

Title: Using Biobanks to Make New Kinds of Discoveries

Biobanks linked to electronic health records are a unique resource for biomedical discovery research. Using examples from BioVU, the biobank at Vanderbilt University with DNA samples on > 250,000 subjects linked to electronic health records going back 10-15 years, and > 20 years for some individuals, I will illustrate the ways that biobanks offer the opportunity for asking quite different questions than we usually ask in traditional genetic studies of disease. I will describe ways of iterating between biobank and model systems that improve our ability to discover mechanisms of disease pathogenesis underlying gene-disease associations, and highlight new approaches for using phenome patterns associated with established genes for common diseases to enhance the ability to discover novel genes contributing to those diseases.

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