HMA
Heads of Medicines Agencies

EUROPEAN MEDICINES AGENCY

DARWIN EU

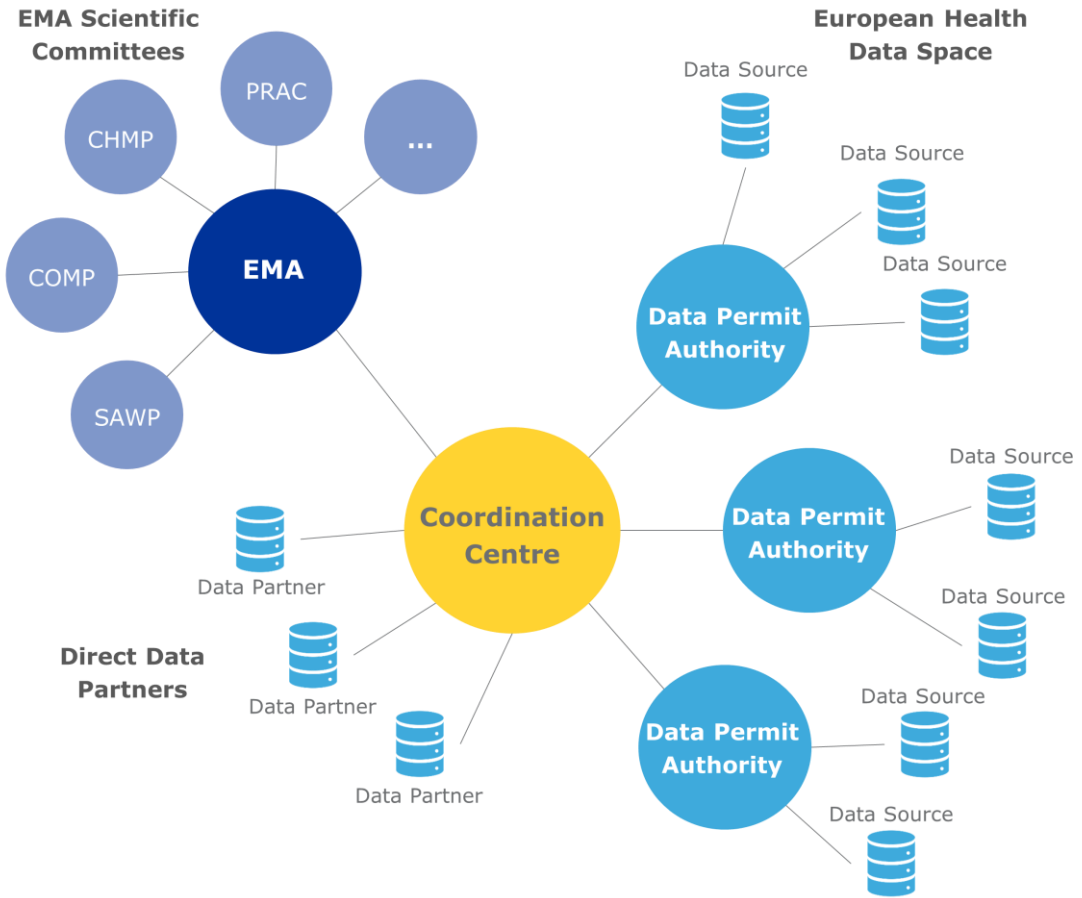
DARWIN EU®: where we are in the Phase 2 of its implementation

Multi-stakeholder workshop on Real World Data (RWD) quality and experience in use of Real World Evidence (RWE) for regulatory decision-making - 27 Jun 2023

Presented by Andrej Segec
Data Analytics and Methods Taskforce – Real World Evidence

An agency of the European Union

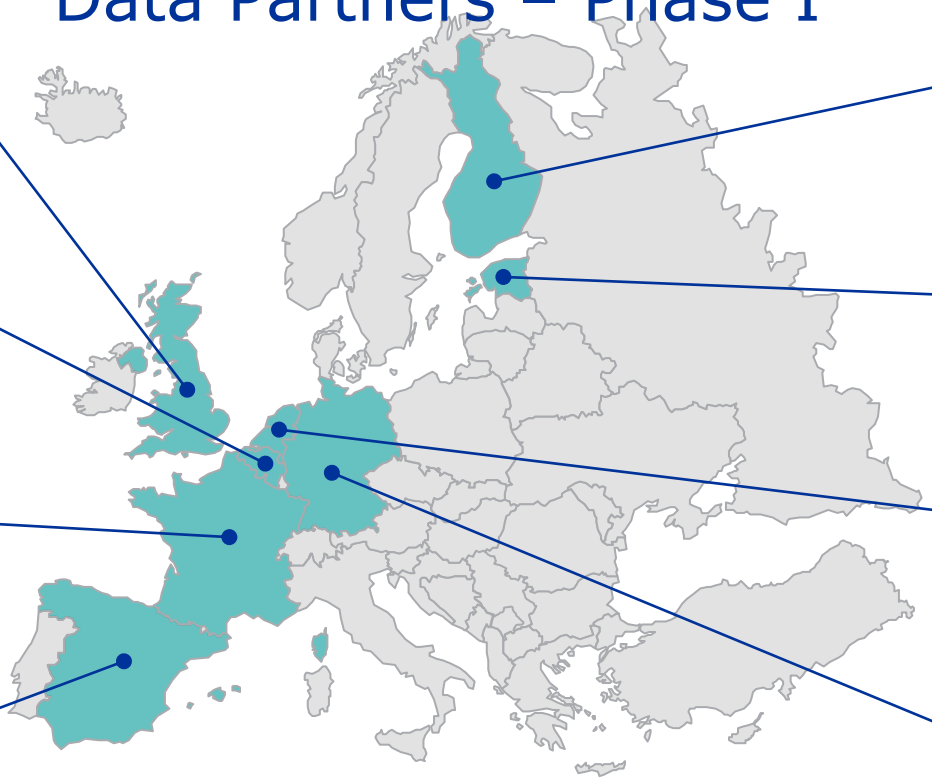
DARWIN EU® is a federated **network** of **data**, **expertise** and **services** that supports better decision-making throughout the product lifecycle by generating reliable **evidence from real world healthcare data**



FEDERATED NETWORK PRINCIPLES

- Data stays **local**
- **Use of Common Data Model** (where applicable) to perform studies in a timely manner and increase consistency of results

Data Partners – Phase I



UK

1. Clinical Practice Research Datalink (CPRD GOLD)

Belgium

2. IQVIA Belgium Longitudinal Patient Data

France

3. Bordeaux University Hospital

Spain

4. IDIAPJGol
5. Parc Salut Mar Barcelona, Hospital del Mar (IMIM)

Finland

6. Auria Clinical Informatics at Hospital District of Southwest Finland (HDSF)

Estonia

7. University of Tartu (Biobank)

Netherlands

8. Integrated Primary Care Information
9. Netherlands Comprehensive Cancer Organisation

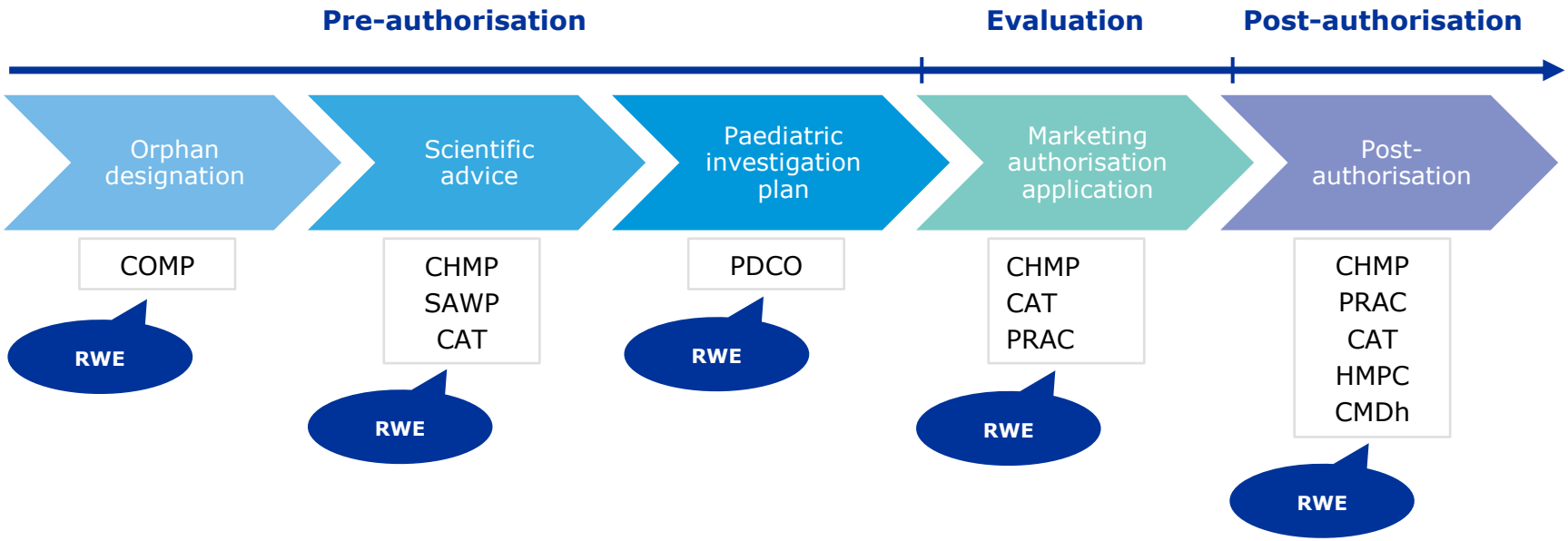
Germany

10. IQVIA Germany Disease Analyser

~26 million active patients

Currently selecting Phase II DPs after open call for expression of interest

RWE use across the medicinal product lifecycle



Milestones completed in 2023

- ✓ Phase II in progress, delivery on target and according to plan
- ✓ Focus on selection of further Data Partners and study conduct (various use cases)
- ✓ Establishment of analytical pipelines and code

		Phase I	Phase II	Phase III	Option I	Option II
Studies	**Off the shelf**	2	6	30	60	60
	Routine repeated	1	6	30	60	60
	Complex study	1	4	12	24	24
	Very complex	0	0	0	1	1
Data Partners (total)		10	20	30	40	

DARWIN EU 'ramping up quickly' with more partners coming on board

Regulatory News | 22 March 2023 | Jc

BASEL, Switzerland – DARWIN EU is
adherents as an increasing number of
Arlett, head of the European Medicin
2023.

EMA unveils first projects as data partners join DARWIN EU project

Two years ago, the EMA proposed a set of recommendations to unlock the potential of big data for public health, headlined by the creation of a platform to access and analyse healthcare data from across the bloc.

High Ambitions For EU DARWIN Platf
Delivery Of First RWE Studies

29 Mar 2023 | NEWS

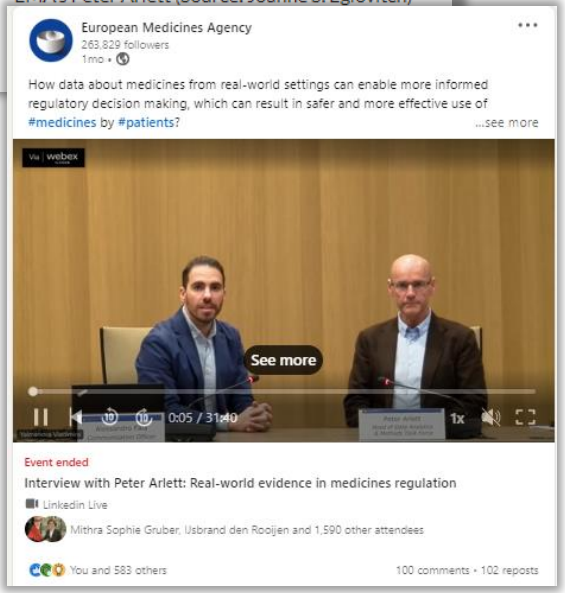
by Vibha Sharma

@ScripRegVibha | vibha.sharma@informa.com

Executive Summary

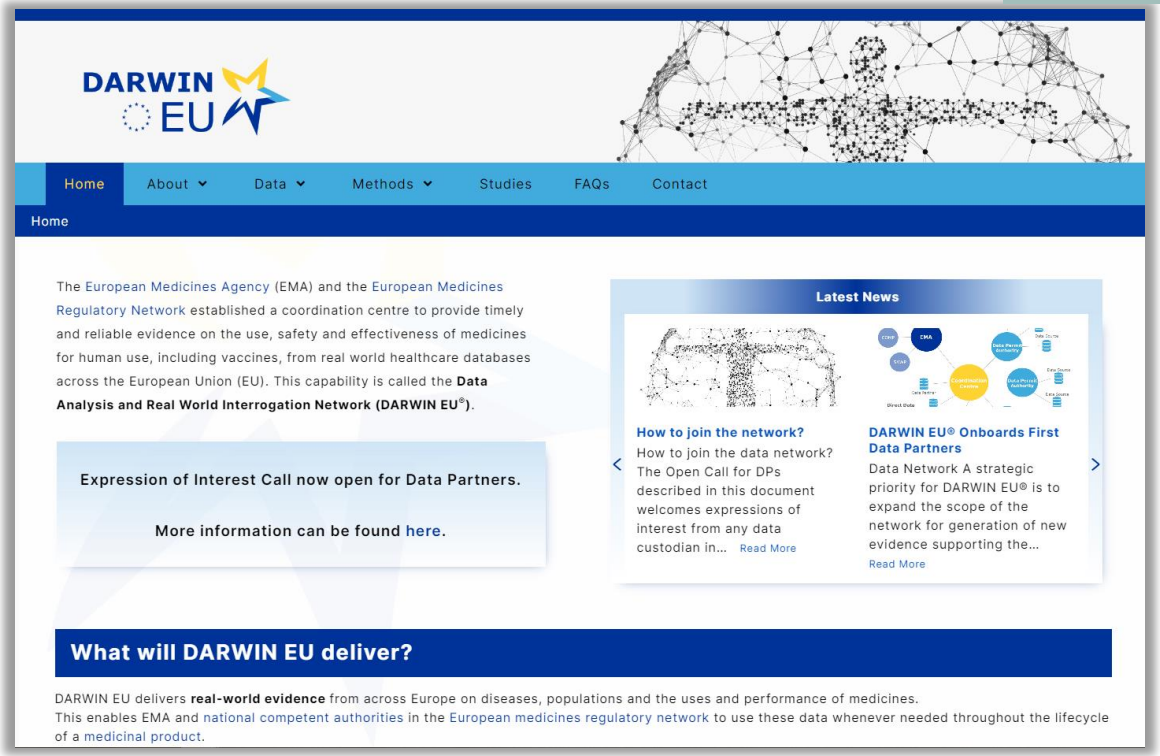
Within one year of its establishment, DARWIN EU has started reaping
regulators commissioning studies using real-world data to better understand diseases, populations and the uses and effects of medicines. The studies can be performed faster, cheaper and at increased capacity.

EMA's Peter Arlett (Source: Joanne S. Eglovitch)



DARWIN EU® Coordination Centre website launched

www.darwin-eu.org



Off-the-shelf studies

These are mainly characterisation questions that can be executed with a generic protocol. This includes disease epidemiology, for example the estimation of the prevalence, incidence of health outcomes in defined time periods and population groups, or drug utilization studies at the population or patient level.

- Patient-level characterisation
- Patient-level DUS analyses

Cohort of newly diagnosed patients or new users of a medicine followed over time. Studies used to characterise disease patients or use of medicines

- Population-level DUS analyses
- Population-level descriptive epidemiology

Used for incidence/prevalence studies. All subjects in the database are eligible subject to minimal inclusion criteria.

Catalogue of standard data analyses

Complex

These are studies requiring development or customisation of specific study designs, protocols, analytics, phenotypes. This includes studies on the safety and effectiveness of medicines and vaccines.

- Prevalent user active comparator cohort studies
- New user active comparator cohort

Studies comparing risk of health outcome in exposed vs unexposed cohorts

- Self-controlled case risk interval
- Self-controlled case series

Studies comparing risk of health outcome in exposed vs unexposed periods in cohort of cases

- Time series analyses and Difference-in-difference studies
- RMM effectiveness

Studies to assess the impact of restrictions in the use of medicines

Studies started in 2022 (year 1/ phase I)

Additional 16 studies to start in 2023 (Phase II) – including HTA/payers, ECDC, EHDS2 pilots

Type	Studies	Data Partners	Planned RWE use
Off the Shelf	**Population level epidemiology** study on prevalence of **rare blood cancers** from 2010 EUPAS50800	NL, ES, UK, BE, DE	Support COMP in orphan designation decision making & useful as background rates for other committees
Off the Shelf	Patient level **drug utilization** study of **valproate-containing medicinal products** in women of childbearing potential from 2010 EUPAS50789	NL, ES, UK, BE, DE, FI	Assess the use of valproate after safety referral
Off the Shelf	Patient level **drug utilisation** study of **antibiotics** on the Watch list of the WHO AWaRe classification, 2010-2021 EUPAS103381	NL, FR, ES, DE, UK	Inform PRAC/CHMP decision making, AMR strategy
Complex	Background all-cause **mortality rates in patients with severe asthma aged ≥12 years** old EUPAS103936	NL, ES x2, UK, EE	Support CHMP post-authorisation inform future decision making

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DARWIN EU

Study Report for C1-003

Author(s): Katia Verhamme, Maria de Ridder, Talita Duarte Salles, Dani Prieto Alhambra, Miguel-Angel Mayer, Romain Griffier

Version: v3.1

Dissemination level: Public

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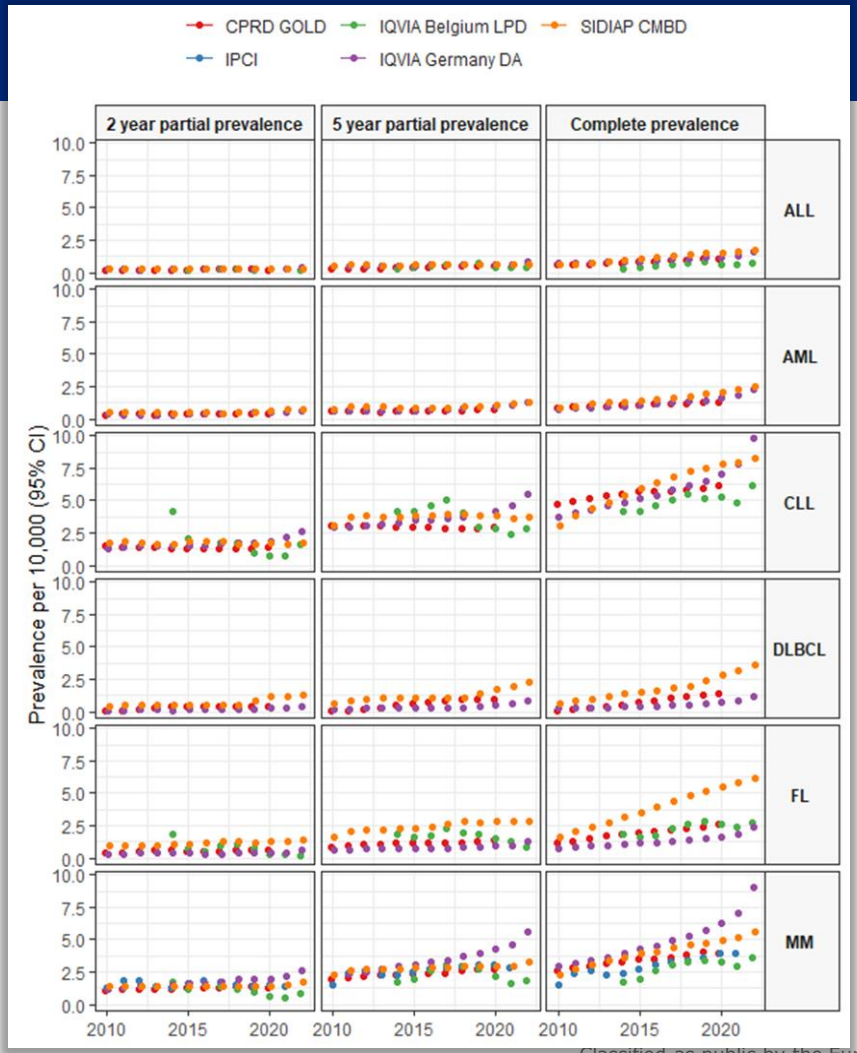
Document History

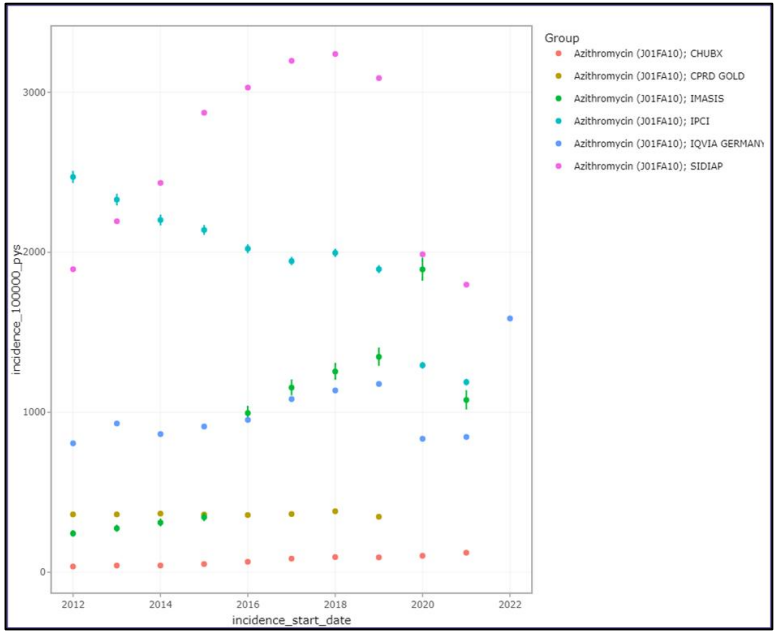
Version	Date	Description
V1.0	23/01/2023	**First Version for EMA review**
V2.0	06/02/2023	**Second Version for EMA review**
V3.0	15/02/2023	**Final version incorporating EMA comments**
V3.1	27/03/2023	**Link to Shiny App added**

More detail in protocols + study reports in EU PAS Register

+shiny apps



Incidence rates of azithromycin



Ref. EUPAS50800 and EUPAS103381

Ongoing studies

Background all-cause **mortality rates in patients with severe asthma aged ≥12 years** old [EUPAS103936]

CHMP
Complex

EHDS coagulopathy of COVID-19

EC/EHDS
Complex

Effectiveness of **COVID-19** vaccines against severe COVID-19 and post-acute outcomes of SARS-CoV-2 infection.

ECDC/VMP
Complex

Drug utilisation study on co-prescribing of **endothelin receptor antagonists** (ERAs) and **phosphodiesterate-5 inhibitors** (PDE-5is) in pulmonary arterial hypertension.

CHMP
OTS

Erythomycin use as prokinetic

NCA
OTS

Multiple myeloma: patient characterisation, treatments and survival in the period 2012-2022

HTA/Payers
OTS

Naloxone use in treatment of opioid overdose.

CHMP
OTS

Drug utilisation study of prescription **opioids**.

PRAC
OTS

OTS = off-the-shelf study

Next steps

- **Selection of data sources for phase II**
- Conduct of **studies in Phase II, pilot use cases and develop pipelines**
- Consultation on **catalogue of standard data analyses** (Methodologies Working Party, DARWIN EU® Advisory Board and Industry)

Any questions?

Further information

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Data Analysis and Real World Interrogation Network (DARWIN EU) | European Medicines Agency (europa.eu)

Coordination Centre website: www.darwin-eu.org

For questions to the Coordination Centre, please contact: enquiries@darwin-eu.org

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