Abstract

In 2005, a major collaboration in Melbourne Australia successfully completed implementing a major medical informatics infrastructure – this is now being used for discovery research and has won significant expansion funding for 2006 - 2009. The convergence of life sciences, healthcare, and information technology is now driving research into the fundamentals of disease causation. Key to enabling this is collating data in sufficient numbers of patients to ensure studies are adequately powered. The Molecular Medicine Informatics Model (MMIM) is a ‘virtual’ research repository of clinical, laboratory and genetic data sets. Integrated data, physically located within independent hospital and research organisations can be searched and queried seamlessly via a federated data integrator. Researchers must gain authorisation to access data, and inform/obtain permission from the data owners, before the data can be accessed. Data standards have been progressively incorporated, driven by the research community and Metadata management software has been implemented which links to the technical data. The legal and ethical issues surrounding the use of this health data have been addressed so data complies with privacy requirements. The MMIM platform has also solved the issue of record linking individual cases and integrating data sources across multiple institutions and multiple clinical specialties. Significant research outcomes already enabled by the MMIM research platform include epilepsy seizure analyses for responders / non responders to therapy; sensitivity of faecal occult blood testing for asymptomatic colorectal cancer and advanced adenomas over a 25-year experience in colorectal cancer screening; subsite-specific colorectal cancer in diabetic and non diabetic patients; and the influence of language spoken on colorectal cancer diagnosis, management and outcomes. Ultimately the infrastructure of MMIM enables discovery research to be accessible via the Web with security, intellectual property and privacy addressed.

About the speaker

Marienne Hibbert is the Project Director of the Bio21:MMIM Project. She has a lead the MMIM project team for Melbourne Health since MMIMs inception. Her background is in health research and epidemiology as well as Health IT, Informatics and project management. Her passion is improving health outcomes – through health promotion, research and improved informatics.