

New model of collaborative cancer research may help advance precision medicine

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A new system that facilitates data and biospecimen sharing among cancer centers may speed cancer research findings from the laboratory to patient care, according to a study led by researchers at the University of Pittsburgh School of Medicine. The study was published December 15 in *Cancer Research*, a journal of the American Association for Cancer Research.

Researchers from UPMC CancerCenter and its partner, the University of Pittsburgh Cancer Institute, Georgia Regents University Cancer Center, Roswell Park Cancer Institute and the Abramson Cancer Center of the University of Pennsylvania developed the TIES Cancer Research Network (TCRN). The researchers propose that the TCRN, a federated network that uses advanced text processing of medical reports, is a useful model to promote translational research across all [cancer](#) centers.

As the need for personalized therapies and precision medicine grows, the development of more sophisticated systems to facilitate the sharing of data and even tissue samples across centers is essential.

"With the TCRN, we can study rare diseases and rare behaviors of common diseases much more effectively. Investigators may not have enough cases at a single institution to support a compelling study, but they can now aggregate and access data and biomaterials across multiple institutions," said lead researcher Rebecca Jacobson, M.D., M.S., professor of Biomedical Informatics, Pitt School of Medicine, and [chief information officer](#), Institute for Personalized Medicine.

Traditionally, cancer researchers from various institutions have collaborated through centralized networks, in which one institution accepts all of the relevant data and materials and makes it available to the others. Each individual study requires its own technology infrastructure and agreements to operate. As an alternative, the researchers set out to create one infrastructure that could be used for many studies, across many institutions, without moving any of the data.

"The centralized model cannot scale to a national network. Every new study or new institution means more work for the central data broker, and institutions don't want to cede their authority to manage their own data," Dr. Jacobson said. "This new network model provides the technology, legal agreements and standards needed to easily use de-identified data and tissue specimens across institutions. You can think about it like a superhighway for data and biomaterial sharing, helping researchers get there much, much faster. "

Jacobson's team previously developed the Text Information Extraction System (TIES), a state-of-the-art language processing system that serves as the underlying technology for TCRN.

Provided by University of Pittsburgh Schools of the Health Sciences

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