

POSTER ABSTRACTS

15th Annual HMO Research Network Conference
April 26-29, 2009 – Danville, PA

11:30 am–Noon & 1:30–2:00 pm
Monday, April 27th • Lobby

PS1 – 24

Proof Of Principle Demonstrations Of A Distributed Research Network: Findings And Lessons Learned

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Researchers, policy makers and others commonly use electronic data routinely collected during the delivery of, or payment for, medical care to study the “real world” effectiveness, comparative effectiveness, safety, and costs of medical interventions. However, even very large individual healthcare data resources are often not big enough to adequately conduct post-marketing evidence studies. To improve the ability to use multiple distributed data resources, like the HMORN’s Virtual Data Warehouse, the Developing Evidence to Inform Decisions about Effectiveness (DEClIDE) centers at the HMORN Center for Education and Research on Therapeutics (CERT) and the University of Pennsylvania are developing a design for a scalable distributed research network. Funded by AHRQ’s Effective Health Care Program, the project intends to develop the framework for a distributed research network that will help close the knowledge gap regarding the “real world” effectiveness, comparative effectiveness, and safety of medical technologies. The network will have these important attributes: distributed architecture, strong local control of data uses, and federated querying. Constructing the network is a challenge, even among sites with fully operational local virtual data warehouse (VDW) installations, because of differences in computing environments and information systems, the need for responsible stewardship of clinical records, concerns related to data privacy, software development obstacles, the use of proprietary data, and the need to develop effective governance mechanisms. To investigate some of these issues, the project includes implementation of a proof of concept prototype involving these HMORN sites: Kaiser Permanente Northern California, Kaiser Permanente Colorado, Harvard Pilgrim Health Care, Group Health Cooperative, and Geisinger Health System. The goals of the proof of concept work are to distribute a query to separately stored data resources, execute the query remotely, and present aggregated results to an authorized system user. The proof of concept will be designed with a single network portal that manages the network software, including security, authorization, authentication, messaging, and query aggregation. We will present our findings from the proof of concept, including information on specific architecture and design used, the success of the proof of concept, and lessons learned from implementation.