



OpenFurther is an informatics platform developed by the Biomedical Informatics Core of the University of Utah's Center for Clinical and Translational Science that supports federation and integration of data from heterogeneous and disparate data sources.

It provides semantic and syntactic interoperability as it federates health information on-the-fly and in real-time. It does not require data source partners to extract data – facilitating integration by retaining data in their native format.

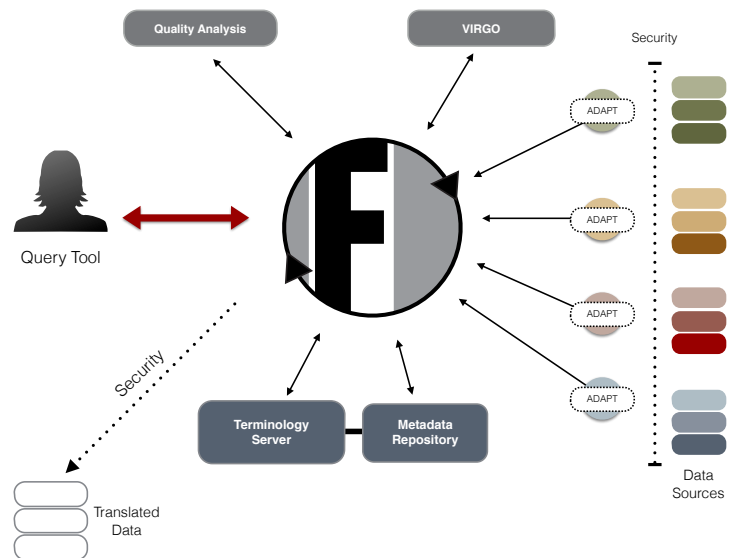
OpenFurther leverages knowledge on how data source partners store their data to link them together. Using this knowledge it empowers users to query various data sources and return results without having to understand specifics at each source. OpenFurther is currently used in the translational research domain to support clinical research.

Technical Components of OpenFurther

- Federated Query Engine: Orchestrates the planning and execution of the queries to each data source and processes the joining and merging of results between sources.
- Data Source Adapters: Specific code to connect and query each target source as specified by each instantiation's security and query requirements.
- VIRGO: Identity resolution is employed by the FQE to find distinct and common patients in the result set.
- Metadata Repository: Stores the data models for each data source, common models and their relationships.
- Terminology/Ontology Services: Stores concepts described in each data source, in standard terminologies and ontologies and inter-terminology mappings.
- Query Tool
- Quality and Analytics Framework
- Security Framework

Potential Use cases:

- Cohort identification
- Comparative effectiveness research
- Public health surveillance
- Generalized data harmonization
- Secure data translation and delivery
- Research networks



References:

Architecture of a Federated Query Engine for Heterogeneous Resources

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Federated querying architecture for clinical & translational health IT

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