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May 20th, 12:30 PM

Providing an Adaptive Research Data Infrastructure for Clinical and Translational Investigators

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Title: Providing an adaptive research data infrastructure for clinical and translational investigators.

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Objective: To implement an extensible patient-oriented data management system that integrates source clinical data, clinical trials management studies, research and financial data.

Abstract: Data in its many forms is a critical component of effective and productive research. As technology continues to evolve, and the volume and variety of sources of data continue to grow, accessing and leveraging all of this information is an ever increasing challenge. Concurrently, technology and information science is also driving novel ways to analyze, visualize, process and store this increasing amount of data. The ability to take advantage of these growth areas in order to aid the research efforts of the university is a critical need.

The challenge to bring all of these various components into a unified resource for the university is a prodigious and multidimensional one. A subsection of the target data streams and sources include primary source clinical data, secondary source research data, clinical trials research data, financial data, genomic data to name a few. These sources reside in multiple SQL databases, HL7 message streams, hospital tracking systems, billing systems, surveys and others.

To aid in overcoming this challenge, there is an ambitious effort underway to create a platform that will facilitate the aforementioned goals. The IT department, through the efforts of its Research Computing Services division will be embarking on this leading-edge, collaborative, and much needed data repository

The proposed design of the repository will take the form of a data aggregation layer capable of handling many disparate data feeds and sources, storing data in ways that support multiple access and analysis methods, all while providing researchers with increased tools and visibility.

If our ability to manage and learn from this rapid increase of information and technologies grows, then so will our research opportunities. The effect will bring new innovations to the research community here at the university and by extension the community at large.