

# THE POWER OF **ADVANCED MEDICINE**

2016 **ANNUAL REPORT**





## 2016 ANNUAL REPORT CONTENTS

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On the cover: John D’Orazio, MD, (left) treats pediatric cancer patients and specializes in research on melanoma. Sheena Hall, RN, (right) works in 4 East at UK Good Samaritan Hospital.

A REPORT ON FISCAL YEAR 2016 FROM THE  
EXECUTIVE VICE PRESIDENT FOR HEALTH AFFAIRS

# THE POWER OF ADVANCED MEDICINE PROPELS US

Fiscal year 2016 was one of high levels of activity on all fronts as we organized the clinical enterprise to execute on our 2015-2020 Strategic Plan. Despite the highly volatile nature of today's health care environment, our strategic vision at its core remains unchanged – a focus on advanced subspecialty care, building relationships and quality improvements.

## Advanced Medicine

In 2003, we made a strategic decision to focus on advanced specialty care. That decision changed the medical center's trajectory – away from the "safety net" hospital we might have become and toward teams of specialists and subspecialists collaborating with colleagues highly trained in nursing; pharmacy; respiratory, physical and occupational therapy; and many other skilled professions to deliver advanced subspecialty care.

We have recruited outstanding physicians and aggressively built nationally competitive tertiary and quaternary programs that have grown dramatically both in volume and quality. Today, UK HealthCare is truly a comprehensive referral academic medical center comparable to the best in the country.

In 2016, enterprisewide strategic planning combined with a new logo for the university resulted in the launch of a new brand for UK HealthCare: The Power of Advanced Medicine. This reflects the fact that the people of Kentucky need access to advanced subspecialty care – the kind of complex care major academic medical centers such as ours are uniquely equipped to provide.

In 2016, we began a serious turn toward true **interdisciplinary service lines**. Service lines bring people together; specialists of all kinds who focus on a set of patients. Such a highly connected, interrelated team is necessary to care for complex patients.

## Stronger Relationships

Our second longstanding strategy has been to build relationships with other providers. Our relationships have evolved into networks for cancer, heart and stroke. In 2016, several of these relationships culminated in the **Kentucky Health Collaborative** – a group of 10 hospital systems with statewide coverage representing more than 50 hospitals. Like UK HealthCare, our colleagues in the collaborative are committed to aggressively facing the future, understanding we must all focus on value, quality and safety.

Significant challenges to the health care system in Kentucky lie ahead. The collaborative will be an important foundation for UK HealthCare and of increasing importance as a fundamental support for Kentucky's health care system.

## Critical Success Factors

All along it has been critical that we take care of patients in the most efficient way, producing the best outcomes and highest satisfaction. Value-based medicine – a label applied to a major shift in the way health care services will be reimbursed in the coming years – is a natural extension of this third path we have been on for more than a decade – improving quality, efficiency and the patient/family experience.

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Left, top: Michael Karpf, MD, with members of the cardiovascular patient care team. Left, bottom: Entrance and Pavilion A of UK Albert B. Chandler Hospital.

JULY 2015

Ephraim McDowell Commonwealth Cancer Center joins the Markey Cancer Center Affiliate Network.



AUGUST 2015

UK Markey Cancer Center will help T.J. Samson Community Hospital in Glasgow, Ky., prepare for American College of Surgeons' Commission on Cancer accreditation, a prerequisite to becoming a Markey affiliate.

SEPTEMBER 2015

UK is only site approved by FDA for clinical trials of a medical device pioneered by UK researchers for treatment of late-stage lung cancer.

2016 EVENTS ILLUSTRATE VALUE ADDED

*A number of accomplishments within the UK HealthCare clinical enterprise in 2016 demonstrate our progress in creating value through improved quality, efficiency and patient/family experience.*

**PATIENT-CENTERED MEDICAL HOME (PRIMARY CARE)**

In August 2015, the Kentucky Regional Extension Center (REC), based at the University of Kentucky, announced that it had guided six practices - one of them the **UK Family & Community Medicine clinic at Turfland** - in transforming



their practices to meet nationally recognized standards as a Patient-Centered Medical Home (PCMH).

A PCMH practice has transformed from a traditional sick care model to one focused on comprehensive,

coordinated care that keeps patients healthier and reduces complications. At the center of the PCMH model is a primary care physician office, where health care professionals work as a team to provide care individually determined to meet each patient's specific need.

In the PCMH environment, patients develop and maintain an ongoing relationship with their primary care physician, and the health care team is focused on better care coordination. The practice is the patient's "home" for preventive, chronic and ambulatory care. Care provided by primary care physicians in a PCMH is associated consistently with better outcomes, reduced mortality, fewer preventable hospital admissions for patients with chronic diseases, lower utilization, improved patient compliance with recommended care, and lower costs.

**ORGAN TRANSPLANTATION**

UK HealthCare celebrated a number of milestones in 2016 associated with the evolution of its transplant program. In September 2015, UK HealthCare's first successful "kidney donor chain" was announced, although kidney transplants have been performed at UK since 1964. A kidney donor chain is formed when a living kidney donor who is incompatible with their intended recipient agrees to donate their kidney to a different patient, provided their loved one receives a kidney from someone else. The chain of four donors and four recipients was the longest to date in Kentucky.

Finding appropriate patients for the donor chain was aided by now longstanding relationships with Nephrology Associates of Kentuckiana and the UK Transplant and Specialty Clinic at Norton Audubon Hospital in Louisville. Both practices refer patients to the **UK Transplant Center** for transplant and provide pre- and postoperative care to patients in the region.

In heart transplant, UK HealthCare celebrated a record 40 hearts transplanted within a single calendar year (2015), and two months later (February 2016) UK HealthCare celebrated the 25th anniversary of the first heart transplant at UK. Few medical centers in the country perform more than 30 heart transplants in a single year. The program's growth is due in part to the effective collaboration the surgical transplant team has with **UK Gill Heart Institute's Advanced Heart Failure Program**.

The transplant program has made a difference in the lives of many patients and their families and exemplifies the complex advanced subspecialty care it is important for an academic medical center to provide.

OCTOBER 2015

125+ UK physicians appear on the Best Doctors in America list for 2015-16.

First program in Central and Eastern Kentucky to help pediatricians identify child abuse.

Kentucky Injury Prevention and Research Center celebrates 20th anniversary.

Meritorious outcomes in surgical patient care recognized by the American College of Surgeons.





Kentucky's longest "kidney donor chain," an eight-person chain of donors and recipients.

College of Health Sciences receives a \$4.2 million grant from the Office of Naval Research for research on injury prevention and performance optimization in U.S. Special Forces.

## SURVIVING AND THRIVING AFTER CRITICAL CARE

In the fall of 2015, the **UK Critical Care Survivors Clinic** was created to provide consistent follow up for patients discharged after spending significant time in critical care. One of only a handful in the country, the CCSC's purpose is to improve long-term outcomes, decrease hospital readmission rates, and improve quality of life for critical care survivors.

Critically ill patients fortunate enough to recover and be discharged may suffer cognitive impairment, depression and/or ongoing physical disabilities. Postdischarge care can be so complicated, these patients often end up back in the hospital.

Survivors are seen in the CCSC for one to six months after discharge; some followed longer if necessary. In addition to seeing the patients, clinic specialists also talk with the patient's hometown providers, advising them and facilitating services that keep the patient as close to home as possible.

## COLLABORATING FOR PEDIATRIC CARDIOTHORACIC SURGICAL CARE

The "one program, two sites" model UK HealthCare began building with Cincinnati Children's Hospital Medical Center (CCHMC) in 2016 allows us to expand our active pediatric cardiology program to once again perform pediatric cardiathoracic surgery in Lexington (early 2017) and provide follow up for surgery performed in Cincinnati. By collaborating with one of the Top 3 children's hospitals in the nation, **UK HealthCare's Kentucky Children's Hospital** can ensure Kentucky families have the convenience of the full range of pediatric heart care closer to their homes.



Darrell Raikes (with wife Sarah) received follow-up care at the UK Critical Care Survivors Clinic after 58 days of hospitalization, a significant portion spent in the Medical ICU. Members of the ICU team who cared for him included, from left, Adam Gould, RN; Jenny Renaud, RN; Kelli Mullins, RN; Chris Tipton, NCT; and Courtney Gunning, RN.

## EQUALITY LEADER

In fiscal year 2016 UK HealthCare became an Equality Leader in the 2016 Healthcare Equality Index (HEI), sponsored by the Human Rights Campaign Foundation based in Washington D.C. The HEI was created to give health care facilities, like UK HealthCare, the resources they need to ensure LGBT (lesbian, gay, bisexual and transgender) patients have access to patient-centered care. The achievement was based on four core criteria: patient nondiscrimination policies, visitation policies, employment nondiscrimination policies, and training in LGBT patient-centered care. UK HealthCare and Eastern State Hospital, managed by UK HealthCare, are two of only three hospitals in the state to earn this distinction.

## NOVEMBER 2015



\$1.6 million grant to Sanders-Brown Center on Aging for neurodegenerative disorders research.

First International Society of Neurogastronomy Symposium held at UK pursues solutions for the taste-impaired.

Named a Top Performer on Key Quality Measures by The Joint Commission.

UK Transplant Center reaches 38 heart transplants, setting a record for a Kentucky medical center. Only 20-25 U.S. medical centers perform more than 30 heart transplants in a single year.



Kentucky Neuroscience Institute redesignated a comprehensive stroke center – the highest level of stroke certification available.

Hardin Memorial Health in Elizabethtown joins Markey Cancer Center Research Network.



Nico Kelly, RN, reassures a patient at UK Good Samaritan Hospital while Julio Olivera, RN, and Stephanie Wilson, RN, start an intravenous (IV) line.

## Transforming UK HealthCare

In 2003 we set out to replace a 486-bed hospital. Today we are licensed for 945 beds. When we finish the projects covered by the \$150 million bond issuance our Board of Trustees approved in June 2016, Chandler Hospital Pavilion A will be more than 96 percent complete (see pgs. 36-37).

In 2018, Kentucky Children’s Hospital will open a state-of-the-art neonatal ICU (NICU). A new entryway into Kentucky Children’s will allow us to develop critical support space for the families of pediatric patients.

In 2003 we were a small academic medical center serving about 1,000 transfers from area hospitals. In 2016 we accepted more than 19,000 transfers but could still not accommodate all transfer requests. Our inpatient discharge volume is twice what it was in 2003. Our outpatient activity has grown dramatically, now exceeding 1.5 million outpatient encounters per year. We have become the support system for many hospitals in Kentucky – a role we embrace as part of our commitment to improving Kentucky’s overall system of care.

UK HealthCare has continued to invest in the expansion of ambulatory programs and services. In 2016, the UK Transplant Clinic moved into new clinic space and offices in Kentucky Clinic; dermatology services expanded at our Turfland location. Finishes were upgraded in Adolescent Medicine and in Kentucky Clinic Radiology, where new equipment was also installed. Pain Services and General Pediatrics were both relocated to Kentucky Clinic South, giving both more space for increased volumes and the future expansion of Specialty Pediatric Services.

While growth has been a significant challenge, UK HealthCare has enjoyed remarkable success. In 2016 we achieved Magnet status for nursing excellence once

## MARCH 2016

UK research projects, clinical services and outreach efforts shared at National Summit on Prescription Drug and Heroin Abuse demonstrate leadership in the state and nation.

## APRIL 2016

25 years of heart transplantation celebrated.

## MAY 2016

The Medical Center (Bowling Green) joins Markey Cancer Center Affiliate Network.

NIH \$1.88 million grant to study prevention of stem cell damage during cancer treatment

UK and Cincinnati Children's Hospital Medical Center finalize an agreement to create a joint program to transform pediatric and adult congenital heart care in Kentucky.

Ten health care systems form the statewide Kentucky Health Collaborative.

UK HealthCare regains Magnet status as recognition for nursing excellence.



again – a true testament to the quality of our care teams. There is a tremendous increase in applications to the College of Medicine. Our training programs are very strong. Our research efforts have substantially improved since 2003, and our ambition is to move even higher.

### Executive Leadership

2016 marked an important milestone in the development of UK HealthCare's leadership. Three highly experienced leaders joined Mark Birdwhistell, vice president for administration and external affairs, and myself as members of UK HealthCare's Executive Leadership Team.

In August 2015, **Bo Cofield, DrPH**, became vice president and chief clinical operations officer, after an impressive record at academic medical centers in Virginia and Alabama. He is working closely with administrative and clinical partners to improve our clinical operations. Bo leads UK HealthCare's development of a new Service Line Operating Model and the Clinical Operations Team (COT).

In March 2016, **Bob DiPaola, MD**, joined the university and UK HealthCare from Rutgers as our eighth dean of the College of Medicine. He has already launched initiatives to stimulate collaboration and teamwork, bridging our educational, research and clinical missions. His passion for precision medicine perfectly aligns with our vision to deliver advanced medicine.

The team was complete in May 2016 when we welcomed **Craig Collins** as our new chief financial officer (CFO). Craig assumed the role from Murray Clark after Murray's 38 years of service to UK – for which we are very grateful. Craig manages the financial levers to our now \$2 billion enterprise, drawing heavily upon his previous career in health care finance with the Mayo system.

### Transition

In September 2016 I announced that after 13 years of service to the University of Kentucky as the Executive Vice President for Health Affairs, I am ready to step down and make way for a new leader who can guide UK HealthCare through the challenges of the next five to 10 years, ensure our success continues, and facilitate UK's education, research and service missions.

During my tenure as EVPHA, we have invested close to \$2 billion for faculty recruitment, program development, technology acquisition, and bricks and mortar. The next generation of leaders will need to continue to demand strong financial performances in order to generate the required resources necessary to invest in people, programs, technology and facilities to sustain and continue our progress and success.

After a new EVPHA is named, I will transition to a part-time faculty position to help strengthen health services research at the university. I also intend to stay involved in the art, music and humanities program that makes UK HealthCare a very special place for all. I want to help develop the resources that can sustain these programs for the future.

We concluded FY16 encouraged in our ability to be a high-quality provider of advanced medicine. Thanks to the hard work and dedication of UK HealthCare's entire team, we are serving more of our fellow citizens than ever before, truly delivering the power of advanced medicine to those who need it most.

*Michael Karpf, MD  
Executive VP for Health Affairs  
University of Kentucky / UK HealthCare®*

Kentucky Neuroscience Institute awarded "Stroke Gold-Plus Quality Achievement Award" and Target: Stroke Honor Roll Elite.



UK's Kentucky Regional Extension Center gains \$4.6 million in funding to transform the way patients are cared for by medical professionals.

UK's Gill Heart Institute receives a 2016 Mission: Lifeline® Receiving Center BRONZE Recognition Award for quality heart attack care.





## ENSURING THAT UK HEALTHCARE MEETS COMMONWEALTH NEEDS

When I joined the UK Board of Trustees in 2014 after a career in banking – serving as chairman or senior officer of a number of banking institutions and six and a half years as Secretary of Kentucky’s Public Protection Cabinet – the board felt that I was best suited to the needs of the University Health Care Committee and its oversight of the now \$4.4 billion in gross revenues health care enterprise. A year later I was asked to chair the committee, following the great leadership of Barbara Young.

As members of the Board of Trustees, we feel keenly responsible to ensure that high-quality health care is provided at a reasonable cost, especially to the sickest patients in Kentucky. Further, we want to be able to assure the quality of care is always improving, that the university has the physicians, patients and volume necessary to be a high-quality provider and an attractive place for specialists and subspecialists to do their best work.

The quality of care at UK HealthCare is good and improving, as evidenced by the awards, designations and accreditations they are receiving as well as UK HealthCare’s own quality improvement efforts. This year’s achievement of the prestigious Magnet status for nursing excellence is high praise and proof that the UK HealthCare team is committed to being among the nation’s best academic medical centers.

UK HealthCare has the unique ability to deliver advanced medicine to the patients of Kentucky, as well as the hospitals and providers that collaborate with us. We are truly serving as a regional referral center. Providers across the state and beyond are increasingly sending their sickest, most complicated patients to UK HealthCare. The patient benefits from access to the best that academic medicine has to offer. The referring hospital benefits as well, as we work collaboratively, not competitively, around the best interests of their patients.

We have grown quickly by monitoring and responding to the state’s health care needs. Even though aggressive, our growth may also be viewed as conservative because our performance has outpaced our projections. This growth fulfills our responsibility to Kentucky.

Going forward, we must be attuned to and anticipate change. We must be nimble and flexible enough to adjust as the environment around us changes. The Commonwealth and the people of UK HealthCare deserve our best efforts.

*Robert D. Vance, Chair  
University Health Care Committee of the  
University of Kentucky Board of Trustees*

### University Health Care Committee of the University of Kentucky Board of Trustees

As of June 30, 2016

Robert Vance, Chair  
James H. Booth  
Cammie D. Grant  
William S. Farish Jr.  
Barbara Young

#### Ex Officio Members

(Non-Voting)

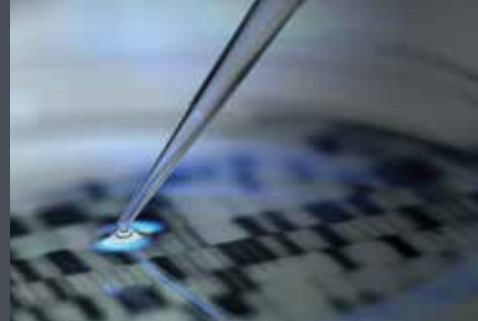
Eli Capilouto, ScD  
Michael Karpf, MD  
Robert S. DiPaola, MD  
Robert (Bo) Cofield, DrPH  
Phillip Chang, MD  
Colleen Swartz, DNP  
Andrew Bernard, MD

#### Community Advisory Members

Mira Ball  
Robert Clay  
Luther Deaton  
Missy Scanlon  
Nick Nicholson



# UK HEALTHCARE'S BRAND THE POWER OF **ADVANCED MEDICINE**



*UK HealthCare's brand – The Power of Advanced Medicine – symbolizes our promise to drive innovation, give rise to new possibilities, and deliver an exceptional care experience that gives you confidence and hope.*

The Power of Advanced Medicine is built upon three fundamental pillars:

## **POWER OF MORE**

UK HealthCare has the deepest bench of advanced subspecialty physicians in multiple locations, along with more science, more technology and more expertise in our nursing teams and staff. More means a better chance of getting back to living your life. At UK HealthCare, more is better.

## **POWER OF PRECISION CARE**

UK HealthCare's patients have complex needs and we know that no two patients are alike. That's why we tailor care to fit their unique needs. Precision care means more precise diagnosis and treatment to improve both comfort and outcome. We treat the person not just the disease.

## **POWER OF HOPE**

Hope springs from confidence. And confidence comes from one place – proving it again and again. UK HealthCare handles more complex cases than any regional referral provider to give patients confidence they are in the right hands.

This foundation supports three additional attributes that more fully express the essence of UK HealthCare's brand – expert, visionary and reassuring.

## **EXPERT**

With best-in-class medicine, UK HealthCare applies its brilliant pragmatism to every situation – even the most difficult. The depth and breadth of our expertise gives us the confidence to face challenges with fearless passion and the drive to deliver the best. Our expansive knowledge creates an exceptional standard of care that Kentuckians near and far can turn to and rely on. UK HealthCare operates at an elite level without being elitist.

## **VISIONARY**

UK HealthCare wants nothing less than better health care for the entire Commonwealth of Kentucky. We know it's more than possible “someday,” it's doable right now – by sharing knowledge and leading collaboration in ways not seen before. This inspiring and inviting mission attracts people at the top of their field who want the best for their patients. We embrace these aspirations as well as the spirit of true partnership.

## **REASSURING**

Providing excellence without arrogance and bringing comfort to challenging situations, UK HealthCare expresses steadfast resolve, honest confidence and unsurpassed understanding – truly resonating with the people of Kentucky and beyond.

*Our brand is created in the minds of every person we touch. We want patients to experience our family caring for theirs and to understand the journey with us is worthwhile.*



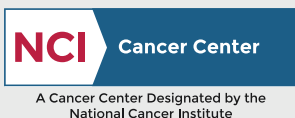
*(The Power of)* advanced medicine

# HEALTH CARE QUALITY EVALUATION BY OUTSIDE AGENCIES YIELDS USEFUL INFORMATION ON **QUALITY OF CARE**

*Assessments and recognitions from esteemed national organizations are useful tools in demonstrating the high quality of care provided at Kentucky's leading academic medical center.*



All patients benefit from our **Magnet status for nursing care**, earned by only 7 percent of the nation's 6,000 health care institutions. Magnet institutions demonstrate better teamwork among all disciplines and have lower rates of infection, fewer medication errors, fewer in-hospital falls and fewer pressure wounds.



Patients at the UK Markey Cancer Center are being treated at one of only 69 centers in the nation to earn **National Cancer Institute designation** – and the only one in Kentucky to be so designated.



**Baby-Friendly USA®**

Newborns are being cared for by the only hospital in Lexington with the **Baby-Friendly designation**, awarded by Baby-Friendly USA.

*Several top national recognitions received by UK HealthCare in fiscal year 2016 are indicators of the high quality of care provided to patients.*

## **MAGNET STATUS IS POWERFUL PROOF OF QUALITY CARE AND OUTCOMES**

When it was announced in February 2016 that UK HealthCare had achieved Magnet status from the American Nurses Credentialing Center, it was cause for celebration for the entire UKHC team. UK HealthCare is one of only 10 Magnet health care organizations in Kentucky.

The support of all those involved in patient care was integral to attaining Magnet status, the highest honor an institution can earn for nursing excellence.



**"Nurses are foundational to patient care, but they work in tandem with many, many others."**

– Colleen Swartz, DNP,  
Chief Nurse Executive

"From the outset, we knew that we would achieve [Magnet status] only with the support of everyone involved in patient care," said Chief Nurse Executive Colleen Swartz, DNP. "Nurses are foundational to patient care, but they work in tandem with many, many others. This reality is what makes Magnet status an all-encompassing recognition of the quality of care we provide at UK HealthCare."

"When you look at the improvements and innovations in patient care that have come when nurses at Magnet institutions become more involved in multidisciplinary decision making," said Bo Cofield, vice president and chief clinical operations officer, "you see that every indicator of quality care improves with Magnet status."



**(The Power of)** nursing excellence



## RECOGNIZED BY THE JOINT COMMISSION IN TWO KEY AREAS

The Joint Commission's accreditations and certifications are recognized nationwide as a symbol of quality and commitment to performance standards.



**American Heart Association  
American Stroke Association  
CERTIFICATION**  
Meets standards for  
**Comprehensive Stroke Center**

The Joint Commission has designated the Kentucky Neuroscience Institute (KNI) as a **Comprehensive Stroke Center** – one of only 96 facilities in the U.S. to receive the designation, the highest level of stroke care certification. Having a top-ranked stroke treatment center is critical in Kentucky, where strokes occur at a higher than average rate. KNI was noted for its multidisciplinary approach; peer review and management of cases; state-of-the-art facilities, and its review of patient data and outcomes to drive improvements in care.



The Joint Commission  
Top Performer on  
Key Quality  
Measures

The Joint Commission also recognized UK HealthCare during the fiscal year as a **2014 Top Performer on Key Quality Measures** in seven categories. Only one-third of the 3,000 eligible hospitals achieved the distinction. This recognition

means that UKHC is delivering the right care in the right way at the right time in heart attack, stroke, heart failure, pneumonia, surgical care, children's asthma and perinatal care.

## A LEADER IN QUALITY OF SURGICAL CARE OUTCOMES

When the American College of Surgeons (ACS) created its **National Surgical Quality Improvement Program (NSQIP)**, UK Chandler Hospital was among the first hospitals to sign on. The ACS NSQIP is the only nationally validated quality improvement program that measures the care of surgical patients.

ACS NSQIP recently named UK one of 52 of its participating hospitals that had achieved meritorious outcomes in surgical care, with an outstanding composite quality score on surgical outcomes in mortality, cardiac, pneumonia, renal failure, urinary tract infection and surgical site infections.

## GILL HEART INSTITUTE RECOGNIZED FOR TREATMENT OF STEMI HEART ATTACKS



All heart attacks are serious, but a particular type, called STEMI, or ST segment elevation myocardial infarction, has a much higher short-term risk of death or disability. The **UK Gill Heart Institute** received the **2016 Mission: Lifeline® Receiving Center BRONZE Recognition Award** from the American Heart Association.

This award is given only to hospitals that provide the quick access to treatment that is critical for STEMI patients' recovery.

## A LEADER IN EQUALITY

The Human Rights Campaign Foundation named UK HealthCare an **Equality Leader** in its **2016 Healthcare Equality Index (HEI)**. The HEI ensures that health care facilities have policies, procedures and services in place to provide LGBT (lesbian, gay, bisexual and transgender) patients access to patient-centered care. UK HealthCare-owned or -managed (Eastern State Hospital) facilities are two of only three in the state to earn this distinction.

## 125-PLUS UK DOCTORS CONSIDERED AMONG NATION'S BEST



**Best Doctors®**  
125 Best Doctors in America

More than 125 of our doctors made **The Best Doctors**

**in America** list for 2015-2016, a higher number than any other hospital in Kentucky. Only 5 percent of the doctors in America earn the honor, and they are recommended for the list by their peers. To see the full list, go to [ukhealthcare.uky.edu](http://ukhealthcare.uky.edu).

Among the other recognitions UK HealthCare and its affiliates received during the fiscal year was a **2015 Quality Award (Psychiatric Care)** for Eastern



State Hospital from the Kentucky Hospital Association and a **Get With the Guidelines-Resuscitation Gold Quality Achievement Award**, recognizing resuscitation teams that adhere to specific quality measures for cardiac arrest victims as outlined by the American Heart Association.



# IMPROVING QUALITY REQUIRES CLOSE MONITORING OF PERFORMANCE



“Providing value in health care – care that is accessible, efficient and superior – is our mission, and it is important that we share this information with our staff, our patients and others who support UK HealthCare. These metrics help guide us through our quality improvement process, which will ultimately result in care that is unparalleled in this community.”

– Bo Cofield, DrPH, VP & Chief Clinical Operations Officer

*Measuring UK HealthCare’s (UKHC) advancements as a health care provider is complex. Multiple factors are studied to gain an accurate picture of how well UKHC clinical teams are improving the quality and value of the health care they provide.*

*Beginning with this annual report, we will, in addition to reporting on operational and financial performance, share key quality of care metrics used internally to evaluate our performance.*

Refer to pages 28 - 29 for key quality measures over the last three years.

## MEASURES OF CARE QUALITY

Many health care organizations hesitate to report quality metrics. The metrics can be complicated to communicate and difficult to understand. The summaries below are our attempt to explain in plain language key care quality metrics UK HealthCare reports publicly and how we are performing in each area. Newer quality data may be available on the UK HealthCare website at [ukhealthcare.uky.edu/quality](http://ukhealthcare.uky.edu/quality).

### IMPROVING PATIENT SURVIVAL RATES

Among the important metrics tied to efficient, superior care is patient survival rate. This rate is calculated by dividing the number of patients who have died during a particular period (observed mortality) by the number of patients who were so sick that they were not expected to live (expected mortality). At academic medical centers like UKHC, the expected rate of mortality is higher because many patients have highly complex health problems that are more difficult to treat successfully. UKHC’s patient survival rate for FY16 improved over FY15 – often better than UKHC’s academic medical center peers.

### AVOIDING COMPLICATIONS

When a hospital has a high rate of serious complications that could have possibly been prevented, it can be a sign of poorer quality of care. To track the rate of these preventable complications, hospitals use the HARM Score Composite (PSI-90) developed by the Agency for Healthcare Research and Quality (AHRQ). It measures hospital performance in eight areas of patient safety: pressure sores; collapsed lung resulting from medical treatment; infections from a large venous catheter; broken hip from fall after surgery; blood clots in the lung or a large vein in surgery patients; bloodstream infection postsurgery; rupture along a surgical suture; and accidental cuts or tears.

All of these complications can be reduced when hospitals follow accepted safety practices. Since 2013, UK hospitals have outperformed the PSI-90 target. Among its peer group of 140 academic medical centers, UKHC ranked fifth overall for its scores for FY 2016.

### EFFICIENCY OF THE CARE CONTINUUM

We also track length of stay, which indicates whether efficient in-hospital care is being provided, and readmissions, which can indicate a number of care issues, including insufficient education of patients and families about post-hospitalization care.





### **LENGTH OF STAY**

No patient should stay in the hospital any longer than required to provide the care necessary to move to their next phases of recovery and treatment. The length of stay index reported on page 29 is calculated by dividing the calendar days from admission to discharge by a patient's expected length of stay, which takes into account their age, existing medical condition and other factors.

Patients at academic medical centers (AMCs) typically have longer stays. Many suffer chronic conditions and their health care is complicated. UKHC's average length of stay has been decreasing since 2015 and is in line with that of other AMCs that also treat some of the nation's sickest patients.

### **READMISSION**

When a patient must return to the hospital within 30 days, it triggers questions about their in-hospital care. The patient who had surgery, then develops an infection at the incision site might make us question whether they had proper wound care or received instructions on how to care for their wound once they returned home. There are times of course, when readmissions are not tied to a previous hospital stay, and not all readmissions can be prevented.

UK HealthCare has been able to manage the factors that reduce readmission. Our rate was consistently below the average of our academic medical center peers in FY 2016.

### **ACCESSIBILITY TO CARE**

Another measure of care is accessibility to our services. We monitor aspects such as how long, on average, a caller to our clinics will be on hold or how long it takes a new patient to get an appointment. Accessibility to care can have quality, safety, efficiency and patient experience implications. All of these service metrics are measured against our peer group of academic medical centers. Among our findings is that in terms of ease of scheduling appointments, we rank above the 75th percentile among our peers.

### **PATIENT EXPERIENCE**

We survey every patient discharged from our hospitals and emergency departments (except those excluded for regulatory reasons) and a random sample of outpatients seen in our clinics and testing and treatment areas. In FY16 we received more than 4,000 responses from inpatients and more than 10,000 responses from outpatients who visited our clinics or testing areas.

The information given to us by patients and families is essential in improving the quality of our care and the richness of our patient and family experience. Patient survey results are reviewed by administrative, nursing and physician leaders in weekly, monthly and quarterly sessions. In FY16 UK HealthCare was ranked 27th in patient experience out of 102 of our academic medical center peers.

Incorporating these measures of care quality into our work planning provides UK HealthCare teams with a broader understanding of progress made and of the value we provide to patients.



“Improving quality, safety, effectiveness and the experience for our patients takes persistence, diligence and commitment. Everyone involved in the care continuum has to be on board to move the needle – not to mention we depend on a dedicated team to collect, analyze, report and track progress. Not many providers have the depth and breadth to launch such a comprehensive effort at quality improvement.”

– Phillip Chang, MD,  
Chief Medical Officer

# KENTUCKY HEALTH COLLABORATIVE BRINGING HEALTH CARE PROVIDERS TOGETHER TO SERVE KENTUCKY



“The greatest gains will come through the power of the collective organization.”

– Steve Williams, retired CEO of Norton Healthcare



“It’s imperative that we unite to best solve our state’s concerns.”

– Connie Smith, CEO of The Medical Center

No single health care organization can solve every problem facing the industry. How can we ensure our residents, even in the most rural settings, receive vital medical care? What can we do to bring down our state’s high level of heart disease, cancer, obesity, diabetes and substance abuse so that we transform from one of the sickest to one of the healthiest communities in America? How do we bring down health care costs?

These concerns may be daunting, yet they are just a few of the pressing issues being tackled by the Kentucky Health Collaborative, an organization formed in 2016 with 10 Kentucky medical systems comprising more than 50 hospitals. Jointly, it is our aim to improve health outcomes and patient care statewide while reducing costs.

For UK HealthCare, becoming a founding member of the Kentucky Health Collaborative was a natural evolution of our outreach efforts. Since 2004 when relationship-building became one of our key strategies, we have learned that by bringing the most knowledgeable and creative minds together to work on shared goals we can develop innovative and groundbreaking solutions to any number of problems. In addition, one of the prime purposes of these partnerships is to keep care close to home, support our local economies, provide access to advanced subspecialty care, and support our mission of education and research.

For years, we have been advancing our connections and affiliations with local and regional providers.

We developed the UK Markey Cancer Center Affiliate Network to work with community hospitals to provide excellent cancer care while minimizing travel for patients and their families. Its sister program, the UK Markey Cancer Center Research Network, allows community hospitals to offer local patients the chance to participate in clinical research studies.

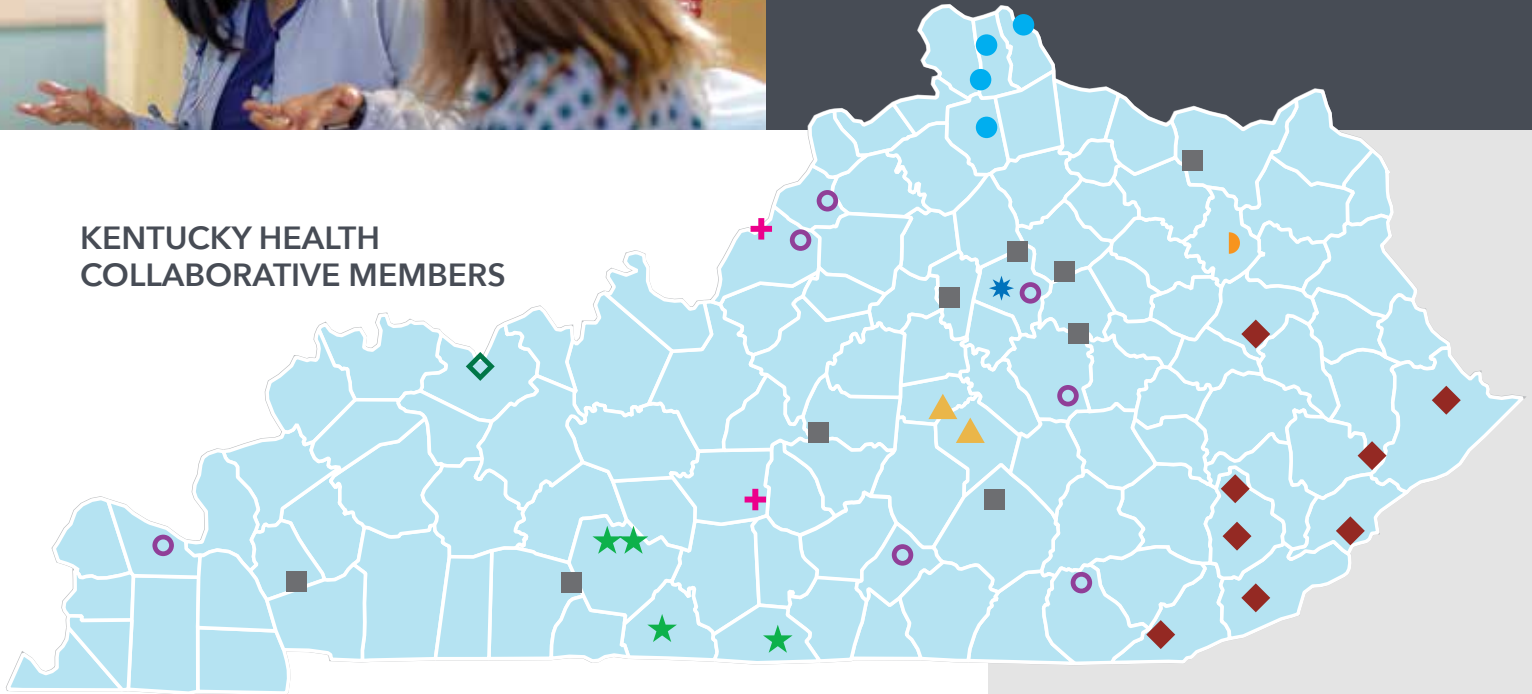
In addition, today there are 23 hospitals in the UK/Norton Healthcare Stroke Care Network so that patients receive the best care possible in the early moments of a stroke, even if they are not at a large academic medical center. And the Gill Heart Affiliate Network brings cardiothoracic surgery, electrophysiology, interventional cardiology and care for advanced heart failure to locations throughout the Commonwealth via collaborations with physicians and hospitals.

Outreach extends to our operation of rural clinics, our telemedicine program, and our role in mentoring and training medical students alongside the College of Medicine. The strengthening of our partnership networks ensures patients will receive care that is effective, efficient and appropriate.

What’s unique and exciting about the Kentucky Health Collaborative is the ability we have collectively to impact the Commonwealth. UK HealthCare has joined with Norton Healthcare, Appalachian Regional Healthcare, Baptist Health, Ephraim McDowell Health, LifePoint Health, Owensboro Health, St. Claire Regional Medical Center, St. Elizabeth Healthcare and The Medical Center (Bowling



## KENTUCKY HEALTH COLLABORATIVE MEMBERS



Green) to take on our state's important health issues.

The Kentucky Health Collaborative brings together hospitals with forward-thinking physicians, scientists and researchers. These are creative and determined people who can share their best practices and evidence-based standards of care. Nonphysician providers, including nurses, therapists, pharmacists, nutritionists and others are also a critical part of the team.

"The greatest gains will come through the power of the collective organization," said Steve Williams, who recently retired as CEO of Norton Healthcare and is outgoing chair of the collaborative. "It has been exciting to initiate the launch of the project, and I am very optimistic that we will continue to move forward on the priorities we have set."

Although the Kentucky Health Collaborative is in its infancy, it has been exploring initiatives such as care access and coordination, clinical best practices, workforce

development, cost savings and efficiencies, prevention and wellness, and advocacy. In its first year of operation, five advisory boards – the Cost Savings Advisory Committee, Finance Committee, Pharmacy Advisory Committee, Information Technology Advisory Committee and the Smoke-Free Advocacy Initiative – formed and are already working on identifying opportunities to collaborate. Not only will the collaborative improve the health of populations served across the Commonwealth, it will help us prepare for the ongoing transformation from fee-for-service to value-based care and population health.

"The Kentucky Health Collaborative has brought all of us much closer together in a cooperative spirit," said Connie Smith, CEO of The Medical Center. "To keep pace with the changes in health care and to improve the health and wellness of our community, it's imperative that we unite to best solve our state's concerns."

- ◆ Appalachian Regional Healthcare
- Baptist Health
- ▲ Ephraim McDowell Health (Danville)
- LifePoint Health
- ✚ Norton Healthcare (Louisville)
- ◇ Owensboro Health
- St. Claire Regional Medical Center (Morehead)
- St. Elizabeth Healthcare (Edgewood)
- ★ The Medical Center (Bowling Green)
- ★ **UK HealthCare**

Moving forward into 2017, UK HealthCare will continue to strengthen relationships with other health systems and caregivers in all areas, from primary care to post-acute health care such as rehabilitation hospitals and nursing homes. Our role in the Kentucky Health Collaborative allows us to continue to be a progressive leader as, together with our partners, we search for solutions that will improve the health of our residents.









# UNIVERSITY OF KENTUCKY COLLEGE OF MEDICINE

2016 **ANNUAL REPORT**

## MISSION

The mission of the College of Medicine is to develop knowledge, skills and attitudes that promote professionalism, teamwork, life-long learning, empathy, scholarship, cultural sensitivity and leadership, with the goal of providing excellence in education, health care and research within the Commonwealth of Kentucky and beyond.



## TRANSDISCIPLINARY COLLABORATION KEY TO CHANGING MEDICINE

Since coming to the UK College of Medicine in 2016, I have been both impressed and excited by the passion, purpose and perseverance of the students, staff and faculty to be leaders solving Kentucky's and the nation's challenges in health care through the transformation of Education, Research and Clinical Care. It's a revolutionary era for medicine

and education. One that emphasizes discovery, innovation and advanced technology, best creating change and impact through a vision for transdisciplinary engagement of science, education, diversity, inclusivity, clinical care and community.

Our hands-on, robust curriculum enables students to think and work together differently so that they may deliver the best evidence-based medicine to patients. And with a vision for the growth of transdisciplinary and

translational research, we will be bringing answers to the patient's bedside more quickly than ever before. The critical work we are undertaking places us at the center of advances in medicine that are benefitting the community around us and the world at large.

My enthusiasm is shared by my colleagues. Together, we are building upon a strong foundation and reputation.

In 2016, UK HealthCare and the UK College of Medicine continued to make exceptional progress on initiatives of past years while introducing new opportunities for students to experience a leading-edge education.



Robert S. DiPaola, MD

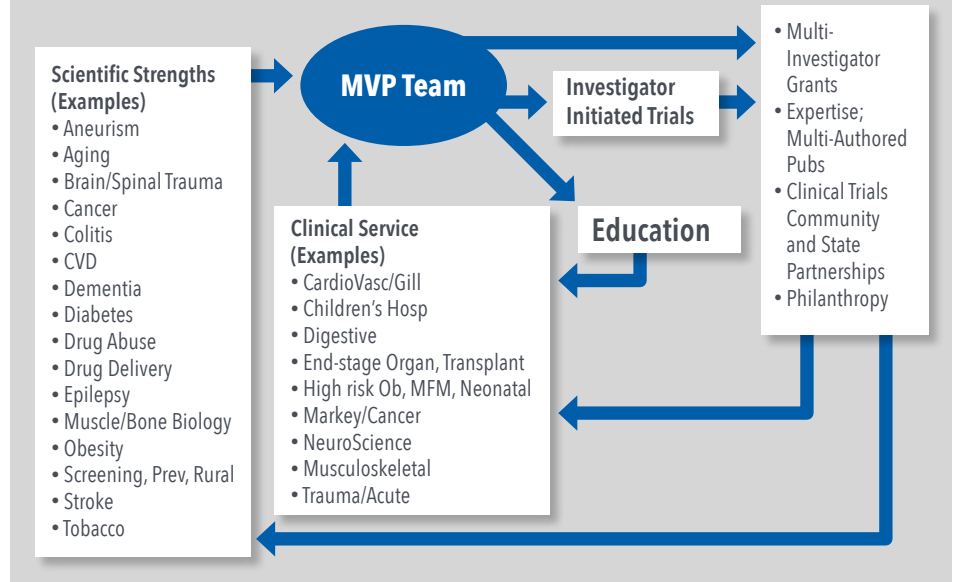
We are empowering this future generation with the skills, knowledge and confidence that makes them competitive for the most desired residency positions in the country and able to move on to tackle clinical practice and fill research and academic positions. We are placing them in groups of teams that replicate the newest collaborations so that they are comfortable participating in and leading these cooperative efforts.

In addition, we are extending our endeavors to address critical health care needs of the Commonwealth – from those in our most rural settings to our busiest cities. We will solve some of this nation's most challenging health care problems – many of which find their epicenter here in Kentucky – by transforming education, research, and clinical and community care through transdisciplinary engagement.

A few of the College of Medicine's highlights and achievements from 2016 include:

- **A decision to educate more physicians** by expanding and opening new medical campuses, currently planned for Bowling Green and Morehead and possible additional sites. With our Lexington campus at capacity and the Commonwealth of Kentucky suffering from a physician shortage (69 percent of the state's counties are considered completely or partially medically underserved), it is vital that we train more doctors and other health care workers. By partnering with some of our state's prominent medical centers and universities, we will increase class size significantly over the next few years.
- **A steady increase in applicants for medical school** — from 1,000 in 2004 to nearly 3,500 for the 2016-2017 academic year. Applicants are attracted to UK because of its curriculum and expert faculty. Our applicant pool continues to deepen in diversity and international students, and our diversity plans also include increasing minority representation in our faculty, executive and professional positions. To oversee this initiative, we are creating a new Associate Dean for Diversity and Inclusivity.
- **Expansion of curriculum in key areas** such as evidence-based medicine, health care disparities and public health, with the move from department-/discipline-based courses to systems-based courses.

## Multidisciplinary Value Program (MVP) to Foster Integration of Science, Education and Clinical Care



- **Launching a Multidisciplinary Value Program (MVP)** to encourage investigator-initiated clinical studies developed by multidisciplinary teams collaborating across colleges and centers at UK. Bringing together scientists, researchers, physicians and members of other disciplines streamlines our efforts to bring new discoveries to the bedside quickly.

- **Development of initiatives in translational research, a Research & Education Coordination Hub (REACH), Academic Clinician Track (ACT) and precision medicine**, as well as formation of an Internal Advisory Board to foster cross-college collaborations. The further study and understanding of genomics and DNA, as well as the ability to analyze huge amounts of data coupled with translational and transdisciplinary research, is making it possible to deliver customized, precision treatments. It will be a key element of our work.

- **Breaking ground on our new interdisciplinary research building.** Principal investigators, scientists, computational, clinical and behavioral researchers will spearhead studies that combat the Commonwealth's most common diseases, including cancer, diabetes, cardiovascular disease, drug addiction and more.

- **Growth of National Institutes of Health research funding** will be a major priority signifying increased discovery that will have impact on health care. We

will address this goal through key recruitment, new initiatives such as MVP (noted earlier and illustrated above) and research support.

Integral to our continued success is our strategic planning process. By aligning the College of Medicine's strategy with the strategic plans of the university and UK HealthCare, our energies and resources will draw strength from that alignment and have a positive impact on the health care needs of the Commonwealth.

As you read more in the pages ahead about our medical education, research, and community engagement and outreach programs, I think you'll agree that in 2016 the College of Medicine, hand-in-hand with UK HealthCare, reached some significant milestones. And as we look toward 2017, we do so with an amazing passion and dedication to the many collaborations that will bring important growth and change.

Robert S. DiPaola, MD  
VP & Dean  
University of Kentucky  
College of Medicine



Serving educational, research and clinical missions using an interdisciplinary approach unleashes the true power of academic medicine.





## COLLEGE'S EXPANSION WILL HELP ADDRESS PHYSICIAN SHORTAGE

When the UK College of Medicine opened its doors in 1960, its purpose was to address the critical needs presented by Kentucky's Appalachian region. More than half a century later, a growing nationwide physician shortage again threatens access to care. But for residents of Kentucky, the news got a little brighter with our February announcement that we plan to develop a four-year medical school program in Bowling Green and expand the existing medical education program in Morehead. Together, the programs will increase the medical school's class size by about 30 percent, or as many as 40 seats, starting in 2018.

With our Lexington campus filled to capacity, we knew that in order to meet our responsibility to the community, we would need to partner with other organizations in different regions of the state. The initiative includes partnerships with Morehead State University, Western Kentucky University, St. Claire Regional Medical Center, King's Daughters Medical Center and The Medical Center at Bowling Green.

This collaboration is a natural outgrowth of the college's Rural Physician Leadership Program, which identifies and trains physicians passionate about serving populations in rural settings. Research shows that doctors who train in rural areas are more likely to stay and practice in those areas. In fact, 38 percent of our 2016 graduates stayed in Kentucky for their residencies, an indication that they have a desire to serve this community beyond their medical school years.

### MEETING HIGH STANDARDS

In addition to accepting more students, the College of Medicine has seen growth in the quality of those who apply and graduate. MCAT scores continue to be above the national average and our students maintained a 98 percent pass rate on the United States Medical Licensing Exam Step 1, while the national average dropped in 2016 to 95 percent. This achievement may be due to our curriculum changes from discipline-based courses to body systems-based courses.

Entering the second phase of our curriculum overhaul – which increases emphasis on evidence-based medicine, health care disparities and public health – we have adopted a skills-based program designed to help students develop and master the advanced clinical skills necessary for residencies in their chosen specialties. The multidisciplinary environment being built is bringing together experts in a variety of fields to broaden the mindset of our students. From scientists to engineers to pharmacists to toxicologists, these collaborations are helping drive the expansion of our academic programs.

The college offers 53 accredited graduate medical education programs — 28 residency and 25 fellowship programs. And last year we announced the continued growth of our *undergraduate* preprofessional tracks, adding a neuroscience major and a microbiology minor. This year, more than 60 undergraduates transferred into the neuroscience major.





### REACHING OUT

Recognizing the need to mentor younger, disadvantaged but ambitious youth interested in health care careers, the College of Medicine was a player in a 2016 pilot program developed by a University of Kentucky undergraduate. The program worked with a small group of African American students from a local underperforming high school with the goal of mentoring them throughout high school, into college, and hopefully on to medical school or another advanced degree program. In their first year, the students took part in simulation training, attended medical lectures, studied specimens in a pathology lab, watched procedures in the cardiac cath lab at the Gill Heart Institute, and shadowed health care professionals often participating in curriculum designed for College of Medicine students.

From high schoolers to undergraduates studying the sciences to our medical students and postgraduate students, residents and fellows, the College of Medicine and its partners at UK HealthCare are well positioned to bring the highest quality care to the residents of Kentucky, regardless of where they live. We see an exciting future ahead.

Top, from left:

Medical students from the class of 2020.

High school students participating in a pilot mentoring program designed to support disadvantaged youth into health care careers.

Bottom, from left:

The existing two-year Rural Physician Leadership Program at Morehead State University will be expanded to a full four-year medical school program.

Dean Robert DiPaola spoke with the UK chapter of the Student National Medical Association.

The campus of Western Kentucky University in Bowling Green will serve as a site for a new four-year medical school program beginning in 2018.



## FULL SPECTRUM OF RESEARCH FUELS MEDICAL ADVANCES

Research. It's a word that conjures images of scientists in laboratories, laboring to find cures for diseases, discovering genetic markers for specific illnesses, or uncovering new treatments for chronic conditions. At the College of Medicine, it is all that and yet so much more. Our focus is on growing our research facilities to develop leading-edge technologies and advances that will directly impact the health of those in the Commonwealth, particularly in the areas of cancer, heart and pulmonary disease, stroke and other preventable illnesses that are hitting our community at higher rates than the rest of the nation.

Key to that mission is using multidisciplinary teams to help speed the process of bringing those most promising therapies, treatments, devices and medications from the lab to the bedside. In addition, obtaining the funding and resources necessary for our physicians and researchers to do this important work is among our top priorities.

For years, the UK College of Medicine has been recognized as having a strong research environment, and we are making significant strides to further elevate our program. Construction continues on our \$265 million research facility, a 300,000-square-foot building set to open in 2018. It will be the site of collaborative work, where clinicians, students, scientists and experts from a variety of fields find solutions to the Commonwealth's health problems. It will feature wet and dry labs where principal investigators and their colleagues develop and carry out clinical trials. Adjacent to other research space in the heart of the campus, the location fosters cooperation among many disciplines.

### MOVE TO TRANSDISCIPLINARY APPROACH

Integral to our research efforts is our framework. We are moving from a lateral model to a transdisciplinary approach, which allows us to combine education with research/evidence to impact health care and the community. This is a transformation that involves everyone from students to physicians to professors and administrators. And in the research arena, it means focusing on basic discovery, transdisciplinary and translational research engagement and quality improvement research, all under the direction of scholarly, expert leaders.





## INCREASED EFFORTS TO RAISE FUNDING

By staying in the forefront of research, the College of Medicine received more awarded grants and contracts in fiscal 2016, reaching \$129.2 million, including more than \$66 million in National Institutes of Health (NIH) funding. At a time when many medical schools lost funding due to federal and state budget cuts, the UK College of Medicine's funding has increased. In recent years, the federal government has expanded funding in areas such as precision medicine and multidisciplinary projects, which mirrors the College of Medicine's transformation.

The launch of our Multidisciplinary Value Program (MVP), is an example of work that brings together physicians, professors, researchers, scientists, students and postdoctoral fellows in collaborative teams to speed the adoption of new discoveries at the bedside. Pilot funding provided for MVP projects will, we hope, be leveraged to garner additional external funding because we are targeting many of the top health concerns of the Commonwealth and setting our sights on improving the overall health of our residents. Kentucky ranked first in the nation in deaths from cancer and chronic lower respiratory disease, fourth from kidney disease, seventh from heart disease, and ninth from stroke and Alzheimer's disease, according to data from the CDC.

Among our ongoing research is the work that **Linda Van Eldik, PhD**, director of the Sanders-Brown Center on Aging, is doing. The center received an \$8.25 million NIH grant in 2016 to continue its research on Alzheimer's disease. Dr. Van Eldik and her colleagues are studying the effects of a new class of drugs on inflammation

in the brain, making progress on protecting against learning and memory loss even in the preclinical stages of the disease. **Bradley Taylor, PhD**, received a \$3 million grant from the National Institute on Drug Abuse to further study the body's communication and pain pathways. He hopes that physicians will eventually be able to prevent or reverse chronic pain without prescribing potentially addictive painkillers. **Keith Pennypacker, PhD**, associate director of the Center for Advanced Translational Stroke Science, is conducting studies on new treatments for stroke.

These are just a few of the dozens of clinical trials and research projects underway in our labs, and with new transdisciplinary engagement driving research projects, increased funding and a state-of-the-art research building on the horizon, there could not be a more exciting time to be involved in studies being conducted at the College of Medicine, across colleges, and in collaboration with UK HealthCare and other partners.

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Below, from left:

Faculty members such as Linda Van Eldik, PhD, director of the Sanders-Brown Center on Aging, are engaged in research to combat some of the nation's most serious health problems.

A new research facility under construction at UK is set to open in 2018 offering more opportunities for collaboration.

Kathleen O'Connor, PhD, and Aju Mathew, MD, MPhil, exploring new ways to treat triple-negative breast cancers.







## REACHING BEYOND LEXINGTON TO ADDRESS KENTUCKY'S HEALTH CHALLENGES

Everyone in the Commonwealth deserves the highest-quality health care. That starts with supporting rural clinics. It grows by offering educational programs to help Kentuckians learn more about their health and about disease prevention and wellness. It swells as we train more doctors who decide to make Kentucky their home. And it flourishes when we provide enrichment programs that expose area youngsters to the possibility of a career in health care.

Drawing on the strength and knowledge that comes from multidisciplinary programs, we are committed to forging partnerships in innovative ways to address the Commonwealth's greatest health needs.

Many Kentucky counties are medically underserved or partially medically underserved. Kentucky ranks highest in cancer deaths and preventable hospitalization out of all 50 states and ranks in the top 5 states for several health risks.

### Ky. Ranked #50-45

- Cancer Deaths
- Preventable Hospitalizations
- Children in Poverty
- Heart Attack
- High Cholesterol
- Insufficient Sleep
- Poor Physical Health Days
- Smoking
- Drug Deaths
- All Outcomes
- Heart Disease
- Poor Mental Health Days

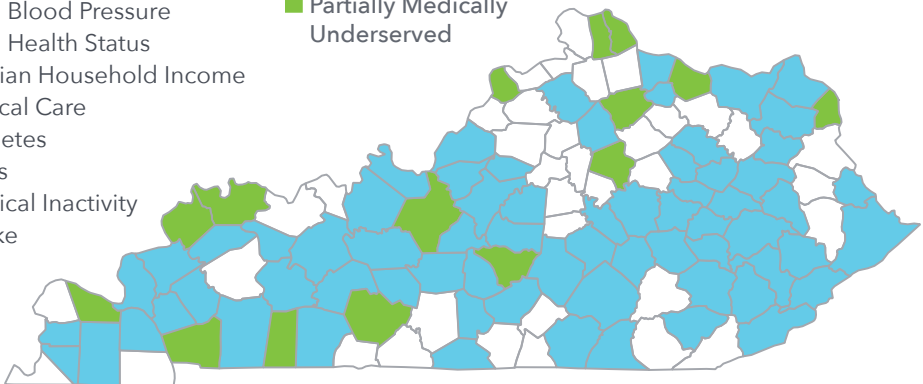
- Behaviors
- High Blood Pressure
- High Health Status
- Median Household Income
- Clinical Care
- Diabetes
- Fruits
- Physical Inactivity
- Stroke

### CLINICAL OUTREACH

Many of our outreach programs serve a dual purpose. They help the underserved and/or uninsured receive free or discounted medical services, and they are an excellent training ground for students. At the **UK Salvation Army Clinic** in Lexington, for example, uninsured patients receive free care and assistance in accessing local health care resources. Free group smoking cessation classes are offered. The clinic is student run, with volunteer physicians overseeing the work of medical students by hearing their presentations on each patient, signing off on their care, and writing any necessary prescriptions (many of which are provided free, or, if not in stock, at a discount at area pharmacies).

**UK North Fork Valley Community Health Center** is the first community health center in the state affiliated with a university and a family medicine residency training program. This joint venture between the UK College of Medicine and the North Fork Valley Community Health Center Board provides care for chronic conditions, acute illness, minor emergencies, prenatal and maternity care, behavioral health care, and more.

- Medically Underserved
- Partially Medically Underserved



## RESEARCH AND OTHER OUTREACH

Our **Center for Excellence in Rural Health** (CERH) continues its work to combat Kentucky's physician shortage, providing students the opportunity to learn in a rural setting and offering patients research studies and programs specifically targeting the health care needs of the Commonwealth. One successful example is the Community Transition Program, which supports stroke survivors in Eastern Kentucky. Funded jointly by CERH and Appalachian Regional Healthcare (ARH), the program provides free education to stroke survivors about monitoring their health and medications and a support group that brings in experts to speak on topics such as blood pressure management and diabetes. Hospital readmission is extremely common for stroke survivors, but among those participating in the Community Transition Program it is almost unheard of.

In May, researchers at UK participated in the second annual Appalachian Research Day, sharing their findings from community-based research studies in rural Appalachian areas. Studies have centered on depression, lung cancer, drug use and risky behaviors in Appalachia, and their findings are leading to other initiatives in the area. The CERH, and its director, Fran Feltner, were recognized this year with the A.O. Sullivan Award for Excellence in Education and the 2016 Dan Martin Award from the Kentucky Rural Health Association.

Growth also continues with our partnerships with the **Kentucky Ambulatory Network** (KAN) and the **Kentucky Telecare Network**, important programs that bring education to practicing physicians and provide better access to care. The Telecare Network, with more than 200 approved sites across the state, allows patients and health care providers to come together using high definition video conferencing. It is a lifesaver for many who cannot afford the time or funds to travel from rural areas to specialists.

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Top left:  
Medical students run the UK Salvation Army Clinic under the oversight of UK attending physicians.

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Below, from left:  
Eastern Kentucky has long been a focus of the college's efforts, including the UK Center for Excellence in Rural Health in Hazard. Third-year medical students Nisha Nataraj and Cameron Henry (with Blue) at the UK Polk-Dalton Clinic Community Health Fair held in conjunction with Lexington's Roots and Heritage Festival.

## TEACHING FOR OUR FUTURE

One of our top priorities is to develop our state's future physicians. Our expansion plans for Bowling Green and Morehead are a natural evolution of the **UK Rural Physician Leadership Program**, an effort to produce physicians who wish to settle in the Commonwealth's rural communities, develop roots, and become involved leaders.

The **Community Faculty Program**, a partnership between the university and regional Area Health Education Center (AHEC) offices, provides mentors and teachers to medical school graduates and students to further develop skills working in the community setting. Each year, more than 1,200 students benefit from community educational activities.

In addition, we offer several programs for area high school students to explore health care careers. The **Summer Enrichment Program** and **Health Researchers Youth Academy** through AHEC are examples of collaborative efforts to introduce Commonwealth youth to college life. Teenagers take classes such as biology, chemistry and physics; they observe surgery via video conferencing; they perform research. The programs are entirely funded by the College of Medicine and are free to those accepted. Many students who participate in these camps are inspired to complete their medical studies at UK.

As the College of Medicine continues to address Kentucky's greatest health challenges, the efforts that bridge and expand our programs, crossing college and community boundaries, are more important than ever for the Commonwealth. Nurturing the brightest young minds and collaborating with our partners to expand our impact beyond Lexington remain among our top priorities.

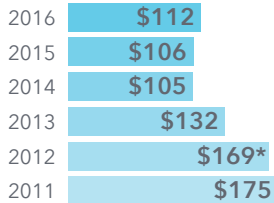


## REVENUE & SOURCES (in millions)

### CLINICAL



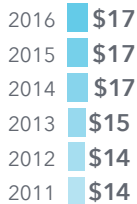
### GRANTS including indirects



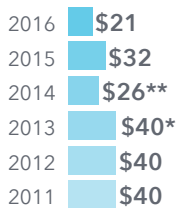
### STATE



### GIFTS AND ENDOWMENTS



### OTHER



\*Funding decrease due to Dept. of Corrections contract sunset beginning in December 2012.

\*\*Previous years included VA faculty salaries of about \$12M; reporting change beginning 2014.

## RESEARCH

### NATIONAL INSTITUTES OF HEALTH (NIH) FUNDING

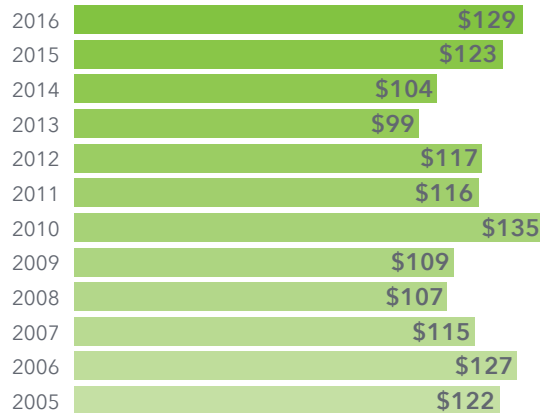
**\$66.4 million**

Grants and contracts to the College of Medicine in fiscal year 2016 (July 1, 2015, to June 30, 2016), included \$66.4 million in National Institutes of Health (NIH) funding.

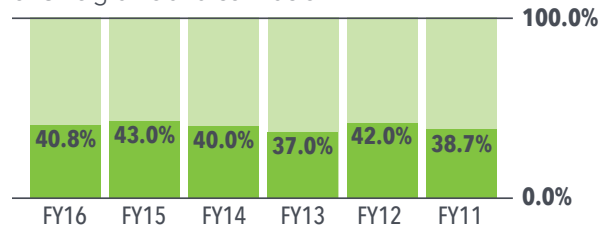
In federal fiscal year 2015, (Oct. 1, 2014 to Sept. 30, 2015) the College of Medicine received 61.8 percent of the NIH research funding granted to Kentucky medical schools. In federal fiscal year 2016, it received 59.6 percent.

### COLLEGE OF MEDICINE GRANTS AND CONTRACTS AWARDED

(in millions, including indirects)



The College of Medicine accounts for almost 41% of UK's grants and contracts.



### RESEARCH SPACE

**252,154 square feet**

The College of Medicine has 252,154 square feet of research space. The newly approved research building will more than double the research space currently available to the college.



# EDUCATION

## CLASS OF 2020 MEAN SCORES

As of July 25, 2016

### COLLEGE GRADE POINT AVERAGE

- 3.69** Science
- 3.80** Non-science
- 3.75** Total GPA

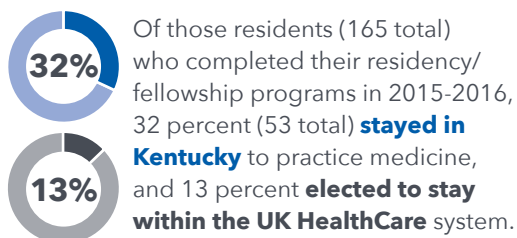
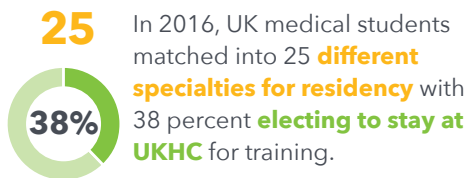
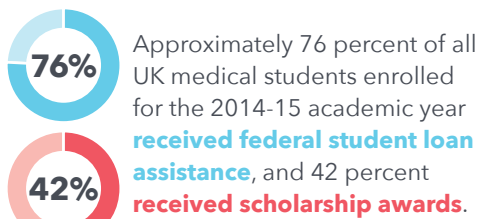
### MCAT SECTIONS (1-15 SCALE)

- 10.0** Verbal Reasoning
- 10.7** Physical Science
- 10.6** Biological Science
- 31.3** Mean total MCAT score

### MCAT TOTAL SCORE (2015)

**511.2** Mean Total Score

The College of Medicine is **accredited** by the Liaison Committee on Medical Education of the Association of American Medical Colleges and the American Medical Association.



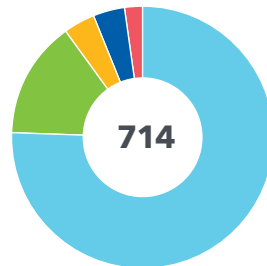
**1 of 10** The college has one of 10 **triple-board residency programs** in the nation where residents can train in Adult Psychiatry, Child and Adolescent Psychiatry, and Pediatrics.

## LEARNERS



### Graduate Students

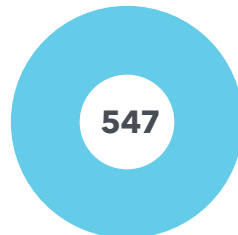
**261** (As of start of 2016-2016 academic year; includes MS and PhD)



### House Staff

**714** (As of July 1, 2016)

- 541** Residents
- 103** Fellows
- 28** Pharmacy Residents
- 27** Dentistry Residents
- 15** Other (includes IM and Peds Chief Residents, Non-accredited fellows in GME, Path Student Fellowship, Optometry, Hospital Administration, Medical Physics)

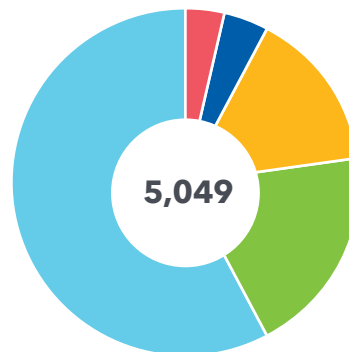


### Medical Students

**547** (As of start of 2016-2017 academic year)

## FACULTY AND STAFF

As of June 30, 2016



- 191** Part-time faculty
- 208** Basic science faculty
- 762** Clinical science department faculty
- 983** Community-based faculty
- 2,905** Staff

## OUTREACH

**91** New appointments in calendar 2016

**197** Medical student rotations in fiscal year 2016

**973** Total fiscal year 2016 College of Medicine community faculty

**585** Weeks of medical student rotations



## STATISTICS AND FINANCIALS



Left: Stephanie Wilson, RN, at UK Good Samaritan Hospital, is one of thousands of UK nurses who bring reassurance to patients daily.

Right top: Stephanie Clay brings her expertise to the registration desk at the Kentucky Neuroscience Institute Clinic.

Right center: Kidney donor Susan Gibson exchanges information with Carolyn Dye, the patient who received her kidney, during a press conference to announce successful transplant of four kidneys in Kentucky's longest donor chain to date.

Right bottom: To thank employees whose parking was dislocated by a Thursday night football game, Finance's Craig Collins and Nursing's Gwen Moreland turned out in the predawn hours offering treats and stress balls.



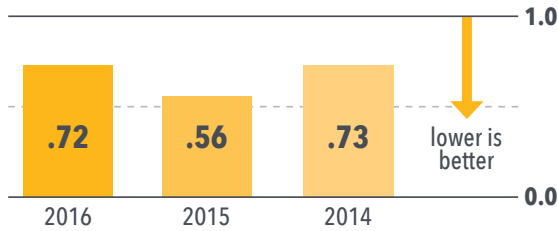


# QUALITY STATISTICS

Systemwide Quality Statistics for Year Ending June 30

## SAFETY

### AHRQ Patient Safety Indicators: PSI-90 composite



PSI-90 Patient Safety Quality Indicator Composite was developed by the federal Agency for Healthcare Research & Quality, [www.ahrq.gov](http://www.ahrq.gov). The composite measures hospital performance in eight areas of patient safety: pressure sores; collapsed lung resulting from medical treatment; infections from a large venous catheter; broken hip from fall after surgery; blood clots in the lung or a large vein in surgery patients; bloodstream infection post-surgery; rupture along a surgical suture; and accidental cuts or tears. Lower is better.

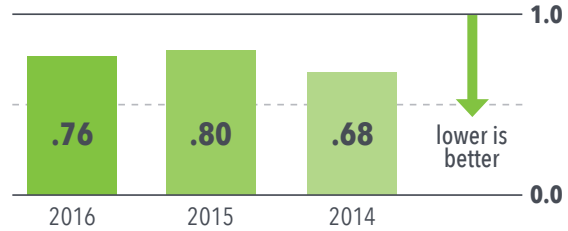
### A Word About Patient Safety

UK HealthCare's quality, safety and service directors are focused on eliminating silos, bringing interdisciplinary teams together to encourage collaboration, and building a hub from which successful programs can be offered to all disciplines.

UK HealthCare's Patient Safety Team, an interdisciplinary steering team, was organized in 2013 with an overall goal to improve patient safety throughout UK HealthCare. The team serves as a 'clearinghouse' for all things patient safety related.

## SURVIVAL

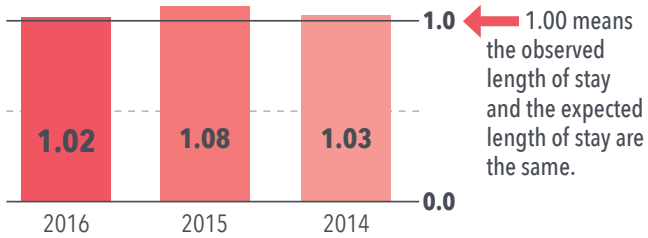
### Patient Survival (Mortality)



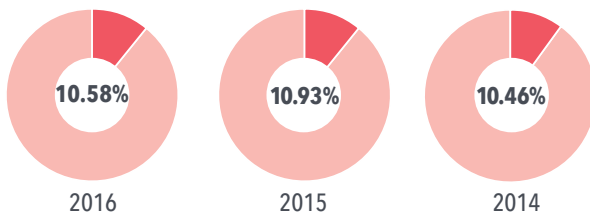
Observed-to-expected mortality (death) compares the actual number of patients who died during a particular period with the expected mortality - some people are so sick they are not reasonably expected to survive. To calculate the mortality rate, the observed rate is divided by the expected rate. A score lower than 1.00 means more patients survived than were statistically expected to survive. UK HealthCare's ratio of 0.76 in 2016 means that for every 100 people expected to die, only 76 actually did. Twenty-four of those very sick people survived.

## CARE CONTINUUM MEASURES

### Length of Stay Index



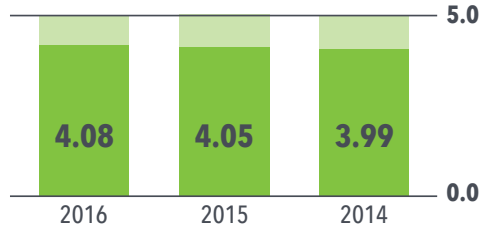
### Readmission Rate



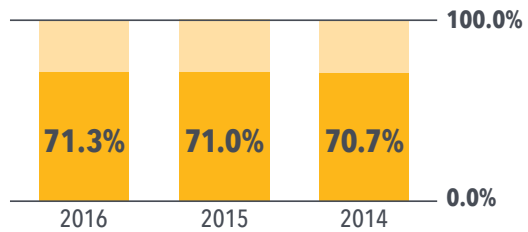
*Length of stay* is reported here as a ratio of observed over expected. These rates are figured by Vizient, which performs risk-adjustment calculations for hospitals. An index of 1.00 means the observed length of stay and the expected length of stay are the same - patients are not staying in the hospital longer than expected. UK HealthCare's index higher than 1.00 indicates patients stayed in the hospital longer than expected. Vizient also calculates the readmission rate, which is the percentage of patients who needed to be readmitted to the same hospital within 30 days of discharge.

## EXPERIENCE MEASURES

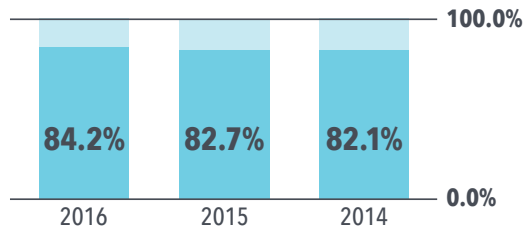
### Work Environment



### Hospital patients rating 9 or 10



### Ambulatory patients rating 9 or 10



*Work environment* is measured annually in the spring by survey of UK HealthCare staff. The score reported here is a composite of scores on six key questions known to be indicators of employee engagement. Highest rating is 5. *Patient experience* is measured on an ongoing basis via surveys following discharge or an outpatient appointment. The hospital rating comes from patients responding to the HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) survey used nationally; the score is the percentage of patients who rate their overall hospital experience a 9 or 10 out of a possible 10. *Ambulatory or outpatients* respond to a CGCAHPS (Clinician and Group Consumer Assessment of Healthcare Providers and Systems) survey, also used nationally, where the percentage of patients who rate their provider a 9 or 10 out of a possible 10 is reported.

# OPERATIONAL STATISTICS AND TRENDS

## HOSPITAL OPERATING STATISTICS

For year ending June 30

Discharges	2016	2015	2014
Medicare	12,700	12,591	11,888
Medicaid	14,756	14,286	11,035
Commercial/Blue Cross	9,655	9,519	9,560
Patient/Charity	678	647	2,697
<b>Total Discharges</b>	<b>37,789</b>	<b>37,043</b>	<b>35,180</b>
Licensed Beds	945*	825	825
Available Beds	860	816	757
Average Daily Census	709.46	689	627
Average Length of Stay	6.87	6.78	6.50
Case Mix Index	2.00	1.93	1.91
* A certificate of need for an additional 120 beds was approved in February 2016. The licensed beds increased to 945 with the opening of two patient care floors in 2016.			
<b>Surgery</b>			
Operative Cases	31,318	31,200	29,951
<b>Hospital-based Outpatient</b>			
Charged Hospital Clinic Visits	501,943	479,782	428,582
Emergency Visits	108,417	101,395	91,146
<b>Total Hospital Outpatient Visits</b>	<b>610,360</b>	<b>581,177</b>	<b>519,728</b>

## OTHER OPERATING INDICATORS

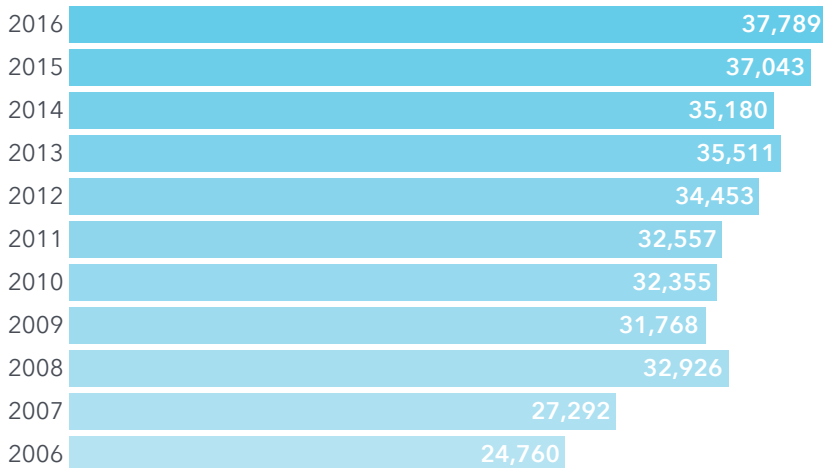
For year ending June 30

Ambulatory Services	2016	2015	2014
Ambulatory Physician Visits	761,069	709,146	656,535
Professional Net Revenue*	\$ 223,705	\$ 208,339	\$ 233,645
*Accrual based and does not include bad debt; \$ in thousands.			
<b>Other Service Relationships</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
UK•MDs Physician Calls	181,868	183,315	180,740
Health Connection Consumer Calls	310,545	285,735	199,682
Website Users (Avg./Mo.)	92,154	87,705	64,078

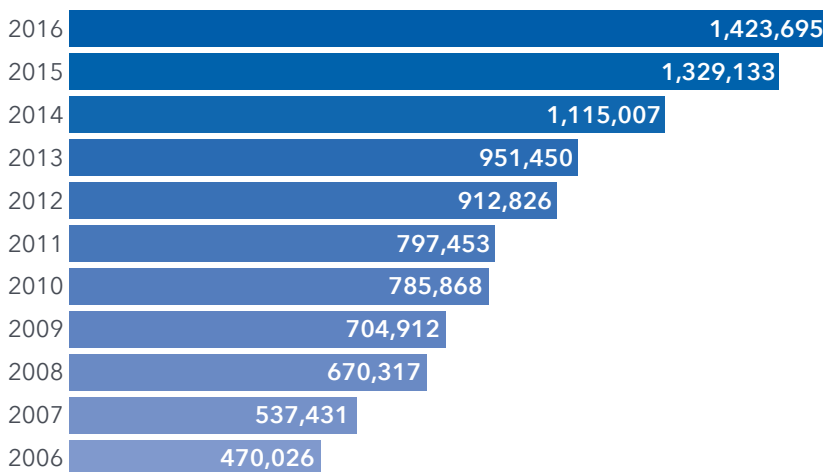




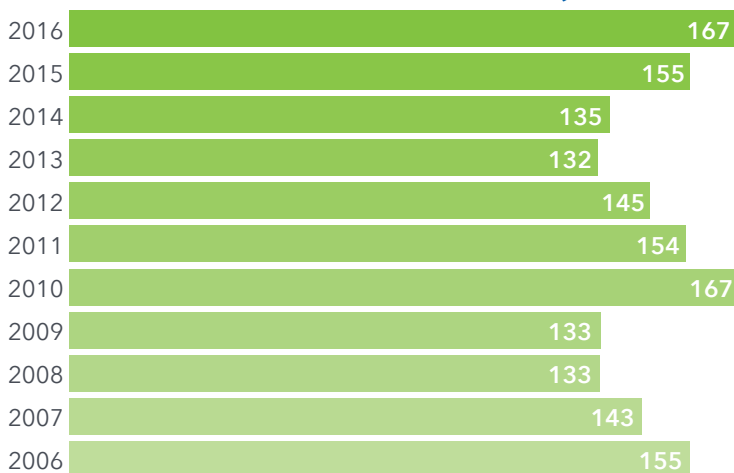
## HOSPITAL DISCHARGES



## HOSPITAL OPERATING REVENUE (\$ in the thousands)\*



## GRANTS AND CONTRACTS AWARDED (\$ in the millions)



\*Prior to 2008, bad debt was classified as an operating expense; GASB reporting requirements changed in 2008 and bad debt is now reported as a reduction to net patient service revenue; Hospital Operating Revenue 2005-2007 has been restated here for comparison purposes.

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Robert DiPaola, MD  
Michael Karpf, MD  
Cecilia Page, DNP  
John Phillips  
Ann Smith  
Colleen H. Swartz, DNP  
Kim Wilson

\*As of June 30, 2016

# FINANCIAL STATEMENTS

For year ending June 30

## HOSPITAL CONDENSED STATEMENTS OF OPERATING REVENUES, EXPENSES AND CHANGES IN NET ASSETS

(\$ in the thousands)

	2016	2015	2014
Net Patient Service Revenue	\$ 1,332,714	\$ 1,238,392	\$ 1,039,264
Sales and Services	48,307	51,476	39,833
Management Contract Revenue	42,674	39,265	35,910
<b>Total Operating Revenues</b>	<b>\$ 1,423,695</b>	<b>\$ 1,329,133</b>	<b>\$ 1,115,007</b>
Operating Expenses	\$ 1,298,607	\$ 1,129,905	\$ 1,013,572
<b>Operating Income</b>	<b>\$ 125,088</b>	<b>\$ 199,228</b>	<b>\$ 101,435</b>
Nonoperating Revenue (Expenses)	(24,209)	(5,863)	29,524
Income Before Transfers to UK	100,879	193,365	130,959
Transfers to UK/Other	(16,864)	(3,142)	(11,128)
Transfers from UK	-	1,810	1,890
Net Income (Loss) From Discontinued Operations	-	-	-
<b>Total Increase In Net Position</b>	<b>\$ 84,015</b>	<b>\$ 192,033</b>	<b>\$ 121,721</b>
Operating Margin	8.8%	15.0%	9.1%
<b>Total Margin</b>	<b>5.9%</b>	<b>14.4%</b>	<b>10.9%</b>

Statement of net assets and related statements of revenues, expenses and changes in net assets for the year ending June 30, 2016, were audited by BKD, LLP, of Louisville, Kentucky.

## HOSPITAL NET PATIENT REVENUE BY FUNDING SOURCE

(\$ in the thousands)

Payor	2016	2015	2014
Medicare	\$ 333,861	\$ 384,346	\$ 293,394
Medicaid	411,286	376,306	279,784
Commercial/Blue Cross	636,457	557,399	502,193
Patient/Charity	21,799	(3,813)	97,105
<b>Total</b>	<b>\$ 1,403,403</b>	<b>\$ 1,314,238</b>	<b>\$ 1,172,476</b>
Bad Debt	(70,689)	(75,846)	(133,212)
<b>Total Net Patient Revenue</b>	<b>\$ 1,332,714</b>	<b>\$ 1,238,392</b>	<b>\$ 1,039,264</b>

## HOSPITAL CONDENSED STATEMENTS OF NET POSITION

(\$ in the thousands)

Assets	2016	2015	2014
Current Assets	\$ 515,953	\$ 445,260	\$ 263,486
Capital Asset, Net of Depreciation	879,391	826,805	808,779
Other Noncurrent Assets	379,829	438,558	296,804
Deferred Outflows of Resources	10,946	12,368	-
<b>Total Assets</b>	<b>\$ 1,786,119</b>	<b>\$ 1,722,991</b>	<b>\$ 1,369,069</b>
<b>Liabilities</b>			
Current Liabilities	\$ 190,494	\$ 180,618	\$ 149,852
Noncurrent Liabilities	497,860	528,623	397,500
<b>Total Liabilities</b>	<b>\$ 688,354</b>	<b>\$ 709,241</b>	<b>\$ 547,352</b>
<b>Net Position</b>			
Net Investment in Capital Assets	\$ 455,374	\$ 437,489	\$ 410,348
Nonexpendable Other	195	119	118
Restricted Expendable	11,902	10,538	10,331
Unrestricted	630,294	565,604	400,920
<b>Total Net Position</b>	<b>\$ 1,097,765</b>	<b>\$ 1,013,750</b>	<b>\$ 821,717</b>



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# CHANDLER HOSPITAL PAVILION FROM THE TOP DOWN

## HELIPADS

Two helipads have been open since 2011, with room for two more. 3,483 patients arrived by air in 2016.

## MEDICINE

In June 2016, the UK Board of Trustees approved the completion of this 64-bed floor.

## MEDICINE

64 acute, progressive and intensive care beds began to open in June 2016.

## CARDIOVASCULAR SERVICES

In calendar year 2015 UK set the record for the number of heart transplants performed in Kentucky (43). Floor 8 contains one of the nation's largest cardiovascular ICUs (32 beds).

## TRAUMA/SURGERY

To accommodate growing trauma, surgical and transplant needs, this service will expand to a second floor in the future. Today, Neuroscience Services are provided on this 64-bed floor.

## SURGERY/OPERATING SUITES

On any day, an average 101 surgeries and surgical procedures take place at Chandler Hospital.

## MAIN ENTRANCE

The front door to the six pavilions of UK Chandler Hospital and Radiology Services.

## WHEN FULLY FIT OUT, PAVILION A WILL HAVE:

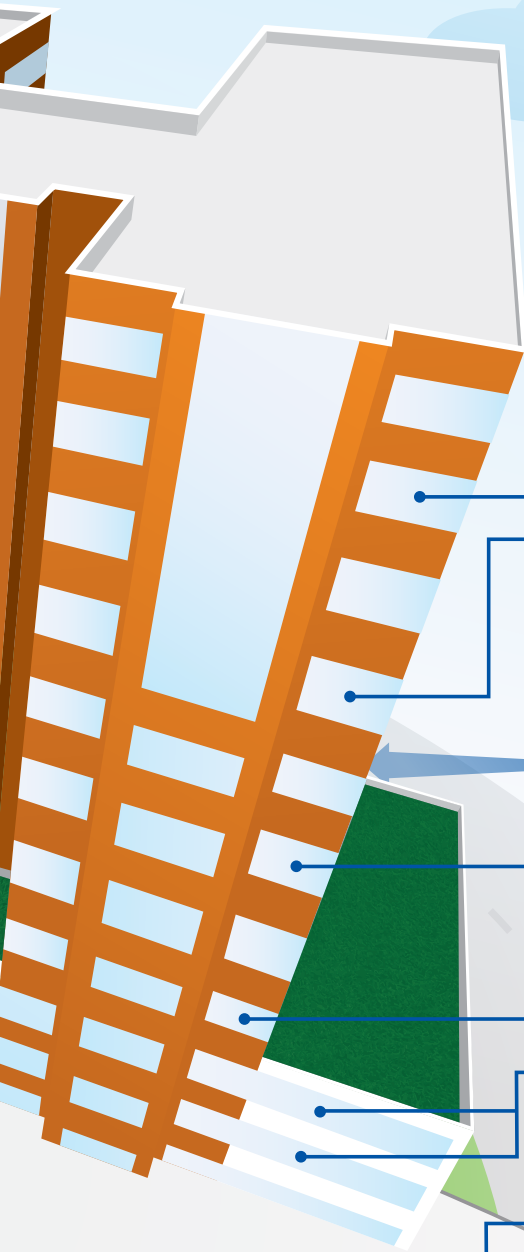
512  


private rooms for acute, progressive and intensive care

  
 27

operating suites, including the region's most advanced hybrid OR





11

### CANCER SERVICES

Scheduled to open in late 2017/early 2018, construction is underway on a 63-bed floor for Markey Cancer Center patients. Markey is the state's only NCI-designated cancer center.

9

### MEDICINE

64 acute, progressive and intensive care beds opened in May 2016.



### EMERGENCY SERVICES - REAR, GROUND

Daily, an average of 214 children and adults are treated for emergency medical conditions.

7

### TRAUMA/SURGERY

A 64-bed floor with intensive, progressive and acute care beds all located on the same level. UK is the region's only Level I trauma center.

5

### NEUROSCIENCE SERVICES

These services, including stroke care and neurosurgery, currently housed on Floor 6 will be relocated nearer necessary ancillary services.

3&4

### ANCILLARY/MECHANICAL

Respiratory/Rehab, Central Pharmacy and the Blood Bank are located here.

1

### MAIN CONCOURSE

Floor 1 is the lifeline of the hospital where most public areas are found, such as information desks, health education, gift shop, retail pharmacy, dining and Surgery Waiting.

56



private exam rooms for pediatric & adult emergencies, plus 3 trauma bays

### OTHER CHANDLER HOSPITAL PAVILIONS:

**CC** - Markey Cancer Center Ben Roach Building

**G** - Linda & Jack Gill Heart Institute

**H** - 1962 Chandler Hospital Building

**HA** - Kentucky Children's Hospital/Maternal Services

**WH** - Markey Cancer Center Whitney-Hendrickson Building



## PHILANTHROPY UNITES OUR COMMUNITY TO BUILD A HEALTHIER KENTUCKY

### PHILANTHROPY UNITES THROUGH PASSION

What unites the horse industry and Parkinson's disease? Ann Hanley.

After being diagnosed with Parkinson's disease at the age of 49, Ann Hanley quickly realized there was a lack of available funding to support the much-needed research of finding a cure for this devastating disease that impacts 10 million people worldwide.

While Hanley admits that receiving the diagnosis was difficult, she did not allow fear to get her down, and instead, focused her energy on lifting up other Parkinson's patients. She established the Ann Hanley Parkinson's Research Fund uniting the horse industries here in Kentucky and in Ireland to build awareness and support. Through her passion for finding a cure, she helped raise critical support to elevate the essential research of Greg Gerhardt, PhD, and Craig Van Horne, MD, to find better treatment options and eventually a cure for Parkinson's disease.

### PHILANTHROPY UNITES THROUGH LEGACY

The Kentucky Children's Hospital (KCH) Neonatal Intensive Care Unit (NICU) unites neonatologists, nurses, surgeons, researchers and support staff with a shared sense of loyalty to their tiny patients. They exert every effort to achieve the best possible outcomes for the patients and their families. It is their unflinching commitment to care for families that reminds former chair of the KCH Council, Missy Scanlon, of someone who instilled in her the importance of pushing forward until the job was done – her mother, Betti Ruth Robinson Taylor.

"You keep going until it's done and you just don't stop – whatever you have to do," recalled Scanlon as she reminisced about her mother's legacy. "Whatever you have to make happen, you have to keep going until you get it done."

Through a legacy gift in honor of Missy's mother, the new Betti Ruth Robinson Taylor NICU will allow caregivers to better provide high-quality, leading-edge care to Kentucky's smallest patients. The 47,000-square foot facility, which is slated to open in 2018, will allow Kentucky Children's Hospital to better care for the rising number of patients and families receiving care at the region's only Level 4 NICU.

As a regional hub for advanced neonatal care with pediatric transport services from 22 hospitals across Eastern and Central Kentucky, the Betti Ruth Robinson Taylor NICU will not only be a state-of-the-art care facility, it will also provide a more welcoming and comforting place for the children and families who depend on it.



### PHILANTHROPY UNITES THROUGH PURPOSE

The UK Hospital Auxiliary was established more than 50 years ago with the purpose of uniting a group of dedicated volunteers who wanted to support the needs of the hospital. The auxiliary's inaugural members saw a need for serving the people of Kentucky through volunteering for and investing in UK HealthCare. Over time, the auxiliary has donated millions of dollars to advance the mission of UK HealthCare and serve the people of Kentucky.

Through a dedicated group of 150 volunteers, the Auxiliary runs the gift shops throughout the hospital, delivers flowers and cards to patients, conducts book and jewelry sales, assists with wayfinding, comforts neonatal ICU babies, and the list goes on and on. Each year, they fund important hospital initiatives and programs that improve the experiences of patients and their loved ones. Arts, music, integrative medicine and patient support funds are all areas that have benefitted from their generous support.

### PHILANTHROPY UNITES THROUGH ACTION

Contact UK HealthCare's philanthropy office at 859-323-6415 to learn more about how to unite your passion, legacy or purpose with philanthropy. You may choose to help fuel advancement in our patient care, research, outreach and education initiatives for the health and well-being of the people of Kentucky and beyond. Or make your charitable contribution online at [ukhealthcare.uky.edu/giving](http://ukhealthcare.uky.edu/giving).

Above left to right:

Ann Hanley's gift to Parkinson's disease research is funding leading-edge research conducted by (from left) Craig Van Horne, MD, George Quintero, PhD, and Greg Gerhardt, PhD.

Construction is underway at Kentucky Children's Hospital on the new Betti Ruth Robinson Taylor NICU for premature and sick newborns.

The UK Hospital Auxiliary has been volunteering for and investing in UK HealthCare for more than 50 years. Over time, their gifts have totaled millions of dollars to improve the experiences of patients and their loved ones.



Left: Philanthropist Missy Scanlon was joined by many family and friends at the announcement of the new NICU named in honor of her mother Betti Ruth Robinson Taylor. Pictured with Missy (center) include life-long friend Pam Curlock (left), son-in-law Kenny Rogers (right), daughter Erin Rogers (far right) and grand-daughter Hannah Rogers (front).



# UK ARTS IN HEALTHCARE MUSIC ENABLES PATIENTS TO CONNECT IN THERAPEUTIC WAYS



“Oh wow,” I heard, and then the group fell silent as they were completely absorbed.

As soon as the musicians started playing, there were audible gasps and exclamations of surprise and happiness. Two members of Time for Three (Tf3), a classically trained string trio, had come to perform for the patients at Eastern State Hospital as part of the Arts in HealthCare Saykaly Garbulinska Performer in Residence Series.

I’m sure the patients expected to hear something classical, but Tf3 really rocked those strings with incredible pop sounds and intricate melodies, even percussion on the body of the bass, starting with their own rendition of a familiar pop song.

What the patients heard was very familiar to them. “Oh wow,” I heard, and then the group fell silent as they were completely absorbed. You could have heard a pin drop.

Eastern State patients have access to music therapy on an ongoing basis. Music is a great outlet for them – they connect to it in ways they do not connect to other modalities. In our music therapy group we use music to spark a discussion of coping skills and other topics that might be difficult for the patients to talk about otherwise.

During the Tf3 pop up concert, what could have initially been skepticism from the patients quickly turned to awe and astonishment within the first few seconds of music, followed by utter amazement as the violinist and bassist improvised nearly the entire performance. First fast and frenetic, then slow and quiet.

The most impressive part was when they heard one of the hospital alarms sound and echoed the interval in their playing, then built an entire piece around that alarm. It was genius. And the patients were held completely captive by the improvisation.

When the musicians finished a piece, the audience exploded with applause. I am so grateful to the Arts in HealthCare Program for bringing Time for Three to Eastern State Hospital. Most of the patients there do not generally have access to this kind of music or the enriching experience of an interactive live performance. They loved it!

— Jennifer Peyton, MM, MT-BC

*Jennifer Peyton is a UK HealthCare music therapist working within the Creative Arts Therapy Program. She divides her time between Eastern State Hospital and UK Markey Cancer Center.*

Time for Three members Nick Kendall and Ranaan Meyer





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Above: Gynecological oncologist Rachel W. Miller, MD, (left), Sivakumaran Theru Arumugam, PhD, FACMG, director of clinical molecular and genomic pathology, and Jill Kolesar, MS, PharmD, director of the Early Phase Clinical Trials Center are engaged in exciting work developing precision medicine approaches for cancer.

Back cover: From left: Timothy Mullett, MD, a thoracic surgeon at the UK Markey Cancer Center, specializes in lung cancer treatment; Lisa Deaton Greer of UK HealthCare Philanthropy confers with Mark D. Birdwhistell, vice president for administration and external affairs.





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