Welcome to the inaugural issue of **MU Health**, a magazine featuring stories about patient care, education and research at the University of Missouri Health System. We are a far-reaching network of hospitals and clinics, working with MU’s School of Medicine, Sinclair School of Nursing and School of Health Professions, to serve our patients, train future doctors and research medical breakthroughs.

We are proud of the work happening here. Not only do we have the only hospital in central Missouri to be ranked by U.S. News & World Report among top hospitals for three consecutive years, we were also named one of the top 12 academic medical centers in the nation.

Missouri residents are the most direct beneficiaries of this remarkable combination of patient-centered care and academic discovery.

We are also one of the largest employers in the region and our work helps drive state and local economies. Our reach is growing as we continue to open new clinics, partner with other providers and expand telemedicine.

To learn more about the great work and accomplishments at the University of Missouri Health System, visit our websites, muhealth.org and medicine.missouri.edu, or give us your feedback on our Facebook pages and other social media sites. We look forward to hearing from you.

**Harold Williamson Jr., MD**  
Vice Chancellor  
University of Missouri Health System

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**Letters**

**Meet the new dean**  
Renowned cardiovascular researcher Patrick Delafontaine, MD, leads the University of Missouri School of Medicine

**Oskar’s plan**  
Parents Matt and Kristina Hollrah are thankful for their son’s care at MU Children’s Hospital after Oskar’s arrival 15 weeks early

**Growing for our smallest patients**  
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Hospitals form a network to advance quality care throughout Missouri

**Medical alumni news**  
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**Honoring Frances**  
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**Exercising his passion**  
Professor gives $1 million gift to fund exercise physiology research

**Highlights**  
Learn about MU Health Care's newest clinic openings, research on alcohol at the MU School of Medicine and more

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**MU Health** is published for patients, alumni and friends of the University of Missouri School of Medicine and University of Missouri Health Care. This magazine consolidates several health system publications, including Ellis for Ellis Fischel Cancer Center and Imagine for MU Children’s Hospital.

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**Mike Alden**, athletic director for the University of Missouri, can often be spotted in downtown Columbia. In addition to sports and community issues, Alden does not shy away from talking about the importance of colonoscopies and other preventive health screenings.

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**10 The test no one wants to talk about**

In addition to the University of Missouri Tigers, MU athletic director Mike Alden champions preventive health measures. He chats about the importance of colonoscopies.

**12 Seeing a clearer picture**

Blurry vision was just a part of Betty Minor’s life until she underwent a state-of-the-art corneal transplant procedure.

**14 Road to recovery**

Diagnosed with bleeding on the brain and undergoing several surgeries, Ted Craig recounts his journey from trauma to triumph.
Best place for cancer care

“It was just weeks after completing my fourth half-marathon that I knew something wasn’t right. I went to see my primary medical doctor who ordered a biopsy right away. As soon as I received the frightening and overwhelming results, I reached out to friends in the medical community. I was told my diagnosis was very serious but that I lived in the best place for this particular type of cancer, that Ellis Fishel Cancer Center has the best ear, nose and throat (ENT) physician, Dr. Jeffrey Jorgensen.

“It is rare to find a surgeon who is respected and sought out nationally who is exceptionally competent, compassionate and accessible. With Dr. Jorgensen, his patients get all three. I’m not sure how Dr. Jorgensen and his team care for so many patients and provide state-of-the-art advanced care with the warmth of human understanding, but they do.”

Lisa Meyer
Columbia, Missouri

Grateful for NICU grad

“Our baby, Jaxon, was born at 33 weeks. Without the amazing staff in the Neonatal Intensive Care Unit, we would have been lost during his stay. We were treated with respect and compassion. The doctors and nurses included us in all of his treatment. My husband and I will forever be in their debt for saving our son. Please know that each and every one of you make a difference in our world. We can never thank you enough!”

Heather Niemeyer
New Hartford, Missouri

Heartwarming help in radiology

“I would like to compliment Patricia ‘Trish’ in radiology. She worked so hard in obtaining pre-certification for CTs from both of my insurance companies. I was so ill and we were trying to figure out what was wrong as I had run fevers for more than 30 days despite three rounds of antibiotics.

“Her determination and empathy was heartwarming. She is a wonderful asset. Thank you, Trish!”

Cheryl Victor
Columbia, Missouri

Phenomenal first impression

“My daughter, Ella Joy Benton, was admitted to the fifth floor (pediatric unit) of MU Children’s Hospital. I really wasn’t looking forward to this procedure and this was her first hospital stay so we did not know what to expect. We have been going to Children’s Hospital clinics for all three of our girls but none of them had been a patient at the hospital.

“Well, our stay was phenomenal. The doctors, nurses and X-ray technicians were absolutely phenomenal. They were so kind, compassionate, and caring, and very professional to my Ella Joy, my husband and me. For the circumstances we were under with her stay, I just can’t speak enough of how amazing our experience was. Thank you from the bottom of our hearts!”

Todd and Jennifer Benton, and Ella Joy, too
Higginsville, Missouri

Compliments for Mizzou Quick Care

“This past Saturday was my first experience with one of your Mizzou Quick Care clinics, and I just wanted to let you know what a great experience it was. It is extremely convenient to have this option on Saturdays and Sundays all day. An added bonus is that the clinic visit is treated as a primary care visit and not urgent care so my copay is cheaper.

“The facility was super clean, I was seen right away and the staff was extremely professional. Deb Ritchie, nurse practitioner, is amazing! She was so kind and really took the time to explain what was going on with my symptoms and discuss different medications. They had all of my MU Health Care patient history in their computer system which makes me feel at ease, knowing they have up-to-date access to my medical history, visits and medications. Add in the fact that there is a pharmacy right outside the door, and it almost could not get any more convenient from a patient perspective.

“Thank you, thank you, thank you for giving us this option! I will not hesitate to utilize the Mizzou Quick Care clinics in the future and will absolutely recommend these facilities to my friends, family and coworkers.”

Lindsey Schaefer
Columbia, Missouri

Lisa Meyer
Columbia, Missouri

To learn more about the University of Missouri Health System’s grateful patient program, please visit muhealth.org/grateful-patient.
Meet the New Dean

MU medical school’s leader brings a wealth of knowledge and experience for advancing research, education and care

Renowned cardiovascular researcher and physician-scientist Patrick Delafontaine, MD, is the new dean of the University of Missouri School of Medicine. He arrived at MU in December 2014 from Tulane University in New Orleans, where he served as chief of cardiology, director of the Tulane University Heart and Vascular Institute, and medical director of cardiovascular services.

“The University of Missouri has a sterling reputation as evidenced by its membership in the Association of American Universities. The opportunity to seamlessly integrate the education, research and clinical missions of the School of Medicine and to grow a stronger, nationally recognized academic medical center is very exciting,” Delafontaine said. “The concentration of multiple schools and colleges on one campus facilitates interdisciplinary research and educational programs and is a major strength of the University of Missouri.”

Delafontaine’s first priorities as dean will be recruiting leaders for departments with interim or departing chairs, as well as creating new research space. He also intends to help MU join a national consortium of universities recognized for their ability to translate discoveries made in laboratories into better health care for patients, which is called translational research.

Delafontaine has extensive experience in translational research. He and other scientists at Louisiana State University and Pennington Biomedical Research Center received a $20 million grant from the National Institutes of Health (NIH) to create a collaborative translational research initiative that was especially targeted to help patients with cardiovascular disease, which is the deadliest disease in the country. The NIH has funded Delafontaine’s research for more than 18 years.

Delafontaine was the first scientist to establish a critical link between the human hormone system that regulates blood pressure and a protein that is essential to childhood growth. His studies on this link have provided new insights into muscle-wasting diseases.

Born in Alexandria, Egypt, Delafontaine received his medical degree from the University of Geneva in Switzerland. He completed a research and clinical fellowship in medicine at Harvard Medical School and Brigham and Women’s Hospital in Boston. Delafontaine and his wife, Mary, have two adult sons, Laurent and Jean-Luc.

“A practicing interventional cardiologist, Dr. Delafontaine has an extensive record of training and mentoring medical students, resident physicians and junior faculty,” said Harold Williamson Jr., MD, executive vice chancellor for health affairs. “He is superbly credentialed to lead the MU School of Medicine.”

Patrick Delafontaine, MD, joined the University of Missouri as the School of Medicine’s Hugh E. and Sarah D. Stephenson Dean in December 2014. He is an accomplished physician-scientist, educator and administrator.
Entrance into the world couldn’t come soon enough for Oskar Hollrah. Kristina and Matt Hollrah’s first child was born nearly a full trimester early at the University of Missouri Women’s and Children’s Hospital on Jan. 26, 2014.

The Hollrahs came to the hospital that Sunday morning as a precaution, not thinking Oskar would end up in the Neonatal Intensive Care Unit (NICU) that day, born a full 15 weeks early.

“I thought, maybe, I was having contractions,” said Kristina Hollrah, PhD, associate professor in the Department of Pathology and Anatomical Sciences at MU. “Being this early in my pregnancy, I figured they were fake Braxton Hicks contractions, the doctors would send me home, we’d have a laugh about it and meet Oskar later. But Oskar had his own plan.”

Oskar’s plan included arrival 101 days ahead of Kristina’s delivery date, followed by 81 days in the NICU.

Once it became apparent Oskar wasn’t waiting any longer, the staff showed Kristina and Matt photos of premature infants to mentally prepare them for what their child might look like.

After Oskar was born, doctors at the NICU explained the increased risks that may arise for premature babies, such as developmental delay and blindness. The risk for potential pre-term problems is reduced by roughly 10 percent for every seven days after 24 weeks, and Oskar was born at 25 weeks. But, the doctors and nurses also pointed out that every baby, whether they were born premature or not, will be the person they were meant to be.
Growing for Our Smallest Patients
Children’s Hospital Unveils $3.1 Million Neonatal ICU Expansion

The December 2014 expansion of the MU Children's Hospital Neonatal Intensive Care Unit (NICU) adds 10 additional beds and brings the total number of specialty beds to 48.

The MU Children's Hospital NICU team cares for more than 500 premature and critically ill infants each year. The highly skilled, multidisciplinary team of health care professionals includes specially trained nurses, physicians, respiratory care practitioners, advanced practice nurses, social workers and pharmacists. Since the NICU at MU Children's Hospital was established in 1971, more than 22,000 babies have received care in the unit.

"The much-needed expansion will allow us to offer the outstanding care from our specialists to more children and families from rural and mid-Missouri, " said Keri Simon, MBA, executive director of MU Women's and Children's Hospital. "This new space creates a more patient-and-family-centered environment, which enables our team to deliver the best care and experience possible. All of the additions promote the participation of the family in the baby's care and transition to home."

Each of the single patient rooms is equipped with “smart room” technology. A monitor near the child displays a 24-hour record of the baby's vital signs, giving physicians and nurses immediate access to important information.

"Before, all of this information was in a paper chart, but now we can see how the child is doing from the moment we walk in,“ said John Pardalos, MD, medical director of the Division of Neonatology and Children’s Hospital Transport Service and associate professor in the Department of Child Health at the MU School of Medicine. “This latest technology is more efficient and designed with the baby and family in mind, and it also gives us the option to add even more automated capabilities in the future."

Construction and new equipment in the NICU was funded through several donations, including a $1 million pledge from MizzouThon, the largest student-run philanthropy at the University of Missouri. The NICU has been renamed the MizzouThon Neonatal Intensive Care Unit in recognition of the group’s pledge.

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Nearly a year after son Oskar Hollrah was born 15 weeks early, Matt and Kristina Hollrah bring him to celebrate the expansion of Children's Hospital's Neonatal Intensive Care Unit.

"Their honesty about potential complications and reassurances helped put us at ease that Oskar was going to be the person he was meant to be, regardless of how and when he came into the world,“ Kristina said. “They became family and took care of our whole family. You can’t imagine how much the staff and doctors take on. It’s not just the patient, it’s the whole family they care for."

This fact was even more relevant for Kristina as a faculty member at the MU School of Medicine. The medical school prides itself on its emphasis on educating physicians who provide effective patient-centered care. Two of the medical school residents who joined attending physician, Susan Winkelmann, MD, for the delivery of Oskar were former anatomy students of Kristina’s. Winkelmann herself was a graduate of MU’s medical school.

"The residents and attending physician were unbelievably professional and kind,“ Kristina said. “They made me incredibly proud of our medical program and exhibited fantastic patient-centered care."

To the relief of Kristina and Matt and considering his early arrival, Oskar is now a healthy baby. While he weighed only 2 pounds when he was born, he is now an average weight for an infant born full term.

University of Missouri Children’s Hospital now has a larger NICU (see sidebar) to provide critical care to more premature and critically ill newborns.

THE NICU NOW INCLUDES:
- 20 single-patient rooms
- Two lactation areas, giving new mothers private space for feeding
- A family-infant room where families can stay overnight with their newborns to simulate how it might be once the newborn is at home and away from constant medical care
- Mobile X-ray storage
- A new laboratory

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Bypassing the Bypass

Surgeon uses new technology to see and clear blocked arteries

“...my legs hurt so badly for so many years,” said Frances Heying of Marshall, Missouri. “I could hardly walk a block at the most. I don’t really know how I was walking before. My legs would cramp up. They just wouldn’t move. They would just lock up.”

To alleviate the pain and improve her overall health, Todd Vogel, MD, chief of vascular surgery for University of Missouri Health Care, recommended a minimally invasive procedure using new technology.

“When he suggested the surgery for my legs, I was all for it,” said Heying, who had trusted Vogel with a carotid artery procedure five months before.

Vogel describes the new technology as a way to see inside a dark tunnel.

“This new technology, optical coherence tomography, allows us to visualize arteries from the inside and treat patients who would have required bypass surgery in the past,” Vogel said. “Traditionally, there has been a very poor success rate crossing...
Leg pain?
Don’t assume it is a normal part of aging.

Todd Vogel, MD, said that peripheral artery disease (PAD) is often overlooked or dismissed as aches and pains from aging.

SYMPTOMS CAN INCLUDE:
• Pain or cramping when you walk
• Pain at night
• Tiredness in lower extremities

Individuals with diabetes, high cholesterol and high blood pressure are at a higher risk for developing PAD.

If you have leg pain, talk to your primary care doctor or contact MU Health Care’s heart and vascular specialists at 573-882-1308.

“I can walk without pain now. They feel like new legs.” - Frances Heying

totally blocked arteries. This is the first time we’ve been able to look inside an artery and use internal imaging to guide the catheter precisely to the best site of the blockage. The patients who benefit most are those who would otherwise require an open bypass or even amputation.”

During the minimally invasive procedure, Vogel uses the new technology to capture 3-D images in real time from within an artery. Guided by this imaging system, he can precisely maneuver a catheter to the site of a total blockage. He uses a drill-like device at the tip of the catheter to tunnel through the blockage, enabling a guide wire to pass across the blocked or closed part of the artery. A balloon or stent is then used to reopen the artery and restore blood flow to the patient’s limb.

“Because the procedure is minimally invasive, we are able to decrease operative risks for those with additional complex medical conditions, procedural times are shorter, and in most cases patients don’t need general anesthesia,” Vogel said. “Recovery times are also shorter, and radiation exposure is minimized as extensive X-ray imaging is often not needed.”

According to the Centers for Disease Control and Prevention, approximately 8.5 million Americans have peripheral artery disease, or PAD. The term refers to a common circulatory problem in which plaque builds up inside arteries within the legs, blocking blood flow. It causes leg heaviness, pain and cramping. In severe cases, tissues in the legs or feet die because they do not get enough oxygen. When this happens, doctors may recommend an amputation, in which part of the leg or foot is removed, to save the person’s life.

An open bypass procedure would have been the next step for Heying, when Vogel recommended the new minimally invasive procedure.

In October 2014, Vogel performed the procedure on Heying’s right leg at University Hospital. The procedure took approximately two hours, and Heying returned home the next day. She soon noticed that color was returning to her leg and it had warmed considerably. In February 2015, Vogel performed the procedure on Heying’s left leg and she again noticed results quickly.

“I can walk without pain now. They feel like new legs.” - Frances Heying
MU HEALTH NEWS SPRING 2015

Preventive Health

The Test No One Wants to Talk About

Mike Alden breaks the silence

Mizzou Athletic Director Mike Alden clocks his first meeting before many people are out of bed. It’s 6:30 a.m., and he’s enjoying a cup of coffee from a well-worn chair at a downtown Columbia coffee shop, discussing university and community issues with friends and colleagues.

By 7:30 a.m., Alden doesn’t miss a beat and transitions to another table and another much different topic, bringing the same comfortable manner to explain his experience getting a colonoscopy. Alden knows it’s not an easy topic for some people to talk about, especially men.

“Some guys say that’s a little too close for comfort,” Alden jokes.

But it was his primary care physician who is also a team physician for the Missouri Tigers who first convinced him it was “no big deal,” Alden said.

His doctor described a colon cancer-screening exam as preventive maintenance.

“So many people think ‘as long as I feel OK, I’m good,’” Alden said.

Alden, 56, doesn’t take that approach and is careful about completing recommended health screenings. He had his first colonoscopy at age 50, which is the age to start, according to the American Cancer Society. Jamal Ibdah, MD, PhD, medical director of the Missouri Digestive Health Center, said men are not accustomed to the concept of screenings. Women are more likely to do them on a regular basis starting with a Pap smear, and when they are older, by adding a screening mammogram. The American Cancer Society estimates that only about half of the people eligible for a colon cancer screening get one.

“A colonoscopy is the best method, the gold standard for prevention of cancer,” said Ibdah, senior associate dean for research at the MU School of Medicine.

The procedure works by helping doctors use a scope to view the inside of the colon and find polyps, some of which will develop into cancer. When found at an early stage, polyps can be removed during a colonoscopy to prevent disease.

It didn’t take much convincing for Alden to get his screening, because the test is proven to prevent cancer. But he knows it will take a little more convincing for other men. Mike Alden didn’t just share his story over coffee; while traveling through rural Missouri he talked about having a colonoscopy just as easily as he talks about his Tiger teams. He even shared with thousands of Mizzou fans who follow his “On the Road: Statewide Outreach” blog at www.mutigers.com/blog. (See below)

3:38 p.m., Nov. 12, 2014, ON THE ROAD TO FAYETTE, MISSOURI

MIKE ALDEN:

As we drive to Fayette and our next stop at MU Extension, it gives me time to talk to these young guys about always making sure you are aware of proper health care maintenance. Whether it’s our eating habits, exercise, sleep, mental awareness...it’s all important. Regular check-ups are the same...so here we have Nico (age 27) and Derek (age 28) riding along with a 56-year-old guy. I felt compelled to let them know once they reach 50...regular colonoscopy screenings are so important for all of us! While knowing I don’t need to be providing “too much information” here, I’ll at least say that the folks at MU Health Care do a great job and provided excellent care for me last week! So the story here...always take care to pay attention to your regular screenings. The things we talk about on the road :)...now back to the trip!

Patients are greeted and seen at the Missouri Digestive Health Center by a friendly staff, including Sally Gardner, RN, staff nurse; Kristi Lopez, MD, physician fellow in gastroenterology; Belle Florence, patient service representative; and Jamal Ibdah, MD, PhD, chief of gastroenterology and Raymond E. and Vaona H. Peck Chair in Cancer Research at MU.
To schedule a colonoscopy, please contact your primary care doctor or call the Missouri Digestive Health Center at 573-882-1434.

As athletic director of the University of Missouri for 17 years, Mike Alden became well known for his leadership of the Tiger teams. In addition to sports, Alden feels strongly about being proactive about preventive health and encourages everyone to undergo recommended cancer screenings, including colonoscopies.

Simple words from an athletic director, a friend or family member can be all that it takes to convince someone to schedule a colonoscopy. Ibdah also appreciates the work of primary care physicians in reminding patients about necessary health screenings, and he said MU Health Care’s electronic medical records help in the process as well.

“It is a flag in the record when someone reaches 50,” Ibdah said.

The computerized medical records make the reminder automatic. For most people, a test every 10 years between ages 50 and 75 is recommended, but it may be recommended more frequently for some patients.

“If you have a family history of colon cancer, we recommend starting screening at age 40, or 10 years before the age that a first-degree relative was diagnosed,” Ibdah said. “And if we find and remove pre-cancerous polyps, you should be screened every 5 years or sooner.”

The American College of Gastroenterology also recommends African-Americans begin screening at age 45.

One reason why some people avoid the test is the preparation that happens first to completely cleanse the colon. Patients are asked to drink a gallon of liquid that contains a balanced salt mixture.

“It’s like drinking Crystal Light or Gatorade,” Alden said. “Shake it up and drink it.”

Ibdah said the mixture can taste salty and bulky. Previously, patients were asked to drink the entire gallon in three hours.

“Now we split the dose, so patients drink half the night before and the rest four to six hours before the procedure,” Ibdah said.

The result is better, he said, and it is much easier to tolerate.

Alden has undergone the test twice at University of Missouri Health Care. During his first colonoscopy, he was in deep sedation, completely asleep. The second time he was awake but not fully aware of what was happening, under what is called conscious sedation. He thought the conscious sedation worked well, and the procedure was easy and painless. It took about 15 minutes. His wife, Rockie, drove him home, and Alden spent the rest of the day watching TV, working on his laptop and relaxing.

University of Missouri Health Care’s nationally recognized team of gastroenterologists provide clinical care, educate tomorrow’s doctors and perform research that can lead to better treatments. Most colonoscopies are performed at the Missouri Digestive Health Center in Columbia. Located at 101 South Fairview, each patient stays in a comfortable private room and bathroom while awaiting the procedure.
Reading labels at the grocery store, seeing the text on road signs and reading lyrics in the church hymnal were just a few of the daily activities that had become challenges for Betty Minor, 75, of Sedalia. 

Blurry vision was just a part of her life, and she had resigned herself to a world where colors were dull and large-print books were a requirement.

For more than 35 years, Minor has lived with Fuch’s dystrophy, an inherited degenerative condition that causes vision loss. In July 2014, Minor underwent a new corneal transplant procedure that changed her life.

“Until I had the surgery, I didn’t realize what I was missing out on,” said Minor, who has been painting china dishes as a hobby for more than 20 years.

“Now, colors seem brighter and everything seems more vibrant. That’s what really surprised me.”

Minor underwent a state-of-the-art corneal transplant procedure known as a Descemet membrane endothelial keratoplasty, or DMEK. She was the first patient within University of Missouri Health Care to undergo the surgery.

Now, she can read everything so much easier.

“Imagine not being able to see the price of something at the grocery store,” Minor said. “It’s frustrating.”

“DMEK is a corneal transplant procedure that replaces a thin membrane on the inner side of the cornea,” said Rick Fraunfelder, MD, MBA, a fellowship-trained corneal disease specialist at MU Health Care. “In most cases, traditional corneal transplant methods can only restore vision to 20/30, but with DMEK, patients can achieve perfect 20/20 vision with a recovery time as short as a few weeks.”

Fraunfelder said the DMEK procedure is relatively new in the ophthalmology world.

“There are fewer than probably 40 surgeons nationwide performing this procedure and it’s less than five years old,” Fraunfelder said.

Using donated corneas, Fraunfelder replaces the Descemet membrane inside the eye. This thin, cellophane-like membrane contains cells known as endothelial cells. These cells are responsible for pumping fluid out of the cornea to keep it clear. When these cells deteriorate, vision becomes gray and hazy, and can eventually result in blindness.

“Imagine taking a little dime-sized piece of plastic wrap and putting that piece of plastic wrap inside of a water-filled balloon and then getting that piece of plastic to unfold inside the balloon in the exact spot that you want,” Fraunfelder said. “That’s the surgery.”

The surgery also is less invasive than a traditional corneal transplant procedure and the recovery time after the surgery is significantly less.

In a conventional corneal transplant procedure, the entire thickness of the cornea is replaced. In DMEK procedures, however, only the innermost corneal layers are replaced. By grafting a thinner cornea transplant, the patient’s cornea remains closer to its original condition, resulting in a quicker recovery. Because a thinner cornea graft is used, light is less distorted as it comes through the cornea.
To watch a video about the new corneal transplant procedure, please visit muhealth.org/eyecare. For more information, please call the Mason Eye Institute at 573-882-1506.

New Era for Eye Care at Mizzou

Frederick “Rick” Fraunfelder, MD, joined the University of Missouri School of Medicine and University of Missouri Health Care in 2014 from the Casey Eye Institute and Oregon Health & Science University in Portland. Before becoming chair of the Department of Ophthalmology at the MU School of Medicine and medical director of MU Health Care’s Mason Eye Institute, Fraunfelder served as a professor of ophthalmology and chief of the cornea, external disease and refractive surgery division at OHSU.

Fraunfelder said he is excited to be able to bring new areas of expertise to mid-Missouri and to patients statewide. The only fellowship-trained refractive eye surgeon in the area, Fraunfelder specializes in corneal disease and also completed a fellowship in ocular oncology.

“We are receiving cases for refractive eye surgery and other types of procedures from Kansas City and St. Louis,” Fraunfelder said. “We are becoming a destination site for some procedures.”

Refractive eye surgery also is known as corrective eye or laser surgery.

In addition to his expertise in corneal disease, ocular oncology and laser surgery, Fraunfelder is a nationally recognized expert in the ocular side effects of drugs. He has published more than 80 peer-reviewed articles and has written four books and more than 30 book chapters.

Corneal disease specialist Rick Fraunfelder, MD, serves as the Roy E. Mason and Elizabeth Patee Mason professor and chair of the Mason Eye Institute and MU’s Department of Ophthalmology.

In addition to cloudy vision upon waking, other symptoms of Fuch’s dystrophy include:

- Eye pain
- Eye sensitivity to light and glare
- Seeing colored halos around lights
- Worsening vision throughout the day

Minor had the procedure done in her left eye, which has been her weaker eye. Minor expects to undergo a DMEK transplant procedure in her right eye later this year.

“My eyeglass has improved greatly, and I’m looking forward to having the procedure done in my right eye,” Minor said. “My vision has gotten stronger each day, and I’m confident that I will be able to read again and see my grandchildren play ball.”
Ted Craig knew something wasn’t right. His body was acting funny and even worse, he found himself having a difficult time remembering things. He had fallen several times in the previous week. So when his left foot stopped working and started to drag, Ted and his wife, Jane, knew that it was time to see his doctor.

Harry S. Truman Memorial Veterans’ Hospital isn’t an unfamiliar place for Ted, 83. He volunteered there since 1992. A veteran, he retired from the Air Force in 1979 after 27 years of service.

He doesn’t remember much about the day in April 2014 that his doctor at the Truman Veterans Hospital, Richard Burns, MD, sent him to see neurosurgeon N. Scott Litofsky, MD, at University Hospital.

“They saw him at the VA at 1 p.m., the VA ordered a CAT scan, and by 4:45 he was on his way to University Hospital,” said Jane Craig, 82.

Once her husband was wheeled into surgery, she would not see him again until 11 p.m.

Ted was diagnosed with a subdural hematoma, or bleeding on the brain. Spring would turn to summer and it would be eight weeks before he would return home.

“As the hematoma gets bigger, it presses on the brain and the brain doesn’t work so well so patients can get weak, get headaches, have

Longtime Columbia residents and volunteers Ted and Jane Craig are thankful for Ted’s care following a subdural hematoma, or bleeding on the brain. They have been able to return to their favorite activities, including exercising at Columbia’s Activity and Recreation Center, shown, and playing bingo.

Road to Recovery

Brain surgery patient recounts his journey from trauma to triumph
To learn more about our neuroscience experts and the conditions we treat, please visit muhealth.org/services/neurosciences.

problems with speech and thinking, and if it continues they could die from it,” said Litofsky, who serves as chief of neurosurgery at MU Health Care and as a professor of surgery at the University of Missouri School of Medicine. “If the problem is addressed, the patients can have a good outcome.”

**Rocky Course**

Litofsky performed multiple operations to treat the several layers of membrane that had developed on the surface of Ted’s brain as a result of the hematoma. Ted also likely had an earlier injury and bleeding on his brain when he fell on the ice in February 2014, but it is impossible to say for sure, Litofsky said.

By the time Ted was sent into surgery, Ted and Jane’s son, David, was on a plane to fly home from Korea and their daughter, Deanna, was on her way from New York.

“It was a very scary time because we didn’t know what was going to happen,” Jane said. “If you saw the pictures of him then and you saw him now, you wouldn’t believe it. What happened was a miracle.”

Jane credits the excellent care Ted received from the nurses at the Neurological Intensive Care Unit at University Hospital for helping them get through a very difficult time.

While in the neuro ICU, Ted suffered seizures among other complications.

“Our nurses, Elias, James and Robin, were fantastic,” Jane said. “They took the time to explain everything really well and they tried to make us as comfortable as possible.”

Ted was in the neuro ICU at University Hospital until May 7, 2014, and then was transferred to Truman Veterans Hospital where he remained until May 19, 2014. Then, he spent a month at Rusk Rehabilitation Center before being released on June 20, 2014. He continued therapy at Rusk through September.

**In Good Hands**

“They were amazed at his progress when he went back for a checkup in October,” Jane said.

Ted now has full use of his limbs and in September, he overcame a large hurdle for brain trauma patients when he was cleared by Litofsky to drive again.

“Right now, Ted looks great, but he had a rocky course,” Litofsky said.

Ted was in the care of several specialty teams on his course to recovery including a team from neurology as well as the physical medicine and rehabilitation nurses and physicians at Rusk Rehabilitation Center.

“The dedicated neuro ICU allows us to care for complex cases, and we have the subspecialty expertise in place to deal with these complicated cases,” Litofsky said.

“Because we have the largest neurosurgery group in this area with our depth and breadth of specialties, we can ensure the patient is being taken care of by the absolute best surgeon to handle that issue.”

The Craigs are relieved to be able to return to one of their favorite hobbies: playing bingo. They play bingo at least twice per week in Columbia or Ashland and they try to visit Columbia’s Activity and Recreation Center several times per week to stay active.

“I’ve really tried to stay active and healthy all of my life,” Ted said. “I really believe that helped me recover quicker.”

The Craigs were grateful to be able to receive Ted’s care at facilities and with people they know so well.

Like Ted, Jane has been a volunteer since 1992. She also spent her time volunteering at the Truman Veterans Hospital, plus University Hospital, the Missouri Orthopaedic Institute and the University Physicians Medical Building. She also is an active member of the MU Health Care Service League Auxiliary.
James Stannard, MD, and James Cook, DVM, PhD, have witnessed many advancements in orthopaedic surgery during the past 20 years. They cannot help but notice many remaining limitations for patients, too, which have inspired them to develop new technology for biologic joint replacements.

Metal and plastic joint replacements wear out over time. Patients with these replacements may be forced to give up activities they enjoy, like running or skiing.

Working together and leading a team of researchers at the University of Missouri’s Comparative Orthopaedic Laboratory and Missouri Orthopaedic Institute, Cook and Stannard have developed a bone-and-cartilage preservation system. It reduces the need for metal and plastic implants in treating many disorders of the knee, hip, ankle and shoulder.

“It’s a game-changer,” said Stannard, the J. Vernon Luck Sr. Distinguished Professor of Orthopaedic Surgery and chair of orthopaedic surgery at the MU School of Medicine. He specializes in orthopaedic trauma and knee surgery. “It means we are able to provide not only a more natural joint repair option, but we also can predict a better outcome.”

“A patient suffering from arthritis or other joint disorders could potentially be a candidate for metal and plastic joint replacements,” Cook said.

Cook leads MU’s Comparative Orthopaedic Laboratory and serves as the William and Kathryn Allen Distinguished Professor in Orthopaedic Surgery at the MU School of Medicine.

“While metal and plastic joint replacement is an effective surgery, it is a repair strategy,” Cook said. “We’re interested in regeneration. With our new preservation technique, we can actually put new cartilage in your joint that can respond to daily activities and renew itself like young, healthy cartilage does. The cool thing is that this strategy allows you to do the activities that you want to do. It’s like a fountain of youth for your joints.”

The technology, called the Missouri Osteochondral Allograft Preservation System, or MOPS, more than doubles the “storage life” of bone-and-cartilage grafts from organ donors compared to current methods.

The preservation technique also allows surgeons to verify the quality of the grafts they will use for these biological joint replacement surgeries.

“Although I can reconstruct most of a knee joint, the biggest challenge is replacing the protective lining on the ends of the femur and tibia,” Stannard said. “This lining, called articular cartilage, is a thousand times slicker than wet ice, and it protects the joint during everyday activities.”

When articular cartilage is damaged from disease or injury, the bones it protects eventually become damaged. This condition, and the pain associated with it, is known as arthritis.

“We can use osteochondral allografts from a donor to fill in the damaged areas, rather than remove bone, and implant metal and plastic components,” Stannard said. “However, current preservation methods for the allografts themselves limit the number we have available to us.”

With the current preservation method, only 20 percent of donated allografts are used. To overcome this challenge, MU’s Orthopaedic Research Team developed their preservation technology. With the new system developed at MU, the grafts’ shelf life can be extended to at least 60 days, with 90 percent or more of cells remaining viable.

“So, by increasing quality of the grafts for a much longer period of time, we also increase the quantity of grafts that will be available to help patients,” Cook said.

He is hopeful that they will be able to begin using the technology for Missouri Orthopaedic Institute patients this year. Research studies about the preservation system have been published in academic journals, including the Journal of Knee Surgery in 2012 and Clinical Orthopaedics and Related Research, a publication of the Association of Bone and Joint Surgeons, in 2014. Cook said the technology is approved by the Food and Drug Administration and has provisional patents in the United States and several other countries. It is in the final stage of pre-clinical evaluation at the Comparative Orthopaedic Laboratory in preparation for clinical use at the Missouri Orthopaedic Institute.

James Cook, PhD, DVM, left, and James Stannard, MD, lead a University of Missouri research team that developed a new bone-and-cartilage preservation technology.
Engineering Innovations

Coulter grants help physician and engineer teams develop new health technologies

From a molecular probe for early detection of breast cancer to an engineered osteochondral allograft for repair of knee cartilage defects, six Coulter research projects address an important unmet medical need and have the potential to improve the lives of patients.

The University of Missouri’s Coulter Translational Partnership Program awarded six grants on Sept. 30, 2014, totaling approximately $600,000 to help launch biomedical research projects from laboratory study to health care innovations.

The six interdisciplinary research teams include a faculty member from the MU School of Medicine and the MU Department of Bioengineering. The funded research focuses on topics ranging from identifying diseases to creating biomechanical joints.

In one example, researchers are developing an inexpensive process for detecting tuberculosis (TB) that can be used in developing countries with limited resources for quickly diagnosing the disease.

The World Health Organization estimates that 1.3 million people die of TB each year, making a rapid, low-cost TB test a global health priority. Leading the research is engineer Shubhra Gangopadhyay, PhD, and physician Carole McArthur, MD, PhD.

Gangopadhyay is the C.W. LaPierre Endowed Chair in the MU Department of Electrical and Computer Engineering and co-director of the MU International Center for Nano/Micro Systems and Nanotechnology. McArthur is a professor of dentistry at the University of Missouri-Kansas City Department of Oral and Craniofacial Sciences and adjunct professor at the MU School of Medicine.

“The partnership between the University of Missouri and the Wallace H. Coulter Foundation is based on our common goal of transforming research discoveries into health care innovations that improve patients’ lives,” said MU Chancellor R. Bowen Loftin, PhD.

Funding for the research projects is provided by a $5 million partnership between MU and the Wallace H. Coulter Foundation. MU is one of only 15 academic institutions in the country and the only university in Missouri offering a Coulter Translational Partnership Program.

“The goal of translational research at the University of Missouri School of Medicine is to improve the health of patients,” said Jerry Parker, PhD, co-principal investigator of the MU Coulter Translational Partnership Program and co-director of the MU Institute for Clinical and Translational Science. “The Coulter Program provides a perfect opportunity to build on partnerships to achieve this goal. By engaging medical leaders to identify unmet health care needs and engineers to create novel technologies to meet those needs, we can create innovations, which lead to better health outcomes for the people of Missouri and beyond.”

In addition to funding, the Coulter program supports scientists by connecting them with research and development experts from private industry and academia. Coulter scientists receive real-world advice on intellectual property protection, regulatory issues and market opportunities. They also engage with potential partners for financing and product development.
Joining Forces
Hospitals form a network to advance quality care throughout Missouri

Leaders representing five health systems announced the creation of the Health Network of Missouri on June 25, 2014. From left: Todd Ahrens, president and CEO of Hannibal Regional Healthcare System; John Dawes, president and CEO of Bothwell Regional Health Center; Ed Farnsworth, CEO of Capital Region Medical Center; Harold Williamson Jr., MD, vice chancellor of the University of Missouri Health System; Michael Henze, CEO of Lake Regional Health System; Mitch Wasden, EdD, CEO and COO of MU Health Care; and Glen Nelson, vice chair of the Board of Trustees for Bothwell Regional Health Center.

University of Missouri Health Care is a founding member of a network collaborating to improve access to health care and to coordinate care for patients in the communities they serve.

“Our goal in joining the Health Network of Missouri is to continue to ensure our patients receive exceptional care,” said Mitch Wasden, EdD, chief executive officer and chief operating officer of MU Health Care. “While remaining independent, the hospitals and health systems in this network will be in a position to drive positive change and improve health care for the patients in our communities.”

Leaders of five of the six health care systems formed the network in June 2014. In addition to MU Health Care, the founding member institutions are Bothwell Regional Health Center, Capital Region Medical Center, Hannibal Regional Healthcare System and Lake Regional Health System. Saint Francis Healthcare System joined the network in September 2014.

The network comprises more than 1,000 hospital beds, 10,000 employees and 1,200 doctors. Each health system is equally represented to govern the network and will partner with other network members to share best practices in business, clinical and operational practices. In addition to sharing best practices, network members will strive to improve access to health care for Missourians, coordinate patient care throughout the network and lower health care costs.

“Because MU Health Care is an academic medical center and tertiary care center, our patients often see MU physicians for specialty care,” said C. Todd Ahrens, president and chief executive officer for Hannibal Regional Healthcare System. “Through the network’s initiatives, we look forward to the possibility of developing a stronger clinical relationship.”

Health Network of Missouri Members

1. **BOTHWELL REGIONAL HEALTH CENTER**
   - Hospital beds: 145
   - Based in Sedalia with clinics in west-central Missouri
   - [www.brhc.org](http://www.brhc.org)

2. **CAPITAL REGION MEDICAL CENTER**
   - Hospital beds: 100
   - Based in Jefferson City with clinics in mid-Missouri
   - [www.crmc.org](http://www.crmc.org)

3. **HANNIBAL REGIONAL HEALTHCARE SYSTEM**
   - Hospital beds: 91
   - Based in Hannibal with clinics in northeast Missouri and west central Illinois
   - [www.hannibalhealth.org](http://www.hannibalhealth.org)

4. **LAKE REGIONAL HEALTH SYSTEM**
   - Hospital beds: 116
   - Based in Osage Beach with clinics throughout the Lake of the Ozarks area
   - [www.lakeregional.com](http://www.lakeregional.com)

5. **SAINT FRANCIS HEALTHCARE SYSTEM**
   - Hospital beds: 282
   - Based in Cape Girardeau with facilities in a five-state region including Missouri, Illinois, Kentucky, Tennessee and Arkansas
   - [www.sfm.net/healthcare-system](http://www.sfm.net/healthcare-system)

6. **UNIVERSITY OF MISSOURI HEALTH CARE**
   - Hospital beds: 550
   - Based in Columbia with outreach clinics and telehealth sites throughout Missouri
   - [www.muhealth.org](http://www.muhealth.org)
Traveling from as far as Homer, Alaska, hundreds of University of Missouri School of Medicine graduates returned to their alma mater in October 2014 to take part in the school’s 57th Annual Physicians Alumni Weekend. Festivities included class reunion celebrations and a banquet that featured a special White Coat Ceremony for the 50-year reunion Class of 1964.

Other activities included the annual Scientific Program and its Milton D. Overholser Memorial Lecture. The lecture was presented by Thomas Kenyon, MD, director of the Center for Global Health at the Centers for Disease Control and Prevention and a member of the MU School of Medicine Class of 1981. Program lecture videos are on the MU Health System YouTube channel.

Members of the reunion classes of 1954, 1959, 1964, 1974, 1979, 1984, 1994, 1999 and 2004 participated in the homecoming weekend events. School of Medicine alumni and faculty also had an opportunity to welcome incoming School of Medicine Dean Patrick Delafontaine, MD, and thank former Interim Dean Les Hall, MD, for his service to the MU.


Below, from left: Class of 1979 members and family medicine physicians Nancy Baker, MD, center, and Elizabeth Garrett, MD, left, visit at the 57th Annual Physicians Alumni Banquet; Earl Myers, MD, Class of 1964, finds his class photo at the annual alumni banquet; Graduates pack the auditorium for the Scientific Program; Ellis Ingram, MD, former senior associate dean for diversity and a graduate of MU’s pathology program, left, and Patrick Delafontaine, MD, dean of MU’s medical school, talk at a homecoming reception for the Student National Medical Association.
The University of Missouri School of Medicine and Medical Alumni Organization will present their most prestigious awards to graduates and supporters on Thursday, April 16, 2015, in Kansas City. The 58th Annual Medical Alumni Awards ceremony, dinner and reception will be held in conjunction with the annual meeting of the Missouri State Medical Association.

The 2015 award recipients are:

The Citation of Merit, MU School of Medicine’s highest honor, will be presented to Syed Arshad Husain, MD, professor emeritus of psychiatry and child health and a 1970 fellowship graduate of MU’s psychiatry department. The MU child psychiatrist is internationally known for helping traumatized children in war zones and disaster areas across the globe.

Outstanding Young Physician Awards will be presented to Noah Hillman, MD, and Todd Schwedt, MD, both graduates of the MU School of Medicine Class of 2001. Hillman is associate professor of pediatrics in the Division of Neonatology at Saint Louis University. Schwedt is associate professor of neurology at the Mayo Clinic in Phoenix.

Distinguished Service Awards will be presented to Samuel Cullison, MD, Tammy Hart, MD, and Bert Park, MD. A graduate of the Class of 1975, Cullison is vice president for graduate medical education at Methodist Health System of Dallas. A graduate of the Class of 1990, Hart is a family medicine physician in Princeton, Missouri. A graduate of the Class of 1973, Park is a retired surgeon who leads neurosurgery mission trips in Africa.

Honorary Medical Alumni Awards will be presented to Virginia Huxley, PhD, and Ramesh Khanna, MD. Huxley is J.O. Davis Professor of Cardiovascular Physiology and professor of medical pharmacology and physiology at MU’s School of Medicine, as well as director of the National Center for Gender Physiology. Khanna is vice chair of the Department of Medicine and Karl D. Nolph Distinguished Chair in Nephrology at the MU School of Medicine, as well as medical director of MU’s Acute Dialysis Unit.

Thomas Kenyon, MD, a member of the University of Missouri School of Medicine Class of 1981 and director of the Center for Global Health at the Centers for Disease Control and Prevention, presented the Milton D. Overholser Memorial Lecture at MU’s 57th Annual Physicians Alumni Weekend in October 2014. His remarks addressed Ebola, as well as other challenges and opportunities for global health.

Kenyon previously served as country director for the CDC in Ethiopia, from 2009 to 2013, where he played a major role in expanding partnerships with the Ethiopian government in maternal child health, health systems strengthening, strategic information, TB, malaria, pandemic influenza, HIV prevention in key populations, and comprehensive HIV/AIDS care and treatment.

His career with the CDC began in 1994 as an epidemic intelligence service officer in the Division of Tuberculosis Elimination. From 1996 to 2002, he served as the CDC country director in Botswana, where he led numerous studies in HIV/ TB and developed a wide range of new initiatives in HIV/AIDS prevention with the Ministry of Health and partners from civil society.

From 2002 to 2006, Kenyon began CDC’s operations in Namibia in partnership with the Ministry of Health, where he led U.S. government efforts under the President’s Emergency Plan for AIDS Relief (PEPFAR) to establish the national antiretroviral therapy program, prevention of mother-to-child transmission, HIV surveillance, and comprehensive programs in HIV prevention and care.

Kenyon returned to Washington and served from 2006 to 2008 in the Office of the Global AIDS Coordinator, Department of State, as Principal Deputy Global AIDS Coordinator and Chief Medical Officer for PEPFAR. During his tenure as principal deputy, PEPFAR established systems of accountability, achieved major program expansion and reached critical targets in HIV prevention, care and treatment.
Racking up awards

University of Missouri Health Care has been recognized nationally by several organizations for excellent patient care.

MU Health Care is ranked among the 12 top performing academic medical centers in the 2014 Quality and Accountability Study for delivering high-quality, safe, efficient, patient-centered and equitable care. University HealthSystem Consortium (UHC), a Chicago-based alliance of the nation’s leading nonprofit academic medical centers, awarded MU Health Care a 2014 UHC Quality Leadership Award.

University of Missouri Health Care also is ranked among the top hospitals in Missouri by U.S. News & World Report. In the 2014-2015 rankings, University of Missouri Health Care was rated as “high performing” in eight adult specialties.

- diabetes and endocrinology
- ear, nose and throat (ENT)
- gastroenterology and GI surgery
- nephrology
- neurology and neurosurgery
- orthopaedics
- pulmonology
- urology

University of Missouri Health Care is recognized as one of the nation’s “Most Wired” health systems, according to the 2014 Most Wired Survey. The survey was released in the July issue of the American Hospital Association’s “Hospitals & Health Networks” magazine, which recognizes hospitals making progress in adoption of information technology.

2014 in Numbers

University of Missouri Health Care

Missouri’s premier academic medical center began when University Hospital opened in Columbia in 1956. Today, MU Health Care comprises five hospitals and more than 50 clinics. Patients from every county in Missouri and the city of St. Louis as well as all 50 states and Washington, D.C., received care from MU Health Care in fiscal year 2014.

186,213 TOTAL PATIENTS

180,738 MISSOURIANS
5,475 OUT-OF-STATE

Our patients came from all 50 states and Washington, D.C., plus 5 countries outside the United States.

5,757 TOTAL STAFF

MEDICAL STAFF 622
OTHER STAFF 5,135

HOSPITALS

- Ellis Fischel Cancer Center
- Missouri Orthopaedic Institute
- Missouri Psychiatric Center
- University Hospital
- Women’s and Children’s Hospital

Statistics are reported for Fiscal Year 2014, from July 1, 2013, to June 30, 2014.
# Financial Review

University of Missouri Health Care

## COMBINED STATEMENTS OF REVENUE, EXPENSES AND CHANGES IN NET ASSETS

*For the fiscal years ended June 30, 2014, and 2013 (dollars in millions)*

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<th>OPERATING REVENUES</th>
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<th>2013</th>
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<tr>
<td>NET PATIENT REVENUES</td>
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<td>SUPPLIES AND OTHER</td>
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<td>DEPRECIATION</td>
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<td>NON OPERATING REVENUES, NET</td>
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<td>TRANSFERS (TO) FROM THE UNIVERSITY</td>
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<td>CHANGE IN NET ASSETS</td>
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## ECONOMIC IMPACT

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<th>CAPITAL FUNDS REINVESTED</th>
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<tr>
<td></td>
<td>2014</td>
<td>2013</td>
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<tr>
<td>UNIVERSITY HOSPITALS *</td>
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<td>WOMEN’S AND CHILDREN’S HOSPITAL</td>
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<td>TOTAL</td>
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<td>$312.4</td>
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* Includes University Hospital, Missouri Orthopaedic Institute, Missouri Psychiatric Center, Ellis Fischel Cancer Center and Shared Corporate Services

## TOTAL COMMUNITY BENEFIT

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<th>COMMUNITY BENEFIT*</th>
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<td></td>
<td>$88.6</td>
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Mark McAndrew, a resident of McKinney, Texas, has given $2.4 million to the University of Missouri School of Medicine to create the Frances T. McAndrew Endowed Chair in Oncology. A portion of the gift — $400,000 — will fund MU cancer researcher Fred Hawthorne’s innovative research on boron-neutron therapy as a treatment for cancer.

McAndrew said the gift is in honor of his late aunt, Frances, who was a patient at Ellis Fischel Cancer Center.

“Frances was a tremendous person — truly a good soul — and it is a privilege to be able to make this gift in her honor,” McAndrew said. “Growing up in rural Missouri, I can say that rural Missourians have always looked to the University of Missouri Health System as a source for care above and beyond the routine. Frances always spoke highly of the top-notch care she received at MU’s Ellis Fischel Cancer Center, and I hope this gift will help continue to advance the premier research and care the MU Health System provides.”

McAndrew’s gift was inspired by his aunt’s battle with cancer as well as an inspiring essay written by Noah Wald-Dickler, an MU School of Medicine student who treated Frances during her stay at the hospital. The essay was written as part of an MU School of Medicine original program called Legacy Teachers. The program teaches medical students that patients are among the best and most memorable teachers for physicians. Each year students honor their legacy teachers at a luncheon. In his essay, Wald-Dickler praised Frances and the rest of the McAndrew family for their strength and grace during such a difficult time. He concluded his essay by writing:

“Not all the epidemiology, pathophysiology, technical skills, or clinical experience I acquire in my medical training will remain more prominent in my mind than the lessons Frances and her family taught me. As I progress in knowledge and competence, I can only hope that I can convey even a small piece of the compassion and strength that the McAndrews live each and every day.”

- Excerpt from Legacy Teacher essay by MU medical student, Noah Wald-Dickler
A passion to help others motivated Frank Booth, PhD, to give a $1 million gift to MU to fund his research into physical activity and health. Booth is a professor in the University of Missouri School of Medicine, College of Veterinary Medicine and MU Dalton Cardiovascular Research Center. His gift will endow the Frank Booth Fellowship in Physical Activity and Health in the MU School of Medicine in perpetuity.

Booth, an expert on genetic motivations for exercise and activity, has made research into the effects of physical inactivity on the brain and aerobic capacity his life’s work. He says his gift is motivated by a passion to help humans and animals live longer lives free from chronic diseases.

“Throughout my years of research, I have discovered the true importance of exercise and physical activity on health,” Booth said. “Unfortunately, many people fail to realize how much they could improve their health by remaining physically active. My goal with this gift is to support continuing research on the effects of exercise and to help communicate the importance of exercise to overall health, including the prevention of chronic diseases.”

Booth’s gift, in conjunction with past giving to MU, will continue to fund his exercise physiology research for years into the future. He said his two research priorities will include the discovery of what motivates people to be either active or “couch potatoes,” as well as the search for what genes cause humans to lose their ability to remain physically active as they age.

The Frank Booth Fellowship in Physical Activity and Health will provide fellowship awards for second- and third-year graduate students who are engaged in research on physical health and exercise at the MU Health Activity Center.

“In his 15 years at MU, Frank Booth has worked tirelessly to research exercise in animals and people and the impact of a sedentary lifestyle on health and longevity,” said Neil Olson, DVM, PhD, dean of the MU College of Veterinary Medicine. "If you know Dr. Booth, you know that he doesn't just walk the walk, he runs the run — jogging to work, between his offices, and to conduct most of his errands. Dr. Booth also runs the run when it comes to championing the College of Veterinary Medicine and University of Missouri, not only with his time and talent, but also with his financial support. We are so grateful to Frank for his generosity, not only because it helps ensure this important area of research will continue, but also because it speaks volumes when our faculty members take such pride in our institution and believe in our work that they personally invest in it.”

Booth has more than 40 years of research experience in physiological, biochemical, molecular and genetic adaptations that occur during exercise. Some of his most recent research has focused on genetic pre-dispositions to exercise. Booth has succeeded in breeding rats that exhibited traits of either extreme activity or extreme laziness. Booth believes these findings may suggest a link between the genes responsible for exercise motivation and the genes responsible for mental development. He also said this research hints that exercising at a young age could help develop more neural pathways for motivation to be physically active.
New Clinics Offer Patients Convenience, Quality Care

Several University of Missouri Health Care clinics have relocated to new facilities, and new Mizzou Quick Care clinics opened inside all three Hy-Vee stores in Columbia.

South Providence Medical Park

On Jan. 21, 2015, patients from several MU Health Care clinics began seeing their health providers at a new facility located at 551 East Southampton Drive, near the intersection of Providence Road and Southampton Drive in Columbia.

Called South Providence Medical Park, the first building at the park is a two-story, 85,500-square-foot clinic, which now houses pediatric primary care and family medicine services previously provided at the Green Meadows and Woodrail clinics, and expanded outpatient behavioral health services. The new building also houses mammography and laboratory services, as well as a large pharmacy with drive-through services.

“By offering these services in one location, we can offer all-around care to the whole person and the whole family,” said Mitch Wasden, EdD, chief executive officer and chief operating officer of University of Missouri Health Care.

Mizzou Therapy Services

Mizzou Therapy Services opened a new, larger location at 4040 Rangeline Street in Columbia. The new 5,000-square-foot facility features seven private examination rooms, two work stations, a reception and lounge area, and a gym. It is a full-service facility where patients receive all types of physical medicine or rehabilitative care.

Sarah Hwang, MD, assistant professor of clinical physical medicine and rehabilitation and director of women’s health in the Department of Physical Medicine and Rehabilitation, will be on site three days a week. She is one of only two physical medicine and rehabilitation physicians in Missouri trained in treating women’s pelvic pain. She also is able to address other musculoskeletal problems in women, including pain during pregnancy.

Mizzou Therapy Services offers comprehensive physical medicine and rehabilitation care for adults at four locations. Other Mizzou Therapy Services centers are located at the Missouri Orthopaedic Institute at 1100 Virginia Ave., Rusk Rehabilitation Center at 315 Business Loop 70 and 1420 W. Ashley Road in Boonville. Therapy services are available for pediatric patients at the Children’s Hospital Therapy Center.

Mizzou Quick Care Clinics

Opened in September 2014, Mizzou Quick Care clinics are located inside Hy-Vee stores at 25 Conley Road, 405 East Nifong Boulevard and 3100 West Broadway. Each clinic is open from 7 a.m. to 7 p.m. Monday through Friday, and 8 a.m. to 4 p.m. on weekends.

Clinic providers see patients 2 years and older who might need treatment for routine illnesses or common conditions, including sore throat, urinary symptoms, skin rashes and minor injuries. The clinics also offer employment screening physicals, sports physicals, pregnancy tests and limited adult immunizations. Mizzou Quick Care clinic hours are 7 a.m. to 7 p.m. Monday through Friday, and 8 a.m. to 4 p.m. on weekends.

ENT, Hearing and Balance Center

The University of Missouri ENT, Hearing and Balance Center opened in October 2014 at 525 N. Keene St. in Columbia. The new center is able to address all ear, nose and throat (ENT), hearing, and balance-related issues in one convenient location.

For a list of clinic hours and phone numbers, please visit www.muhealth.org/southprovidence.

For more information about Mizzou Therapy Services, please visit www.muhealth.org/services/therapy.

To make an appointment at the MU ENT, Hearing and Balance Center, please call 573-882-7903. For more information, please visit www.muhealth.org/MUENT.
Stay updated on MU Health Care’s latest news at muhealth.org/news and the School of Medicine’s news at medicine.missouri.edu/news.

To expand health care access for patients in central Missouri, Columbia Surgical Associates and the University of Missouri Health System became affiliates in January 2015.

“Health care today requires collaboration across multiple hospitals and clinics, medical specialists and geographic boundaries,” said Mitch Wasden, EdD, chief executive officer and chief operating officer of University of Missouri Health Care.

MU Health Care employs more than 500 university physicians, including approximately 140 specialty surgeons. Columbia Surgical Associates is comprised of 10 surgeons specializing in general, bariatric, vascular, colorectal and breast cancer surgery, along with 35 other health professionals, support and administrative staff.

“For years, Columbia’s health care community has discussed ways to build bridges between community and university physicians and strengthen Columbia’s position as a destination for excellent surgical care,” said Walter Peters, MD, president and senior partner of Columbia Surgical Associates. “This affiliation is historic because of this groundbreaking ‘town-gown’ affiliation. It will benefit CSA patients, who will now have more choices about where they want to receive care.”

Columbia Surgical Associates is located at 3220 Bluff Creek Drive in Columbia.

Sand Castle MRI, Video Goggles Relieve Anxiety in Kids

When children walk into the MRI radiology area at MU Women’s and Children’s Hospital, their eyes open wide and they crack a smile. The hospital has transformed the MRI procedure into a beach vacation and movie theater rolled into one experience.

“It is so kid friendly,” said Paula Rathz, a certified child life specialist at MU’s Children’s Hospital. “We have taken something that can be a daunting procedure for kids and it is now looked at as fun and exciting.”

Shaped like a sand castle, the MRI machine is different from traditional MRI machines. The area is filled with palm tree paintings, an ocean floor and beach chairs for the parents.

In addition to the playful castle imagery, kids at MU Children’s Hospital can also watch their favorite movies while having an MRI scan performed. Video goggles purchased through funds raised by more than a dozen mid-Missouri credit unions surround the eyes entirely, so children only see the cartoon or movie they are watching.

Looking at the Effects of Alcohol

Two recent research studies at the University of Missouri School of Medicine focus on the effects of alcohol on the human body.

In one study, researchers found that drinking alcohol to fall asleep interferes with sleep homeostasis, the body’s sleep-regulating mechanism.

Mahesh Thakkar, PhD, associate professor and director of research in the MU School of Medicine’s Department of Neurology, and Pradeep Sahota, MD, chair of the Department of Neurology, led the research.

“Sleep is an immense area of study,” Thakkar said. “Approximately one-third of our life is spent sleeping. Coupled with statistics that show 20 percent of people drink alcohol to sleep, it’s vital that we understand how the two interact. If you are experiencing difficulty sleeping, don’t use alcohol. Talk to your doctor or a sleep medicine physician to determine what factors are keeping you from sleeping. These factors can then be addressed with individualized treatments.”

The study was funded by the National Institute of Alcohol Abuse and Alcoholism and the Truman Veterans Hospital. Results were published in the international biomedical journal Alcohol.

In another study, researchers identified epigenetic protein changes caused by binge drinking, a discovery that could lead to treatments for alcohol-related liver diseases.

“We know that chronic alcohol use is damaging to the liver, but binge drinking amplifies that damage,” said Shivendra Shukla, PhD, Margaret Proctor Mulligan Professor at the MU School of Medicine and lead author of the study.

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) defines binge drinking as a pattern of drinking that brings a person’s blood alcohol concentration to 0.08 grams percent or above. This typically happens when men consume five or more drinks or women consume four or more drinks over a two-hour period.

The study was funded by the National Institutes of Health and the Department of Veterans Affairs. Results were published in Hepatology International, the journal of the Asian Pacific Association for the Study of the Liver.
OUR LIGHTS ARE ON
MU HEALTH CARE’S NEWEST CLINIC IS NOW OPEN

SOUTH PROVIDENCE MEDICAL PARK
Our new 85,500-square-foot facility at MU Health Care’s South Providence Medical Park combines multiple medical services all under one roof. With more than 100 family medicine and general pediatric providers, we can cover your entire family’s primary care needs. We also offer psychiatry and urgent care with same-day access for your acute needs. And if you need imaging, lab or pharmacy, we provide it all in this beautiful, modern facility for your convenience.

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