

From a biobank to better support for team science, how TUTSI plans to expand clinical research

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The Tulane University Translational Science Institute aims to substantially increase clinical and translational research across the university. Photo by Sally Asher.

The newly expanded [Tulane University Translational Science Institute \(TUTSI\)](#) aims to substantially increase clinical and translational research across the university. Tulane Today spoke with TUTSI Director [Dr. Jiang He](#), Joseph S. Copes MD Chair and Professor of Epidemiology, about the new institute's aggressive plans for growth, supporting more "team science" and bringing medical discoveries into the community to help people lead healthier lives.

Tulane has ongoing clinical research underway at the School of Medicine and School of Public Health and Tropical Medicine. How is the new organization going to fit in with what we do for clinical research already?

The new Tulane University Translational Science Institute will become a university-wide research institute just like the Bywater Institute or the Tulane Brain Institute. TUTSI will promote, support and coordinate clinical and translational research efforts across schools.

How does TUTSI plan to expand clinical research?

We will do a few things. The first is through training. We will start by expanding [our master's degree program in clinical investigation this year](#), and then we will create a PhD program in clinical investigation, which will begin next year. These will be university-wide programs that will have participation from the schools of medicine, science and engineering, social work, and, of course, public health. We will work together to train the next generation of leaders and investigators in clinical and translational research. In addition, through our methodology core, we will provide consultations in study design and data analysis to clinical investigators in order to help them successfully apply for external research grants. The goal is to enhance our faculty's competitiveness for industry and federal funding in clinical research.

Tulane has long been a leader in attracting federal funding for basic science research. Clinical and translational research has been identified as a research growth area. How do you see TUTSI being a catalyst for this?

The provost, the vice president for research, the deans of the schools of medicine and public health, and Tulane's health science leadership strongly support our efforts to increase clinical and translational research at Tulane. The leadership hopes that TUTSI will be able to promote and coordinate these efforts and provide support to faculty who engage in clinical research. In addition, TUTSI can help departments

and schools recruit faculty from outside Tulane who have an interest in clinical research. TUTSI will provide the infrastructure and support to help new faculty with their projects' study design, patient recruitment, intervention, and data management and analysis. This support is very attractive to faculty moving to Tulane because they'll be confident that they will be able to successfully conduct their clinical research within this research infrastructure.

Why are clinical and translational research programs more challenging to build? Is it because they require much more support in terms of staffing, infrastructure and community or clinical partners for patient recruitment?

Yes, clinical and translational research requires multidisciplinary collaboration, especially for large-scale multicenter epidemiology studies and clinical trials. For large-scale clinical research, we are required to assemble a research team, which includes clinical scientists, epidemiologists, biostatisticians, behavioral scientists and even laboratory scientists. In addition, we need research nurses, study coordinators, recruiters, dieticians, clinical laboratory technicians, technologists and data managers. We also need clinical research space, clinical biochemical laboratories, freezer farms and access to electronic health data. This is why people call clinical and translational research "team science," because it requires a team working together. Clinical research really requires broad university-wide coordination so that we can put together a strong team and compete for grants to fund large clinical trials and clinical research studies.

Will patients for TUTSI studies be at Tulane Medical Center or will you have your own recruitment center?

We will recruit patients from both hospitals and communities, though we will have different recruitment strategies depending on the research projects. With the expansion, we hope that Tulane investigators will take on more leadership roles in multicenter clinical trials. Right now, Tulane investigators more commonly serve as clinical site investigators in [multicenter trials](#), which means Tulane helps investigators at other universities with patient recruitment. In the future, we hope to build up our own clinical research team and take leading roles in national and international multicenter clinical trials.

Will TUTSI have a physical clinic and headquarters?

At present, TUTSI is housed in the Tidewater Building on the 20th floor, and the TUTSI research clinic is located on the 11th floor. Hopefully, in the future, we will expand our operation and have more clinical research and office space. We hope to make TUTSI a real university-wide institute that will provide clinical research support to all clinical researchers, not only those in the schools of public health or medicine.

TUTSI will get some new space — a ‘biobank’ freezer farm on the campus of Tulane National Primate Research Center. What is a biobank?

For most clinical and epidemiological studies, researchers collect bio-samples like blood, urine or even some tissue samples. Investigators store these samples in a deep freezer to keep them for a long period of time. These bio-samples can not only be used to answer the study questions we have now, but more importantly, they can be used to answer new study questions in the future. For example, we can use stored samples to measure a novel biomarker and investigate its relationship with a clinical disease. So with a biobank, we will be able to keep bio-samples for the future to answer new study questions.

Would it be the same researchers going back to those samples that are in the biobank or will these samples be open to other investigators who may want to use them in a different research study?

The biobank will be a resource for new collaborators and will be open to other researchers within and outside Tulane. We will work with investigators with novel research ideas and apply for research grants from NIH or other external funding agencies to answer these new study questions. Bio-samples and related patient data will enhance our competitive advantage for new research opportunities.

In addition to clinical and translational research, one of TUTSI’s missions is supporting implementation research. That’s a research area that many people may not be familiar with. Can you explain it?

Sure. Translational research transfers scientific discoveries from laboratories into new methods for diagnosis, treatment, and prevention of diseases through clinical research and clinical trials. Furthermore, it encompasses the translation of results from clinical trials into routine clinical practice and public health policy. The latter relates to implementation research. Implementation research focuses on how to adopt and integrate evidence-based interventions, clinical guidelines or public health policies into daily clinical practice or into community disease prevention. For

example, [the church study we're working on](#) currently is an implementation study. We want to implement the American Heart Association's new prevention guidelines in the community to reduce cardiovascular disease disparities among African Americans. So implementation research has a direct impact on public health.

Right, so it's not enough to discover what works in terms of clinical practice, it's also important to make sure people actually use so it can make a difference in the lives of patients.

Yes, exactly. That's the ideal.

Interview by Keith Brannon.