

Opendataclinica as a platform for the exchange of open data from clinical studies and biomedical information

Background, problem and solution

In biomedical research, it is essential to integrate, standardise and harmonise the information that each research centre collects for its own particular objectives. The use or lack of specialised programmes makes it difficult or impossible to exchange data in order to generate new knowledge.

A new proposal for a web platform is proposed, with emphasis on the management of biomedical research projects, their resources and the analysis of information. This platform is available as Software as a Service (SaaS) and allows to collect and organize the information of any research project or clinical study through flexible forms and databases. It allows you to track your progress and manage the informed consents for compliance with safety standards and legislation in force.

We implemented a web-based solution to manage the most relevant aspects of biomedical research. With the emphasis on the security and privacy of the data. And due to the heterogeneity of the information included, a hybrid model of data was defined in PostgreSQL and the use of JSONB format as a storage model to allow high flexibility in the types of information involved.

Objectives

Implement an integrated biomedical information tool to manage clinical and biomedical studies.

Generate open, anonymized and standardized biomedical data sets to allow new comparative research.

Results

A software called OpenDataclinica was developed based on web technology, which gathers and organizes the information of research projects through forms and flexible databases. It attaches informed consents and tracks their progress. It is currently used in a joint clinical study between a public hospital and a private clinic.

Outlook

The following planned features are the implementation of recommendations from the Research Data Alliance, the addition of genomic patient information to correlate phenotype-genotype, and an analysis framework with R software.

References

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