EMIF Deliverable 14.12: EMIF Platform

Executive summary

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The EMIF Platform architecture has been built around two main tracks: the EHR (Electronic Health Record) track; and the Cohort track. The rationale behind this separation is inherited from the Description of Work (DoW) and during the project the advantages for maintaining these two tracks in parallel have been higher than the ones for merging both. The most important reason was to avoid creating tools that are not the most adequate for a specific problem or research goal. But at the same time, several tools are shared by both tracks. The first is the EMIF Catalogue which is currently the entry point in the EMIF platform ecosystem.

The EMIF Catalogue has reached its goal of being a marketplace, where data custodians publish and share information regarding their clinical databases, and where biomedical researchers can search and find data sources based on their study requirements. This web application aggregates clinical databases of the same type into communities, providing a set of tools for end users (researchers) to find, filter and display information based on their specific requirements. At a deeper level, the platform can extract data from sets of databases and provide information regarding the suitability and feasibility of such studies.

We detail in this document the objectives that were reached in the final year of the project and that led to the final version of the EMIF Platform. These objectives are mostly related to tools that have been integrated in the EMIF Catalogue and to the efforts made in creating a self-sufficient platform. Besides the continuous enrichment of the already developed tools, to cope better with upcoming user requirements, the capability to process distributed queries over harmonised databases complying with the Common Data Model (CDM) has been added to the Catalogue, as well as a study request form, a study management system directly accessible from the Catalogue and a final solution for the Private Remote Research Environments (PRRE).

With this infrastructure in place, researchers are able to:

1) publicly access the EMIF Catalogue;
2) join specific communities of their interest;
3) search and explore over a set of databases' fingerprints;
4) assess data suitability, for a considered study, in selected databases;
5) then go deeper with study feasibility based on selection criteria for patients and variables;
6) ask a research question or start a research study request;
7) process distributed queries;
8) manage the study workflow;
9) finally, conduct the study in a secured analysis environment.

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This work has received support from the EU/EFPIA Innovative Medicines Initiative Joint Undertaking (EMIF grant n° 115372).