

INTRODUCTION

The ambition of the **European Health Data & Evidence Network (EHDEN)** is to become the trusted observational research ecosystem to enable better health decisions, outcomes and care. Its mission is to provide a new paradigm for the **discovery and analysis of health data** in Europe, by building a large-scale, sustainable federated network of data sources standardized to a common data model. Central to EHDEN is the standardization of health data to the **OMOP common data model** and the adoption of analytical tools developed by the international **Observational Health Data Sciences and Informatics (OHDSI)** open science collaboration.

One of EHDEN's challenging goal is the **harmonization of 100 million** anonymized health records across multiple data sources. This effort is complemented by the implementation of **services and tools** that perform data **standardization**, enable **data discovery** and carry-out of **analytical pipelines**, as well as tools that facilitate **sharing study results**. Furthermore, **stakeholder engagement and training** is a key concern to be pursued in EHDEN. The project will support other IMI2 projects within a wider **Big Data for Better Outcomes** programme, other IMI and non-IMI projects and will collaborate strongly with other key stakeholders in Europe, such as the European Medicines Agency.

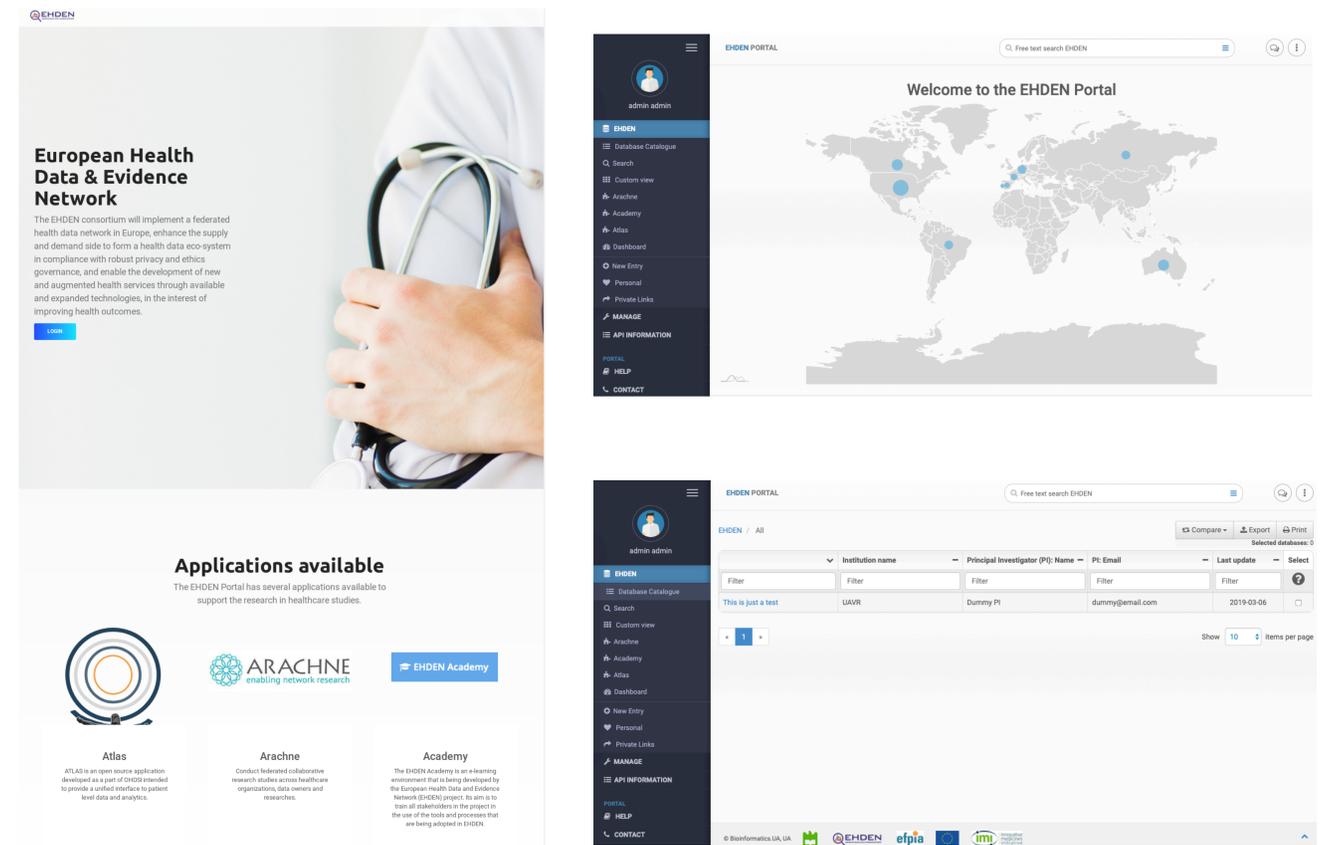
The **EHDEN portal** is a one-stop shop that advertises all EHDEN related functionalities and exposes all tools and services developed under the EHDEN umbrella. It will provide access to several applications to enable large-scale federated data analyses of health care data. This includes, for example, a database catalogue, an e-learning environment, tools for study implementation and a tool for study execution in the federated data network

MATERIALS AND METHODS

The **EHDEN portal** is built based on the MONTRA architecture [1], that supported the EMIF Catalogue as well [2]. Its modular design enables on-the-fly linkage to the following tools and services currently under development within EHDEN:

- **Database Catalogue** – an inventory of **data sources mapped to OMOP CDM within EHDEN**, enriched by relevant meta-data
- **ATLAS** – an open-source tool developed by **OHDSI** to conduct **scientific analyses** on standardized observational data converted to OMOP CDM
- **ARACHNE** – a tool developed for conduct **federated collaborative research studies** across healthcare organizations, data owners and researchers
- **EHDEN academy** – an e-learning environment for **training all stakeholders** in the use of tools and processes developed in the project

RESULTS



CONCLUSION

- **OHDSI collaboration** and open-source tools adoption are at the core of the EHDEN project
- The EHDEN portal is the umbrella that **covers all EHDEN-related functionalities** and allows their quick exploration
- This portal **leverages** on the work developed for the **EMIF project** and shares the architecture of the EMIF Platform
- The portal is currently **under development** by the EHDEN team and will become available to external stakeholders later in the project
- Further design **improvements are undergoing**, mainly at the database view level

References

- [1] Luís Bastião Silva, Alina Trifan and José Luís Oliveira. "MONTRA: An agile architecture for data publishing and discovery". *Computer methods and programs in biomedicine* 160(2018): 33-42
 [2] José Luis Oliveira, Alina Trifan and Luís Bastião Silva. "EMIF Catalogue: A collaborative platform for sharing and reusing biomedical data". *International Journal of Medical Informatics* 126(2019):35-45

