FACT SHEET

The Clinical and Translational Science Award

Frontiers: From our labs to your world – better health faster

In June 2011, the University of Kansas Medical Center joined an elite group of research institutions across the country when it received a Clinical and Translational Science Award from the National Institutes of Health. The medical center will receive $20 million over five years to intensify its translational research – research that transforms laboratory discoveries into treatments and cures.

What is a Clinical and Translational Science Award?

Launched in 2006, the Clinical and Translational Science Awards (CTSA) program supports a national group of medical research institutions. Its goals are to speed the translation of laboratory discoveries into treatments for patients, to engage communities in clinical research efforts and to train a new generation of clinical and translational researchers.

As of summer 2010, there were 55 institutions in the CTSA group, which spans a range of scientific expertise as well as geographic regions. The program was designed to include a total of 60 institutions. The University of Kansas Medical Center submitted its application in October 2010, with just five slots remaining.

Examples of translational research:

Researchers at KU are already deeply engaged in translational research. Here are just three examples:

- Paclitaxel is an effective, commonly used chemotherapy drug – but negative side effects are associated with the solvent that allows it to be administered intravenously. Three scientists on the Lawrence campus, Bala Subramanian (Department of Chemical & Petroleum Engineering), Valentino Stella and Roger Rajewski (Department of Pharmaceutical Chemistry), developed technology that broke down paclitaxel into a nanoparticle form, allowing it to be mixed with water and administered...
to patients in the abdomen. KUMC scientist Katherine Roby (Department of Anatomy & Cell Biology) tested the new drug in mice and found it effective. The technology was licensed to Lawrence-based CritiTech Inc., and in June 2008 the FDA approved a Phase I clinical trial. Researchers believe this new drug, Nanotax, will provide a less-toxic treatment for ovarian cancer.

- Susan E. Carlson (Department of Dietetics and Nutrition) did pioneering research with preterm infants and docosahexaenoic acid (DHA), the omega-3 fatty acid common in fish oil. Partly as a result of her work, DHA was added to U.S. infant formulas in 2002. Carlson and John Colombo (Director, Life Span Institute, Lawrence) then found that infants born to mothers with higher DHA status have more advanced attention skills through the second year of life. Kathleen Gustafson (Hoglund Brain Imaging Center) joined them and subsequently found that infants who took DHA supplements showed longer attention to task, lower heart rates and increased heart-rate variability.

- Jeffrey Burns (Department of Neurology) started the KU Alzheimer and Memory Program in 2004 to promote healthy brain aging and strategies for preventing Alzheimer’s disease. He is investigating the role of cardio-respiratory fitness and how exercise may slow the progression of Alzheimer’s disease.

What will KU Medical Center do with the funding?

KU Medical Center will greatly expand the reach of its existing Heartland Institute for Clinical and Translational Research, adopting the umbrella name Frontiers to reflect the organization’s pioneering research.

Frontiers will be headquartered at the KU Clinical Research Center in Fairway, the northern point of the Johnson County Education and Research Triangle that was created after Johnson County voters passed a one-eighth cent sales tax in 2008 to expand higher education and research in the county. (Other points of the triangle are the Kansas State University International Animal Health and Food Safety Institute in Olathe, and the KU Edwards Campus Business, Engineering, Science & Technology Building in Overland Park.) Scheduled to open in early 2012, the KU Clinical Research Center will house The University of Kansas Cancer Center’s Phase I Oncology Trial Unit as well as other clinical trials conducted through Frontiers.

Scientists from throughout the region will have access to centrally located resources such as biostatistics, biomedical informatics and other services to meet contractual, legal, regulatory and other needs as they conduct research.

The Frontiers initiative will engage communities in efforts to identify their health care needs, and will work with other CTSA institutions throughout the country to address emerging issues in health care delivery.

For more information about KU Medical Center, visit kumc.edu

Our partners

Our network of academic and health-delivery institutions will allow us to improve the environment for clinical and translational research not only at the University of Kansas but throughout the region.

Academic partners:
- University of Missouri-Kansas City
- Kansas City University of Medicine and Biosciences

Health delivery system partners:
- The University of Kansas Hospital, Kansas City, Kan.
- Wesley Medical Center, Wichita
- Via Christi Health System, Wichita
- Veterans Administration Medical Center, Kansas City
- St. Luke’s Health System, Kansas and Missouri
- Children’s Mercy Hospitals and Clinics, Kansas and Missouri
- Truman Medical Center, Kansas City, Mo.
- Swope Health Services, Kansas City, Mo.
- Center for Behavioral Medicine, Kansas City, Mo.