Biobank Spanning Multiple Diseases Fosters Translational Research

**Description:** The goal of this project was to expand the recently established UW Carbone Cancer Center’s Translational Science BioCore from a repository of human biological samples and associated molecular data and health outcomes information to one spanning multiple diseases.

**Relevance:** Complex human diseases can be understood, prevented and treated most effectively through a multi-layered approach that takes into account both laboratory discoveries and health care outcomes.

For example, if patients suffering from the same disease respond differently to particular treatments, access to patient samples in the Biobank will allow researchers to query the molecular or genetic reasons underlying such differential responses. The materials in the Biobank also can advance public health studies involving disease screening and surveillance.

The samples and information in the Biobank will allow researchers across UW-Madison to pursue innovative, collaborative, transdisciplinary research linking laboratory findings with clinical outcomes for various human diseases.

**Results:** Adding non-cancer samples to the Biobank has been a key achievement of this project. Between 2010 and 2012, about 50 percent of the samples collected were from non-cancer patients. Collection of blood, urine and other biofluids started in 2011. Patients are not asked to provide these samples unless they are required for clinical testing. Overall, there has been a significant increase in the number and diversity of samples in the Biobank. Researchers have access to more than 28,000 samples from over 6,000 patients. Collaborations with other tissue repositories (for example, the Translational Research Initiatives in Pathology lab) allow researchers access to hundreds of thousands of archived, preserved tissue for molecular and translational research.

Because the quality of specimens is critical to successful research, rigorous quality checks ensure sample integrity. Adoption of a standard operating procedure will help streamline the collection and distribution of samples.

Plans include expanding sample storage capacity, increasing services offered and serving as a bank for validating cell lines.