THE UNIVERSITY OF KANSAS MEDICAL CENTER serves Kansas through educating the health care leaders of tomorrow, making research discoveries that are changing the world, and building healthier communities throughout our state. Home of the KU School of Medicine – the only medical school in Kansas – as well as the School of Nursing and School of Health Professions, the medical center is a major regional hub of health care innovation, biomedical research and state-of-the-art patient care through our affiliations with The University of Kansas Hospital, Veterans Affairs medical centers, Via Christi Health and Wesley Medical Center in Wichita, and the Salina Regional Health Center.

In this report, you will see that 2013 was another outstanding year for our institution. Our achievements have included exciting research discoveries in the areas of brain repair, Alzheimer’s disease, breast cancer and polycystic kidney disease; the KU School of Nursing earning a prestigious Center of Excellence designation; and national recognition for the School of Medicine’s primary care and family medicine programs.

In 2013, our outreach efforts in our community and throughout the state remained a major priority. Our doctors, nurses and other health care professionals worked tirelessly this year to improve the health and well-being of residents in all 105 Kansas counties.

As we look ahead to 2014 and beyond, we are eager to embrace new and exciting initiatives that will further advance our missions in education, research, patient care and community engagement. With help from our many community partners and relationships, we are excited about what the future holds for KU Medical Center.

DOUGLAS A. GIROD, MD  KAREN L. MILLER, PhD, RN
Executive Vice Chancellor  Senior Vice Chancellor for Academic & Student Affairs
KU Medical Center  KU Medical Center
Interim Executive Dean  Dean
KU School of Medicine  KU Schools of Health Professions and Nursing
The number of K-12 students in Kansas who participated in KU Medical Center-sponsored activities designed to encourage their interest in health care, math and science careers: 1,405

The number of medical, nursing and health professions students enrolled at KU Medical Center in the 2013-14 academic year: 3,313

The number of Kansas health care professionals who participated in KU Medical Center-sponsored continuing education courses and conferences in fiscal year 2013: 8,069

The number of KU Medical Center alumni who live and/or practice in Kansas: 12,619
STUDENTS ARE THE CORE OF KU MEDICAL CENTER’S MISSION. Our responsibility is to educate the health care leaders of tomorrow – the physicians, nurses, and other health care professionals who will make up the majority of Kansas’ health care providers – as well as our future scientists and health care educators.

This was a noteworthy year for the education programs in our Schools of Medicine, Nursing and Health Professions. We welcomed the third classes for our expanded medical education programs in Salina and Wichita, which are aimed at training more primary care and rural physicians. The KU School of Medicine–Wichita earned national attention when a study published by the Association of American Medical Colleges’ Academic Medicine ranked our Wichita campus sixth in the country for training residents who go on to practice in primary care. We are proud that nearly half (49 percent) of the practicing physicians in the state of Kansas were trained at the KU School of Medicine.

In 2013, KU Medical Center raised our commitment to interprofessional health care education, which is helping our students learn how to function as part of a health care team and carry this knowledge, skill, and value into their future practices. Our students are leading a vigorous grassroots effort to enhance interprofessional training opportunities with their peers in the Schools of Medicine, Nursing and Health Professions.

We are proud of how our students and faculty continued the tradition of education excellence at KU Medical Center in 2013.
THE LANDON CENTER ON AGING GETS $1 MILLION REYNOLDS FOUNDATION GRANT

The Landon Center on Aging received a $1 million grant from the Donald W. Reynolds Foundation to help improve the ability of medical students, resident physicians, and faculty to work in multidisciplinary teams to provide better care for older adult patients. The four-year grant will build on the Landon Center’s original 2006 Reynolds Foundation funding that established the Kansas Reynolds Program in Aging. The program will provide specific geriatrics training to all KU School of Medicine students; all family medicine and internal medicine resident physicians; many of the undergraduate students in the School of Nursing; and graduate students in the Schools of Nursing, Health Professions, Social Welfare, Pharmacy and Law.

KU SCHOOL OF NURSING EARNS CENTER OF EXCELLENCE DESIGNATION

The KU of Nursing was designated a Center of Excellence in Nursing Education in July by the Washington, D.C.-based National League for Nursing. KU is the only nursing school in the region and one of just 17 nursing schools in the country to earn the prestigious designation since the National League for Nursing began the program nine years ago. The designation, which extends through 2017, acknowledges the KU School of Nursing’s commitment to enhancing student learning and professional development. The University of Kansas Hospital was one of three academic medical centers to earn the designation in 2012, when the National League for Nursing expanded designation to include health care organizations.

JAYDOC FREE CLINIC CELEBRATES ITS 10TH ANNIVERSARY

The JayDoc Free Clinic, where KU School of Medicine students provide health care to uninsured and underinsured residents in greater Kansas City, marked its 10th year in 2013. The JayDoc Clinic in Kansas City, Kan., operates three evenings a week in the offices of Southwest Boulevard Family Health Care, a few blocks from KU Medical Center. There is also a JayDoc Clinic in Wichita which is open on Saturday mornings. The clinics are an all-volunteer effort, from the Spanish-language interpreters to the attending physicians who coach the students in seeing and treating patients. The JayDoc Clinic in Kansas City was on track to see more than 1,600 patients in 2013. The Wichita JayDoc Clinic was on track to treat more than 300 patients in 2013.

GARDEN CITY HIGH SCHOOL STUDENTS DEMONSTRATE THEIR RESEARCH SKILLS

More than 100 students from the Garden City High School Health Sciences Academy had the chance to show their skills in evidence-based scientific research as part of Night@The Lab, a health career promotion event hosted by the KU Area Health Education Center. Night@The Lab was created to give high school students the opportunity to improve their professionalism, develop research skills and learn about the academic rigors of college. The Garden City students were put into groups of three and given a topic related to cardiovascular or respiratory health. The students had five weeks to research their topics and develop a short presentation and poster. The top three teams then traveled to the KU Medical Center’s Kansas City campus, where they delivered presentations to faculty and staff. Topics for the presentations covered a wide range of health issues: blood pressure, the effects of caffeine on the body, asthma, the effect of the supplement creatine on athletes, obesity, smoking, cholesterol, and how physical fitness affects lung capacity.

AWARDS AND RECOGNITION

Several KU Medical Center students garnered major recognition for academic excellence in 2013:

- Ph.D. student Kellyann Jones was selected as a member of the American Society for Cell Biology’s committee of post-docs and graduate students.
- Second-year medical student Sarafina Kankam is studying at Vanderbilt University through the American Society of Hematology’s Minority Medical Student Award Program. The program provides promising minority medical students with an opportunity to design and implement a hematology-related research project.
- Alyssa Fey, a physical therapy doctoral student, received the Association of Schools of Allied Health Professions Scholarship, which goes to outstanding students in

WICHITA MEDICAL STUDENTS VOLUNTEER AT PHILMONT RANCH

Over the summer, two dozen KU medical students volunteered for a month-long rotation at the Philmont Ranch as part of unique decades-long partnership between the two institutions. Philmont Scout Ranch is the Boy Scouts of America’s largest national High Adventure Base, located in more than 200 square miles of rugged northern New Mexico wilderness. Supervising the medical students were KU faculty members from the Departments of Pediatrics, Surgery, Neurology, Family Practice, Gynecology, and Physical Medicine. With about 2,000 Scouts and adult volunteers using the ranch and engaged in fairly strenuous activities, the clinic stayed busy. Many of the problems were routine — blisters, turned ankles, poison ivy, minor lacerations. But there were also serious medical emergencies, such as adults suffering chest pain. Karen Drake, assistant director of student affairs at the School of Medicine–Wichita, says the Philmont Ranch program is so popular with School of Medicine students that there is usually a waiting list.

KU MEDICAL CENTER STUDENTS RECEIVE MAJOR AWARDS AND RECOGNITION

The four-year grant will build on the Landon Center’s original 2006 Reynolds Foundation funding that established the Kansas Reynolds Program in Aging. The program will provide specific geriatrics training to all KU School of Medicine students; all family medicine and internal medicine resident physicians; many of the undergraduate students in the School of Nursing; and graduate students in the Schools of Nursing, Health Professions, Social Welfare, Pharmacy and Law.

AWARDS AND RECOGNITION

Several KU Medical Center students garnered major recognition for academic excellence in 2013:

- Ph.D. student Kellyann Jones was selected as a member of the American Society for Cell Biology’s committee of post-docs and graduate students.
- Second-year medical student Sarafina Kankam is studying at Vanderbilt University through the American Society of Hematology’s Minority Medical Student Award Program. The program provides promising minority medical students with an opportunity to design and implement a hematology-related research project.
- Alyssa Fey, a physical therapy doctoral student, received the Association of Schools of Allied Health Professions Scholarship, which goes to outstanding students in
the allied health professions who are achieving excellence in their academic programs and have significant potential to assume future leadership roles in the allied health professions.

• Third-year medical student Marcus Rushing attended a forum in Washington, D.C., for recipients of scholarships from the United Health Foundation’s Diverse Scholars Initiative.

KU MEDICAL CENTER AND KU HOSPITAL PROGRAMS EXCEL IN THE U.S. NEWS RANKINGS

Several KU Medical Center education programs earned rankings in the 2012-13 U.S. News & World Report’s best public university graduate programs. The School of Health Professions had five programs listed in the U.S. News top 25, including occupational therapy (#2); speech-language pathology (#6); audiology (#7); physical therapy (#9); and nurse-anesthesia (#21). The School of Nursing’s nurse-midwifery program came in at No. 12 in the 2012-13 rankings and its nursing master’s program was No. 24. The School of Medicine’s primary care program was ranked 25th among all public universities.

KU Medical Center’s faculty physicians played a major role in The University of Kansas Hospital’s excellent showing in the 2013 U.S. News Best Hospitals rankings. The University of Kansas Hospital ranked among the nation’s top 50 in nine medical specialties including pulmonary (17); geriatrics (18); gastroenterology (19); neurology and neurosurgery (20); ear, nose and throat (21); cardiology and heart surgery (23); cancer (27); nephrology (35); and diabetes and endocrinology (38).

Training the new health care information workforce

As medical records migrate from traditional paper and film documents to electronic storage and delivery, health information management (HIM) has become one of the hottest areas of study in the health care field. The federal government is investing billions of dollars as an incentive for providers to adopt electronic health records (EHRs).

A blend of business, computer technology and health science, HIM bridges the gap between patients, health care providers, information technology professionals, insurers and regulators. The highly sought-after professionals in this field plan and develop digital systems to meet the needs of every type of health care facility.

“I have always been fascinated by business management, so a career in that field was initially my plan,” says Lisa New, a senior health information management student at KU Medical Center. “But then my mother was diagnosed with breast cancer my senior year of high school, and I found my path changing.”

“‘We spent a lot of time meeting with her health care team,’” New says, “‘and I quickly came to know that I wanted to be a part of that area of health care, doing my part in helping others receive the same quality care that my mother did.’

KU Medical Center’s School of Health Professions offers a bachelor of science degree in HIM, an associate-to-bachelor’s degree completion program, and an accelerated joint bachelor of science/master of health services administration degree program. The school also plans to implement an online health care management minor. This year, 40 students are enrolled in the medical center’s HIM programs.

The American Health Information Management Association estimated in 2010 that the average salary for an HIM professional ranged from $45,000 to $90,000 annually, with an average HIM professional making just under $60,000. New graduates from KU’s program are making starting salaries up to $50,000.

“HIM grads have the best of both the technology and health care worlds,” says Udo Asagwara, who landed a job at Cerner last spring. “I graduated in May of 2013, and I had a job lined up for me before I graduated. This is true for almost all of the HIM graduates.”

For medical professionals working in the field, electronic health records allow medical histories, medication, allergies and immunizations records, lab results, radiology images, vital signs and other important information to be shared immediately across a variety of health care settings, ranging from hospitals and doctors’ offices to ambulances and research facilities.

“‘The main advantage to using electronic health records is the enhanced ability to aggregate and analyze patient information to improve care and engage patients in their care,’” says Norbert Belz, MSHA, RHIA, who became director of the Department of Health Information Management in the summer of 2013. “‘In addition, providers who exchange information through electronic records improve their ability to have the most current data on patients to make better decisions, reduce errors, and improve efficiencies.’”
The number of departments in the School of Medicine that rank in the top 25 in direct funding from the National Institutes of Health (NIH)

11

The rank of the School of Health Professions in NIH funding

40

Percent increase from 2012 to 2013 in the number of clinical trials sponsored by The University of Kansas Cancer Center

136

The number of National Institutes of Health (NIH) awards obtained by the Schools of Medicine, Health Professions and Nursing in fiscal year 2013

06

The number of departments in the School of Medicine that rank in the top 25 in direct funding from the National Institutes of Health (NIH)
KU MEDICAL CENTER, with a vast network of partners in the state, region and country, is a place where researchers in the Schools of Medicine, Nursing and Health Professions can vigorously pursue discoveries that have the potential to affect the lives of everyone in the world.

Faced with federal sequestration, many academic medical centers saw their federal funding scaled back in 2013. Despite that challenge, scientists at KU Medical Center made great strides in 2013. Over the past year, research conducted at KU Medical Center led to discoveries in the areas of cancer, neuromuscular disease, child development, and the basic sciences.

After being awarded National Cancer Institute (NCI) designation in 2012, the University of Kansas Cancer Center in 2013 began pursuing its goal of applying for status as a Comprehensive Cancer Center in 2016. To achieve comprehensive designation from the NCI, the KU Cancer Center must demonstrate expertise in three areas: laboratory, clinical, and behavioral and population-based research. Roy Jensen, M.D., the director of the KU Cancer Center, says the cancer center has demonstrated strength in the clinical and laboratory areas. But he believes KU is strong in population-based research as well, with model smoking-cessation programs in Kansas and public health initiatives that emphasize the importance of healthy diet and exercise in cancer prevention.
UNRAVELING THE MYSTERIES OF THE OOCYTE
David Albertini, Ph.D., a professor of molecular and integrative physiology and a member of the KU Medical Center’s Institute for Reproductive Health and Regenerative Medicine, is using advanced technology to shed new light on what happens when an oocyte divides and how the oocyte receives support from other ovarian cells. Albertini’s research is contributing to scientists’ understanding of human embryo development and may guide future approaches for treating infertility and enhancing the use of stem cells in regenerative medicine. Albertini and Rong Li, Ph.D., a professor of molecular and integrative physiology at KU Medical Center and a researcher at the Stowers Institute for Medical Research, were able to see the molecular mechanisms that lead to oocyte maturation. Among other things, they discovered that it is only with the assistance of surrounding cells that the machines within the oocyte are able to push and pull the chromosomes apart during meiosis. Their observations were published in the March 2013 issue of Nature.

INTERDISCIPLINARY TEAM LOOKS AT WAYS TO IMPROVE THE HOSPITAL DISCHARGE PROCESS FOR PEDIATRIC PATIENTS
LaVerne Manos, DNP, RN, a clinical instructor at the KU School of Nursing, is lead investigator on a $1 million, three-year grant from the U.S. Health Resources and Services Administration to develop a new interdisciplinary model for the transition care of patients discharged from The University of Kansas Hospital’s pediatrics unit. Manos hopes to identify ways a transition team can continue care of young patients after they leave the hospital. Caregivers may have questions about proper care and prescriptions and help following up with a primary care provider. Manos’ goal is to establish a sustainable new collaborative care model that will result in better follow-up care and reduce re-admittance rates—a model that could be adopted in other acute care settings at The University of Kansas Hospital.

NEW HOPE FOR ALS PATIENTS
Researchers looking for a new treatment for amyotrophic lateral sclerosis (ALS), a progressive neurological disorder commonly known as Lou Gehrig’s disease, are turning to a drug already used to treat another neurologic disorder. Richard J. Barohn, M.D., chairman of the KU Medical Center’s Department of Neurology, has treated patients with ALS for decades. He’s leading a new study funded by a $1.6 million grant from the Food and Drug Administration’s Office of Orphan Products Development. Researchers at 10 different sites are enrolling patients in a study that will examine the effect of the drug rasagiline — already approved for use in Parkinson’s disease patients — in patients with ALS. Data from a preliminary pilot study seem promising, but Barohn says the drug needs further study. Barohn says if the research finds new insight into how ALS progresses, it may lead to new advances down the line.

ASPIRIN HOLDS PROMISE FOR TREATING AND PREVENTING BREAST CANCER
Regular use of low-dose aspirin may prevent the progression of breast cancer, according to researchers at the Veterans Affairs Medical Center in Kansas City, Mo. The study found that aspirin slowed the growth of breast cancer cell lines in the lab and significantly reduced the growth of tumors in mice. The age-old headache remedy also exhibits the ability to prevent tumor cells from spreading. The lead author of the study, Gargi Maity, Ph.D., a postdoctoral fellow who works in the cancer research unit at the VA Medical Center, presented the findings at the Experimental Biology conference, an annual meeting of nearly 14,000 scientists, in Boston in April. The senior author is Sushanta Banerjee, Ph.D., the director of the cancer research unit and a professor at KU Medical Center. The study found that aspirin may interfere with cancer cells’ ability to find an aggressive, more primordial state. In the mouse model, cancer cells treated with aspirin formed no or only partial stem cells, which are believed to fuel the growth and spread of tumors.

ENRICHED FORMULA IN INFANCY LINKED TO POSITIVE COGNITIVE OUTCOMES IN CHILDHOOD
University of Kansas scientists have confirmed the benefits of feeding infants formula enriched with long-chain polyunsaturated fatty acids during their first 12 months. Susan E. Carlson, Ph.D., the A. J. Rice Professor of Dietetics and Nutrition at KU Medical Center, and John Colombo, Ph.D., a professor of psychology at the University of Kansas, studied several measures of intelligence among children between the ages of 3 to 6 years. Comparing a control group and a group of children who had been fed the enriched formula during their infancy, Carlson and Colombo found that at 18 months the children who received enriched formula did not perform any better on standardized tests of performance and intelligence. By the time they were 3, however, that same group of children performed significantly better on laboratory-based measures of several aspects of cognitive function than the children in the control group. The study was published in the June issue of the American Journal of Clinical Nutrition.

FDA REPORT ON MENTHOL CIGARETTES CITES KU STUDY
The U.S. Food and Drug Administration (FDA) cited the work of KU researchers in a July review of the available science concerning menthol cigarettes. Babalola Faseru, Ph.D., and Lisa Sanderson Cox, Ph.D., in the Department of Preventive Medicine and Public Health, co-authored a 2007 study showing that African American
**Are mitochondria the key to understanding disease?**

Medical Center researchers are focusing in on a cell’s mitochondria as a possible factor in disease. Mitochondria are structures within cells that convert the energy from food into a form that cells can use. Although most human DNA is packaged in chromosomes within the nucleus of a cell, mitochondria also have a small amount of their own DNA. It is the 37 mitochondria genomes that have researchers excited. And because it is the female who contributes mitochondria DNA to offspring, this science is casting a new light on how mothers' biochemical makeup can affect their children.

Danny Welch, Ph.D., chair of KU Medical Center’s Department of Cancer Biology, and his University of Alabama-Birmingham colleague Scott Ballinger, Ph.D., are conducting research that indicates mitochondrial DNA might play a role in whether certain people are more susceptible to diseases than others. Using a technique called mitochondrial-nuclear exchange, Welch and his fellow researchers were able to manipulate the mitochondria genomes in mice and observe the disease traits the mice then inherited. Welch says interpreting their observations will take some time, but he thinks scientists will now begin to look more closely at what role mitochondria may have in the predisposition to certain diseases such as heart disease and cancer.

The research was published in the August 2013 issue of *Biochemical Journal*.

Another KU Medical Center researcher has been studying what part the mitochondria may play in another devastating condition – Alzheimer’s disease. Robyn Honea, DPhil, an assistant professor of neurology, has been investigating the role of family history in the risk of developing late-onset Alzheimer’s disease. Several research studies have already determined that individuals who have a mother with Alzheimer’s disease are more likely to be at risk for developing the disease. Dysfunctioning mitochondria are thought to be a factor in Alzheimer’s, and it is the mother who passes down mitochondrial DNA to her children. In research conducted at the KU Alzheimer’s Disease Center, Honea and her colleagues studied brain markers to determine if mitochondrial DNA impacts shrinkage in the brain, a known marker of Alzheimer’s risk and progression. Honea’s results were featured in the journal *Nature Reviews Neurology*.

**CLINICAL TRIALS FOR ISLET CELL TRANSPLANTATION IN ANIMALS BEGIN**

Clinical trials are underway for new insulin-producing cells that could help the 400,000 diabetic dogs and cats living in the United States—and possibly humans with diabetes. The technology was developed by Karthik Ramachandran, Ph.D., and his mentor, Lisa Stehno-Bittel, PT, Ph.D., chair of KU Medical Center’s Department of Physical Therapy and Rehabilitation Science. The two researchers formed a start-up company, Likarda, and have spent the last year developing the new treatment. Likarda’s technology involved the ability to miniaturize tissues and organs for multiple applications. Starting with the insulin-producing cells in the pancreas, called islet cells, Likarda manufactures miniaturized versions of the cell clusters called Kanslets that can be more effective in transplants to cure diabetes. Ramachandran says Likarda is also working on a method of surrounding the Kanslets with a hydrogel to prevent the donor cells from being rejected by the recipient, while still allowing them to release insulin. Because these clusters resemble an original organ or tissue, Stehno-Bittel and Ramachandran hope they can also be used to test new drugs.

**REPURPOSING DRUGS FOR RARE BLOOD CANCER PATIENTS**

The Learning Collaborative—a partnership between KU Medical Center, The Leukemia & Lymphoma Society, and the National Center for Advancing Translational Sciences’ Therapeutics for Rare and Neglected Diseases program at the National Institutes of Health—announced the start of a clinical proof-of-concept trial evaluating auranofin in Mantle Cell and Diffuse Large B-Cell lymphoma patients. Mantle cell lymphoma is one of the rarest of the non-Hodgkin’s lymphomas, comprising about 6 percent of non-Hodgkin’s lymphoma cases. The Learning Collaborative was already conducting a clinical trial testing auranofin, a therapy approved for rheumatoid arthritis, as a treatment for patients with chronic lymphocytic leukemia. New laboratory data produced by the Learning Collaborative partners and the University of Rochester suggest that auranofin may also have therapeutic benefit in Mantle Cell and Diffuse Large B-Cell lymphoma patients, especially in combination with existing cancer drugs.
The number of volunteer hours completed by KU Medical Center students in fiscal year 2013: 16,866

The number of flights by the KU Medical Center Outreach Aircraft Program, which flies health care providers to and from specialty clinics in every corner of Kansas: 4,012

The number of Kansas residents who were able to consult with doctors via KU Medical Center’s telemedicine program: 100

The number of University of Kansas Hospital clinical departments staffed by KU Medical Center faculty that were ranked in the top 30 in U.S. News & World Report’s 2013 Best Hospital’s list: 9
Building Healthy Communities

KU MEDICAL CENTER is defined and measured by improving lives through care, outreach and service to the state of Kansas. Working with partners across the state and the region, KU Medical Center has earned a reputation as a provider of innovative and compassionate patient care. Our outreach activities have extended into all 105 Kansas counties.

In 2013, KU Medical Center launched several new outreach programs and expanded many successful initiatives. Among them:

- In July, KU Medical Center’s Office of Cultural Enhancement and Diversity partnered with Juntos, a KU Medical Center initiative working to eliminate health disparities in the underserved Latino communities in Kansas, to provide a weekend of medical Spanish immersion to medical students, physical therapists, and other health students in Liberal, Kan.
- A grant from the Unified Government-Hollywood Casino Grant Fund is helping to support the School of Medicine’s Organic Teaching Gardens program. The program, established a decade ago, helps build and run organic teaching gardens for schoolchildren in Kansas City, Kan., and promotes healthy eating. Since 2002, more than 3,500 young people have participated.
- More than 100 students from the Garden City High School Health Sciences Academy participated in the first KU Area Health Education Center’s health career promotion event Night@The Lab in May. The students had the chance to show their skills at evidence-based research – and shed light on important community health issues.

KU Medical Center’s outreach and community health initiatives touched the lives of countless people in our community, state, region, country and world this year.
PATIENTS IN RURAL KANSAS NOW HAVE ACCESS TO BETTER STROKE CARE
Patients in rural areas of Kansas are receiving better access to stroke care thanks to the Kansas Initiative for Stroke Survival (KISS), directed by a stroke specialist at KU Medical Center and supported and administered by the American Heart Association. Colleen Lechtenberg, M.D., an assistant professor in the University of Kansas Medical Center’s neurology department and the director of KU Hospital’s Advanced Comprehensive Stroke Center; serves as KISS director. The goal of the program is to help rural hospitals stay current on the latest information and treatments for stroke and to make them “Emergent Stroke Ready,” meaning they are much more prepared to handle a stroke patient who comes into the emergency room. The program also encourages more hospitals to administer the drug tPA, the only FDA-approved treatment for acute ischemic stroke.

A NEW INTERNET-BASED PROGRAM IS HELPING AMERICAN INDIAN TRIBAL COLLEGE STUDENTS TO STOP SMOKING
Won Choi, Ph.D., a professor of preventive medicine and public health, and a group of colleagues, were awarded a $2.7 million, five-year National Cancer Institute grant to create an Internet-based program to help American Indian tribal college students stop smoking. Choi’s project builds on a long history of successful research efforts in Native communities. In 2010, KU Medical Center was awarded a $7.5 million NIH grant to launch the Center for American Indian Community Health, led by Christine Daley, Ph.D., to address the substantial health disparities common

A STUDY USES IPADS TO CONNECT PATIENTS AND THEIR FAMILIES WITH HEALTH CARE TEAMS
A new telemedicine study led by KU School of Nursing researcher Carol Smith, RN, Ph.D., is investigating how iPad technology can be used to reduce intravenous blood stream infections and help improve the lives of patients who receive home parenteral nutrition and the family members who care for them at home. The project, funded through a $1.3 million grant from the National Institutes of Health will use mobile technology to engage and empower patients and their families by connecting them to web-based health care clinics, peer support and a range of Internet nursing educational and counseling resources. Patients and family members participating in the study can easily access website information about managing procedures and equipment as well as signs and symptoms of deteriorating conditions.

A STUDY USES IPADS TO CONNECT PATIENTS AND THEIR FAMILIES WITH HEALTH CARE TEAMS
A new telemedicine study led by KU School of Nursing researcher Carol Smith, RN, Ph.D., is investigating how iPad technology can be used to reduce intravenous blood stream infections and help improve the lives of patients who receive home parenteral nutrition and the family members who care for them at home. The project, funded through a $1.3 million grant from the National Institutes of Health will use mobile technology to engage and empower patients and their families by connecting them to web-based health care clinics, peer support and a range of Internet nursing educational and counseling resources. Patients and family members participating in the study can easily access website information about managing procedures and equipment as well as signs and symptoms of deteriorating conditions.

PROJECT PROVIDES SIMPLIFIED APPROACH TO SEPSIS FOR RURAL HOSPITALS
A program that aims to improve sepsis-related outcomes in rural hospital settings is proving successful and could serve as a model for rural hospitals nationwide. The Kansas Sepsis Project was initiated by the Midwest Critical Care Collaborative in partnership with the University of Kansas Department of Continuing Medical Education. The program focuses on a simplified approach to sepsis resuscitation in an effort to reduce sepsis mortality. It is the brainchild of Steven Simpson, M.D., a professor of pulmonary and critical care medicine at KU Medical Center. Simpson says sepsis, a severe blood infection that can lead to organ failure and death, affects more than 10,000 Kansans each year, and the sepsis-related mortality rate is 30 to 50 percent in most Kansas hospitals. The goal of the sepsis project is to reduce that rate by 10 percent by the end of 2015.

PHYSICAL THERAPY RESEARCHER WALKS ACROSS KANSAS TO PROMOTE STROKE RESEARCH
Sandra Billinger, Ph.D., PT, an assistant professor in the Department of Physical Therapy and Rehabilitation Science, walked across Kansas in May to help promote stroke awareness. Billinger, who was accompanied by her 20-year-old son, Michael, walked a route covering 570 miles from the Colorado state line just west of Coolidge, Kan., to the Missouri state line at the KU Medical Center campus in Kansas City, Kan. The funds raised in support of the walk will be used to purchase new equipment that will help Billinger and her team of researchers better measure brain blood flow so they can answer key questions about how exercise can help people recover from stroke. Stroke is the leading cause of disability in the United States, and the fourth leading cause of death. Kansas residents experience about 55,000 strokes each year, with a 46.5 percent average mortality rate.

A NEW INTERNET-BASED PROGRAM IS HELPING AMERICAN INDIAN TRIBAL COLLEGE STUDENTS TO STOP SMOKING
Won Choi, Ph.D., a professor of preventive medicine and public health, and a group of colleagues, were awarded a $2.7 million, five-year National Cancer Institute grant to create an Internet-based program to help American Indian tribal college students stop smoking. Choi’s project builds on a long history of successful research efforts in Native communities. In 2010, KU Medical Center was awarded a $7.5 million NIH grant to launch the Center for American Indian Community Health, led by Christine Daley, Ph.D., to address the substantial health disparities common

KU SURGEON EDITS BOOK ON WOMEN’S SPORTS INJURIES
Kim Templeton, M.D., a professor of orthopedic surgery at KU Medical Center, is the senior editor and co-author of a new textbook, Women’s Sports Injuries. Templeton says female athletes are more likely than their male counterparts to suffer from anterior knee pain, or “runner’s knee,” as well as stress fractures and sprained ankles. Researchers believe girls and women are anywhere from two to eight times as likely to rupture their anterior cruciate ligaments (ACL) as boys and men who play the same sports. The risk factors are thought to include everything from estrogen to the small size of the notch through which the ACL connects to the femur. Templeton says before puberty, girls’ and boys’ bodies move the same way. After puberty, girls begin to run with their hips turned in, causing the knee to go to the side, which puts stress on the ACL. Templeton advises female athletes to be mindful of “positions at risk.” When jumping, for instance, they should be thinking about landing as light as a feather, on their toes, with their hips and knees bent.
among American Indians. Choi’s program includes a culturally tailored smoking-cessation program specifically for tribal college students and their online environments. Choi says the project is trying to do two things: prevent smoking addiction and get current smokers to quit in order to prevent future lung cancers as well as other cancers attributable to smoking. In recent years, KU Medical Center has also focused on increasing the diversity of Master of Public Health students and has had some success in recruiting and graduating American Indian students.

EDUCATION CAMPAIGN ENCOURAGES ENVIRONMENTAL AWARENESS IN WICHITA

Led by the University of Kansas School of Medicine–Wichita, the Wichita Initiative to Renew the Environment (WIRE) is a community-based initiative focused on identifying and addressing environmental concerns in Wichita. Elizabeth Ablah, Ph.D., an associate professor of preventive medicine and public health at KU School of Medicine-Wichita, is the principal investigator and has overseen the program since its inception in 2008. In 2013, after meeting with more than 1,500 citizens in the Wichita area, WIRE developed and launched an educational campaign around the importance of recycling. The city of Wichita implemented a new solid waste and recycling plan in November 2012, but Ablah says most people are not taking advantage of curbside recycling. Ablah says about 60 to 75 percent of solid waste is recyclable, which helps to save natural resources, eliminate greenhouse gases, and prevents pollution. WIRE also sponsored a campaign to reduce vehicular air emissions emitted from cars, trucks, airplanes, lawn mowers, and farming equipment.

SCHOOL OF NURSING REACHES OUT TO KANSAS CITY’S SUDANESE COMMUNITY

Martha Baird, Ph.D., APRN, CTN-A, an assistant professor in the School of Nursing, advanced her research focusing on the health needs and medical interventions for the Sudanese refugee population in the Kansas City area. An estimated 3,000 South Sudanese refugees live in the Kansas City area, the majority of whom are women and children. Current research has found that refugee women in the United States have a high incidence of mental distress, such as depression and post-traumatic stress disorder. Baird is using the Hopkins Symptom Checklist-25 to screen South Sudanese refugee women for anxiety and depression and to develop culturally tailored interventions. Baird won the 2013 Jean Johnson Nursing Research Development Award for her project that translated the Hopkins Symptom Checklist-25, a well-known anxiety and depression-screening instrument, into Dinka, a South Sudanese tribal language. In August, Baird helped organize a health fair for the south Sudanese refugee population. Several hundred members of the community attended.

A national leader in primary care

The KU School of Medicine’s campus in Wichita is among the nation’s top producers of primary care physicians and is also placing far more physicians in rural and underserved areas than most medical schools. That’s according to a 2013 survey of medical school data by George Washington University. The survey, conducted by Candice Chen, an assistant research professor at George Washington University, was published in the September issue of Academic Medicine, a publication of the Association of American Medical Schools.

The survey showed that of the 233 physicians who completed their residencies at the KU School of Medicine–Wichita between 2006 and 2008, 108 chose to remain in primary care; 83 opted to practice in areas considered underserved and 46 joined rural practices. More of the school’s residents went into underserved areas designated as health professional shortage areas than any other institution in the survey. Of the nation’s 20 residency programs with the highest percentages of primary care graduates between 2006 and 2008, KU School of Medicine–Wichita came in sixth with 46 percent. KU School of Medicine–Wichita was first in the number of graduates serving in underserved and rural areas.

The Wichita campus opened in 1971 in response to a critical shortage of physicians throughout the state, particularly in rural areas. Since then, the school has trained and graduated almost 1,900 physicians, half of whom have chosen to practice in Kansas.

The KU School of Medicine–Salina, which opened in 2011, is also part of KU Medical Center’s mission to train more physicians for rural and underserved areas of Kansas. With eight students admitted each year, the Salina campus is the smallest four-year medical education site in the country and recruits students with a strong desire to practice in rural areas.
Sources of Financing

KU Medical Center’s sources of funding in fiscal year 2014 totaled $329 million. The largest source of funding, the Kansas State General Fund, pays for educating students in the School of Medicine, School of Nursing and School of Health Professions.
KU Medical Center’s expenditures in fiscal year 2014 totaled $329 million. Our largest expenditure is educating students in the School of Medicine, School of Nursing and School of Health Professions.
IN 2013 the outstanding work being done by the educators, researchers and clinicians at KU Medical Center received national news attention. Some highlights from KU Medical Center in the news:

Nancy Berman, Ph.D., professor of anatomy and cell biology, is the senior author of a study showing that bisphenol A, a chemical used in some plastic bottles and food packaging, worsened migraine symptoms in a rat model. The study built on previous research Berman conducted showing a connection between migraines and the hormone estrogen. Bisphenol A, or BPA, mimics estrogen. Berman discussed the study on Fox News.

Randolph J. Nudo, Ph.D., director of the Landon Center on Aging, working with engineers, designed a neural prosthesis that holds promise for the stroke patients and soldiers who suffer traumatic brain injuries. The lightweight device couples activity in separate sections of the brain, bridging a connection severed by injury. Nudo’s lab tested the device in a rat model, and the results were striking. Rats that struggled to retrieve food pellets after brain injury were able to complete the task with the aid of the “brain-machine-brain” interface. The news agency Reuters, Gizmag and several science blogs shared the discovery. A link to a Science News story about the study, which Nudo and colleagues published in *Proceedings of the National Academy of Sciences*, was retweeted more than 50 times.

KU Medical Center researcher Susan Carlson and KU researcher John Colombo were awarded $2.5 million for the next five years of a 10-year, double-blind randomized controlled trial to determine whether prenatal nutritional supplementation with the omega-3 fatty acid DHA benefits children’s intelligence and school readiness. Carlson says the possibility that DHA may have long-term benefits for cognitive-intellectual development, particularly on measures that predict school achievement, would have enormous implications for public policy on prenatal nutrition. The story was featured on *The New York Times* website.

A study co-authored by Sushanta Banerjee, Ph.D., the director of the cancer research unit and a professor at KU Medical Center, found that regular use of low-dose aspirin slowed the growth of breast cancer cell lines in the lab and significantly reduced the growth of tumors in mice. The age-old headache remedy also exhibits the ability to prevent tumor cells from spreading. *Forbes* magazine was among those who reported on the findings. The lead author of the study, Gargi Maity, Ph.D., is a postdoctoral fellow who works in the cancer research unit at the VA Medical Center.