Duke Translational Medicine Institute

Duke Biobank of the Duke Translational Medicine Institute integrates multiple biobanks and improves specimen management with LABVANTAGE

With the explosive growth in the number of specimens stored in biobanks, leading biobanking institutions are striving to better organize their sample inventory and associated data. A biobanking informatics system is essential to ensure sample viability, inventory and data fidelity for the future. For this reason, the Duke Biobank, based in the Duke Translastional Medicine Institute of Duke Medicine, adopted LABVANTAGE as their Laboratory Information Management System (LIMS) to improve how they manage sample inventories in multiple biobanking entities.

Biobanks—also known as biorepositories—collect, process, store and distribute solid and fluid biospecimens such as tissue or blood as well as the associated annotation. Duke Medicine faced the challenge of having more than a dozen major biobanks using unique systems to track their inventory. These systems were not linked to each other and used different terminologies. Disparate systems made it impossible to query across banks and identify existing Duke Medicine samples for relevant use. Important clinical annotation and regulation information in some cases was not being tracked with the specimens, which limited the viability and use of biospecimens.

Duke Medicine needed a web-based solution that could adhere to their security regulations as well as integrate with other existing informatics systems. "We were looking for a LIMS that could receive data from Duke Medicine's Clinical Data Warehouse, its electronic IRB system, several Clinical Trial Management Systems, as well as feed data into the Duke Biobank's Index of Biospecimens," stated Helena Ellis, Director of the Duke Biobank. "We wanted a system that could enforce a standard terminology and comply with biobanking best practices." Their chosen solution was LABVANTAGE.

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Duke Medicine's diverse biobanks are in the process of retiring their systems and implementing LABVANTAGE's BioBanking solution to improve operations, ensure interoperability and eliminate informatics redundancies. "LABVANTAGE is intuitive, flexible and robust and will increase the value of biospecimens collected and stored at Duke which will allow researchers to better realize their potential value," explained Ellis. With LABVANTAGE, the Duke Biobank will be able to consolidate its disparate biobanking information systems into a single system that manages the lifecycle of biospecimens, including participant consents, clinical annotation, critical pre-analytical variables, sample locations and data from test results.

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