inberg, Maarten van Kessel, Daniel Prieto-Alhambra, Ross D. Williams
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## Software demonstrations – Round II (14:30-16:00)

IncidencePrevalence: An R package to calculate population-level incidence and prevalence rates using the OMOP Common Data Model	Martí Català, Berta Raventós, Mike Du, Yuchen Guo, Adam Black, Ger Inberg, Xintong Li, Kim López-Güell, Danielle Newby, Maria de Ridder, Cesar Barboza, Talita Duarte-Salles, Katia Verhamme, Peter Rijnbeek, Daniel Prieto Alhambra, Edward Burn
DrugUtilisation, an R Package to implement Patient-level Drug Utilisation Studies analysis using the OMOP common data model	Yuchen Guo, Mike Du, Kim Lopez-Guell, Xintong Li, Ger Inberg, Therese Buckhard, Annika M. Jödicke, Artem Gorbachev, Daniel Prieto-Alhambra, Edward Burn, Martí Català

## Open-source analytics development

46	CDMConnector: Cross platform OMOP CDM database queries using dplyr	Adam Black, Edward Burn, Artem Gorbachev, Martí Català
47	Development of an OMOP Ontology Application – PROSA – for creation and maintenance of highly granular source concepts within the OMOP vocabulary structure	Jared Houghtaling, Emma Gesquiere, and Lars Halvorsen
48	A method to facilitate rapid stand up of OMOP research tools from validated libraries for RWE research	Jack Brewster
49	Generating Synthetic Data from OMOP-CDM databases for Health Applications	Alberto Labarga, Sergi Aguiló
50	Performance Improvement of Post-ETL in OMOP CDM	Antonella Delmestri

## Clinical applications

51	Drug utilisation of valproate-containing medicinal products in women of childbearing age: a network study part of DARWIN EU®	Albert Prats-Urbe, Martí Català, Katia M Verhamme, Maria de Ridder, Carlen Reyes, Talita Duarte-Salles, Peter Rijnbeek, Edward Burn, Daniel Prieto-Alhambra, Annika M. Jödicke
52	Evaluation of treatment effect heterogeneity in the LEGEND-Hypertension study	Alexandros Rekkas, David van Klaveren, Jenna M. Reys, Peter R. Rijnbeek
53	Estimating the prevalence of rare blood cancers in Europe: a network study part of DARWIN EU®	Martí Català, Annika Jödicke, Albert Prats-Urbe, Katia M Verhamme, Asieh Golozar, Berta Raventós, Talita Duarte-Salles, Edelmira Martí, Peter Rijnbeek, Daniel Prieto-Alhambra, Edward Burn
54	Vaccine effectiveness to prevent long COVID: A staggered cohort study using primary care electronic health records from the United Kingdom	Martí Català, Núria Mercadé-Besora, Edward Burn, Trishna Rathod-Mistry, Kristin Kostka, Wai Man, Antonella Delmestri, Talita Duarte-Salles, Daniel Prieto-Alhambra, Annika M. Jödicke
55	Heart failure burden in patients with incident CKD in the US: a multi-database FOUNTAIN analysis	Martin Lavallee, David Vizcaya, Elena Pessina, Nikolaus Oberprieler, Glen James, Asieh Golozar
56	Supporting pharmacovigilance signal validation and prioritisation with analyses of routinely collected	Oskar Gauffin, Judith S Brand, Sara Hedfors Vidlin, Daniele Sartori, Suvi Asikainen, Martí Català, Etir

	health data – lessons learned from an EH DEN network study	Chalabi, Daniel Dedman, Ana Danilovic, Talita Duarte Salles, Maria Teresa García Morales, Saara Hiltunen, Annika M. Jödicke, Milan Lazarevic, Miguel A. Mayer, Jelena Miladinovic, Joseph Mitchell, Andrea Pistillo, Juan Manuel Ramírez-Anguita, Carlen Reyes, Annette Rudolph, Lovisa Sandberg, Ruth Savage, Martijn Schuemie, Dimitrije Spasic, Nhung TH Trinh, Nevena Veljkovic, Ankica Vujovic, Marcel de Wilde, Alem Zekarias, Peter Rijnbeek, Patrick Ryan, Daniel Prieto-Alhambra, G. Niklas Norén
57	Secur-e-Health project: towards federated learning for smart care of pediatric obesity	Rita Rb-Silva, Carolina Ameijeiras-Rodrigues, José Miguel Diniz, João Moreira-Pinto, Alberto Freitas, Tiago Taveira-Gomes
58	Measuring multimorbidity in IPCI: An analysis of more than 1.8 million patients.	Solomon Ioannou, Egill Fridgeirsson, Marcel de Wilde, Jan Kors, Peter Rijnbeek, Katia Verhamme
59	Pre-coordination of structural and semantic conventions to capture breast cancer indicators in the context of the European University Hospital Alliance (EUHA)	Tijs Delabastita, Pieter Maertens, Jared Houghtaling, Pieter Stijnen, Guy Vanden Boer, Johan Van Eldere
60	Short-, medium-, and long-term psychiatric and neuropsychiatric consequences of COVID-19: A multinational pilot study	Yi Chai, Ivan C. H. Lam, Eric Y. F. Wan, Celine S. L. Chui, Xue Li, Kenneth K. C. Man, Wallis C. Y. Lau, Xiaoyu Lin, Can Yin, Fan Min, Jing Li, Sarah Seager, Mui Van Zandt, Hao Luo, Ian C. K. Wong
61	Changes in Incidence of Screening and Diagnostic Tests, Breast, Colorectal, Lung and Prostate Cancer, Before, During and After the UK National COVID-19 Lockdowns: A Cohort Study	Nicola L. Barclay, Annika M. Jödicke, Xihang Chen, Antonella Delmestri, Berta Raventós, Wai Yi Man, Danielle Newby, Daniel Prieto-Alhambra, Marta Pineda-Moncusí, Martí Català
62	Facilitating Global Understanding of Tixagevimab/Cilgavimab Use: Leveraging OMOP Common Data Model for Harmonized Data Extraction and Federated Network Creation	Dan Housman, Yuval Koren, Daniel Poscover, Charles E. Barr, Aaron Kamaau, Amanda Shields
63	Are scaphoid fractures osteoporotic?	Yonatan Schwarcz, Chen Yanover, Inbal Goldshtein
64	The use of WHO 'Watch List' Antibiotics in Europe: a DARWIN-EU® network population-based network cohort study	Johnmary T. Arinze, Maria de Ridder, Talita Duarte-Salles, Marti Catala-Sabate, Antonella Delmestri, Hezekiah Omulo, James Brash, Hanne van Ballegooijen, Juan Manuel Ramírez-Anguita, Angela Leis, Miguel-Angel Mayer, Romain Griffier, Peter Rijnbeek, Dani Prieto Alhambra, Katia MC Verhamme
65	COVID-19 vaccines effectiveness against thromboembolic complications in the post-acute phase of the COVID-19 infection: a staggered cohort study using UK primary care electronic health records	Núria Mercadé-Besora, Wai Man, Antonella Delmestri, Clara Prats, Daniel Prieto-Alhambra, Annika M Jödicke, Martí Català
66	Large-scale characterization of patients with metastatic hormone sensitive prostate cancer across a network of observational data. Results from the European network of excellence for big data in prostate cancer (PIONEER)'s Second Studyathon	Asieh Golozar, Juan Gomez Rivas, Rossella Nicoletti, Bertrand de Meulder, Qi Feng, Susan Evans Axelsson, Robert Snijder, Artem Gorbachev, Ayemn Hijazi, Peter Prinsen, Philip Cornford, Peter-Paul Willemse, Anders Bjartell, Teemu Murtola, Carl Steinbeißer, James N'dow, PIONEER consortium
67	Prevalence and treatment patterns in Patients with Bipolar Disorder Depression	Carmen O. Torre, Anda Gershon

68	Validation and Comparison of Frailty Indexes: An OHDSI Network Study	Chen Yanover, Louisa Smith, Tal El-Hay, Brianne Olivieri-Mui, Maytal Bivas-Benita, Robert Cavanaugh, Pinchas Akiva, Chelsea N. Wong, Ariela Orkaby
69	Characteristics and outcomes of over a million inflammatory bowel disease subjects in seven countries: a multinational cohort study	Chen Yanover, Ramit Magen-Rimon, Erica Voss, Joel Swerdel, Anna Sheahan, Nathan Hall, Jimyung Park, Rae Woong Park, Kwang Jae Lee, Sung Jae Shin, Seung In Seo, Kyung-Joo Lee, Thomas Falconer, Leonard Haas, Paul Nagy, Mary Bowring, Michael Cook, Steven Miller, Tal El-Hay, Maytal Bivas-Benita, Pinchas Akiva, Yehuda Chowers, Roni Weisshof
70	Prediction of 30-day, 90-day and 1 year mortality after colorectal cancer surgery using a data-driven approach	Karoline Bendix Bräuner, Andi Tsouchnika, Maliha Mashkoo, Ross D. Williams, Andreas Weinberger Rosen, Morten Frederik Schlaikjær Hartwig, Mustafa Bulut, Niclas Dohrn, Peter R. Rijnbeek, Ismail Gögenur
71	The use of contraception in females with underlying conditions	Emma Lippens, Victor Pera, Peter R. Rijnbeek, Katia M.C. Verhamme
72	A Nationwide Cohort Study of Outcomes and Mortality after Colorectal Surgery in Elderly Patients	Ilze Ose, Andreas Weinberger Rosen, Karoline Bendix Bräuner, Maliha Mashkoo, Mathilde Glud Christensen, Emilie Barbara Palmgren Colov, Rasmus Peuliche Vogelsang, Ismail Gögenur, Rasmus Dahlin Bojesen
73	The association of short-, medium and long-term cardiovascular sequelae with COVID-19 infection: a multinational pilot study	Ivan C.H Lam, Yi Chai, Eric Y.F Wan, Celine S.L Chui, Xue Li, Carlos K.H Wong, Hao Luo, Kenneth K.C Man, Xiaoyu Lin, Can Yin, Jing Li, Mui Van Zandt, Sarah Seager, Ian Chi Kei Wong
74	Automated Retrospective Data Extraction from Electronic Health Records Using Natural Language Processing to Identify Transthyretin Amyloid Cardiomyopathy in a Real-World Heart Failure Population	Dries Hens, Ana Moya, Clara L. Oeste, Monika Beles, Sofie Verstrecken, Riet Dierckx, Ward Heggermont, Jozef Bartunek, Eline Bogaerts, Imke Masuy, Marc Vanderheyden
75	The appraisal of WHO definition of post COVID-19 condition (long COVID): an international network cohort and meta-analysis study	Junqing Xie#, Kim López-Güell#, Kristin Kostka, Alicia Abellan, Jessie O Oyinlola, Jaime Meléndez-Cardiel, Juan Manuel Ramírez-Anguita, Anneli Uusküla, Johnmary T. Arinze, Theresa Burkard, Edward Burn, Zara Cuccu, Daniel Dedman, Dominique Delseny, Talita Duarte-Salles, Chungsoo Kim10, Ji-woo Kim, Raivo Kolde, Francesco Lapi, Raúl López-Blasco, Cora Loste, Ettore Marconi, Álvaro Martínez, Lourdes Mateu, Miguel A. Mayer, Núria Mercadé-Besora, Gregoire Mercier, Mees Mosseveld, Hedvig ME Nordeng, Nhung TH Trinh, Bernardo Valdivieso, Daniel Prieto-Alhambra, Roger Paredes*, Martí Català*, Annika M. Jödicke*
76	Development and characterization of a phenotype algorithm to identify Acute Kidney Injury in RWD	Marcela Rivera, David Vizcaya, Juan Manuel Ramírez-Anguita, Azza Shoaibi, Gowtham Rao, Angela Leis, Miguel Angel Mayer
77	Pattern of long COVID symptoms and conditions: clustering analysis based on large multinational cohorts as part of an EHDEN Study-A-Thon	Kim López-Güell#, Martí Català#, Daniel Dedman, Talita Duarte-Salles, Raivo Kolde, Raúl López-Blasco, Álvaro Martínez, Lourdes Mateu, Gregoire Mercier, Alicia Abellan, Johnmary T. Arinze, Theresa Burkard, Edward Burn, Zara Cuccu, Dominique Delseny, Chungsoo Kim, Ji-woo Kim, Kristin Kostka, Francesco Lapi, Cora Loste, Ettore Marconi, Miguel A. Mayer, Jaime Meléndez-

		Cardiel, Núria Mercadé-Besora, Mees Mosseveld, Hedvig ME Nordeng, Jessie O Oyinlola, Roger Paredes, Juan Manuel Ramírez-Anguita, Nhung TH Trinh, Anneli Uusküla, Bernardo Valdivieso, Junqing Xie, Annika M Jödicke*, Daniel Prieto-Alhambra*
78	Associations between pre-operative cholesterol levels with long-term survival after colorectal cancer surgery: A nationwide propensity score-matched cohort study	Lea Löffler, Mikail Gögenur, Ismail Gögenur

## Methodological research

79	Phenotyping for DARWIN EU®: Standardising the phenotype creation process and the metadata storage to increase reproducibility, traceability, and reusability.	Albert Prats-Urbe, Annika M. Jödicke, Asieh Golozar, Christian Reich, Rowan Parry, Peter Rijnbeek, Katia M Verhamme, Daniel Prieto-Alhambra
80	Toward generalizable clinical prediction models: a large-scale investigation using stacking ensembles	Cynthia Yang, Egill A. Fridgeirsson, Jan A. Kors, Jenna M. Reps, Peter R. Rijnbeek, Jenna Wong, Ross D. Williams
81	Interpretable decision rules for patient-level prediction with EXPLORE	Aniek F. Markus, Jan A. Kors, Egill A. Fridgeirsson, Katia M.C. Verhamme, Peter R. Rijnbeek
82	A Data Driven Approach to Database Fitness for Use	Clair Blacketer, Frank DeFalco, Dmitry Dymshyts, Martijn Schuemie, Peter Rijnbeek
83	Automated Concept Mapping System for OMOP using Vector Representations and Cross-hospital Mapping	Martina Carres, Gabriel Maeztu, Mónica Arrúe
84	Comparing concepts extracted from clinical Dutch text to conditions in the structured data	Tom M. Seinen, Jan A. Kors, Erik M. van Mulligen, Peter R. Rijnbeek
85	PlasmodeSim: R package to simulate data with known treatment assignment and outcome generating processes	Gidius van de Kamp, Alexandros Rekkas
86	Transforming Multimodal Data from Music Therapy Sessions into OMOP CDM Format	Jared Houghtaling, Katrien Foubert
87	Deep Learning Comparison	LH John, C Kim, JM Reps, EA Fridgeirsson
88	Multi-site Cost-effectiveness and Markov Chain analysis of heart failure	Markus Haug, Raivo Kolde
89	Developing a phenotype algorithm to identify natural menopausal women in secondary data: A multi-country, large-scale OHDSI network study	Siir Su Saydam, Carina Dinkel-Keuthage, Cecilia Caetano, Cecile Janssenswillen, Carsten Moeller, Nils Schoof, James Brash, Victoria Banks

# Workshop and Workgroup Meeting Agenda

Saturday July 1st, 2023

Educational Center, Erasmus MC

(Rooms are shared at the location)

Time	Workshops	Workgroup Meetings
9:30	Coffee and registration	
10:00	<p><b>Introduction to OHDSI</b> Aniek Markus, Renske Los, Cynthia Yang</p> <p><u>Description:</u></p> <ul style="list-style-type: none"><li>• History &amp; philosophy behind OHDSI</li><li>• How does the community work</li><li>• What can currently be done with the OHDSI tools</li><li>• What does it take to be able to use the tools</li><li>• Where and how can you learn more about OHDSI</li></ul> <p><u>Target Audience:</u> Anyone <b>new</b> to OHDSI, interested in data standards, methods research, open-source development or clinical evidence generation</p>	<p><b>Parallel Morning sessions:</b></p> <ul style="list-style-type: none"><li>- <b>HADES WG</b> Martijn Schuemie</li><li>- <b>Vocabulary WG</b> Christian Reich</li></ul>
12:30	Lunch and registration	

**13:30 –  
17.00**

**Phenotyping Workshop Part 1**

Anna Ostropolets, Patrick Ryan,  
Talita Duarte Salles, Victor Pera

Description:

The purpose of this 2-part workshop is to share current community practices in phenotype development and evaluation, provide hands-on experience using open-source tools created to support the phenotyping process, and collaboratively apply these tools and practices to a set of phenotypes for indications and outcomes of interest that can be used across the OHDSI network and related research efforts.

Target Audience:

Any stakeholder interested in designing, implementing, or evaluating observational studies that require phenotypes, developers interested in creating tools to support the phenotype process, or data partners interested in assessing phenotypes within their data source or across a network.

**Self-organised meetings**

During the afternoon there are several self-organised meetings by National Nodes, European Data Partners, and ad hoc meetings with OHDSI experts. Feel free to reach out to us if you are interested.

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**15:00**

**Coffee**

# Workshop and Workgroup Meeting Agenda

## Sunday July 2nd, 2023

### Educational Center, Erasmus MC

(Rooms are shared at the location)

Time	Workshops	Workgroup Meetings
09:30	<b>Coffee and registration</b>	
10:00	<b>Phenotyping Workshop Part 2</b> Anna Ostropolets, Patrick Ryan, Talita Duarte Salles, Victor Pera  <u>Description:</u> Continued Phenotyping activities on following the first part of the workshop on Saturday	<b>Self-organised meetings</b> During the whole day there are several self-organised meetings by National Nodes, European Data Partners, and ad hoc meetings with OHDSI experts. Feel free to reach out to us if you are interested.
12:30	<b>Lunch</b>	<b>EHDEN SME &amp; Data Partner lunch</b> A lunch will be organized for all the EHDEN Data Partner and SMEs in another room. A short presentation will be given during the lunch by the EHDEN team.
13:30	-	<b>Parallel afternoon sessions:</b> <ul style="list-style-type: none"><li>- <b>Patient Level Prediction WG</b> Ross Williams, Jenna Reps</li><li>- <b>CDM-ETL WG</b> Maxim Moinat, Clair Blacketer, Erica Voss</li><li>- <b>Oncology WG</b> Asieh Golozar</li></ul>
16:00 – 17:30	<b>Closure Drink</b>	

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# Health Data Science



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