



PRECISION CANCER CARE FOR THE COMMONWEALTH

University of Kentucky Markey Cancer Center
2022 Annual Report



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For more information, write:
2333 Alumni Park Plaza,
Suite 300, Lexington, Ky. 40517.

CREDITS

Manager

Erin McElwain

Editors

Kelli Patrick; Taylor Ysteboe

Design

BORN

Web Editor

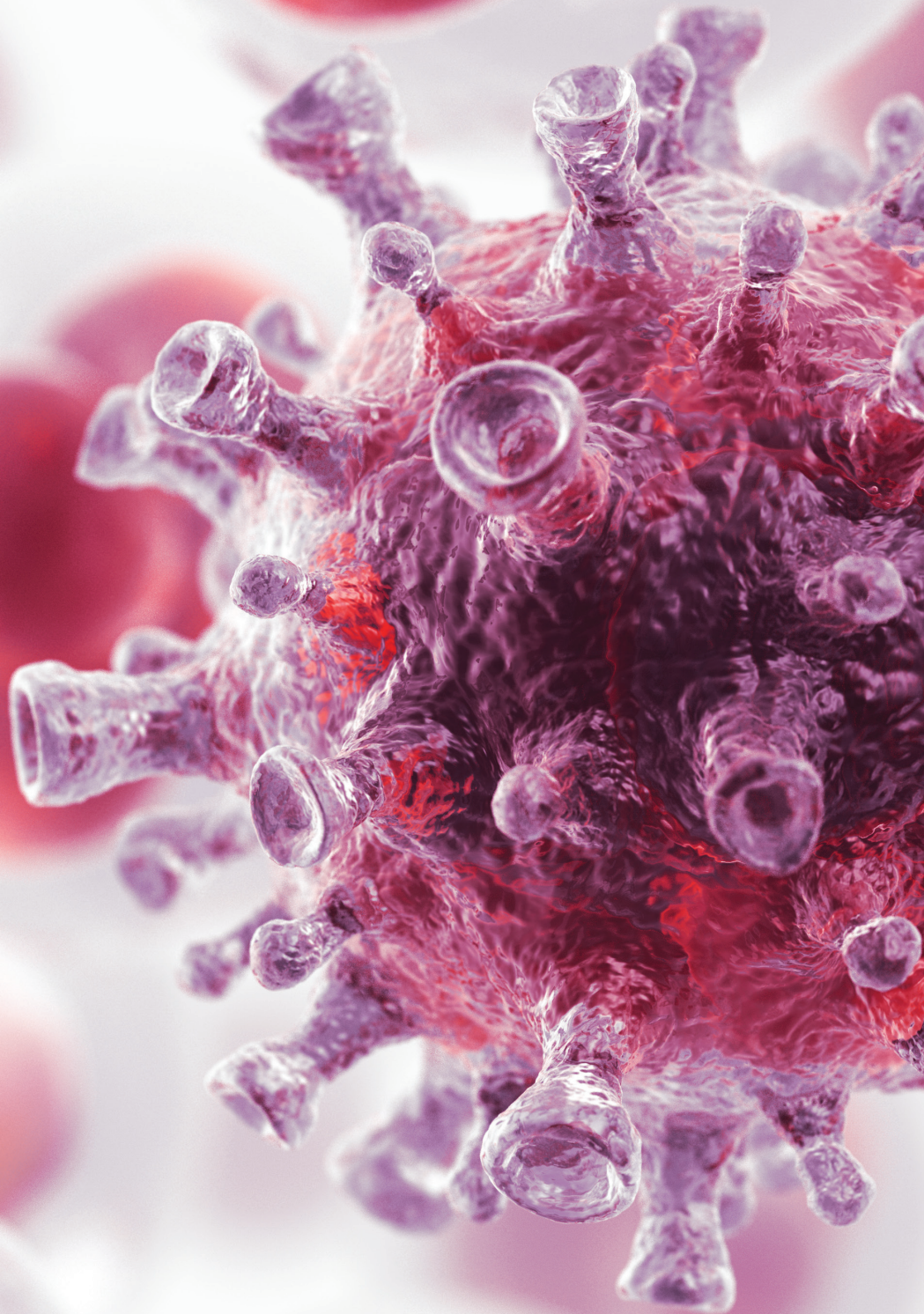
Phillip Strunk

Photographers and Collaborators

Cornett; Pete Comparoni; Mark Cornelison; CJ Cruz; Getty Images; Elizabeth Grayson; Charity Hedges, Kentucky Governor's Office; Elizabeth Hetherington; Holifield Photography; Mark Mahan; Malicote Photography; Jessica Miller; Mallory Olsen; Adam Padgett; Allison Perry; Shaun Ring; Natalie Riney; Jennifer Stover; Lee P. Thomas; UK Research Office; Taylor Ysteboe

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MARKEY CANCER CENTER

WHO WE ARE

The UK Markey Cancer Center is a lot of things. We're a National Cancer Institute-Designated Cancer Center, the only one in Kentucky and one of only 71 in the country. We're recognized among the top 50 cancer centers in the nation by U.S. News & World Report – and have been for the past six years.

But we're more than that. Much, much more. We're trailblazers. We're catalysts. We're visionaries.

We share a bold goal that pushes us to greater heights every single day: To reduce cancer burden with a focus on Kentucky and its most vulnerable populations through research, prevention, treatment, education and community engagement.

Some of the most exciting cancer research is happening right here at Markey. We are the lead institution of a National Cancer Institute-funded multi-PI R01 clinical trial to discover how to better treat melanoma patients who are resistant to conventional therapies. We're also trying to uncover the cause of the high pediatric brain cancer rates among children in Appalachia. These research projects – among countless others – help propel us closer to a cancer-free tomorrow in the Bluegrass State.

At our Precision Medicine Clinic, we develop customized treatments for every Kentuckian who entrusts us with their care, to give them the best shot at beating cancer. We do this by examining individual genetics, health, environment and lifestyle differences to tailor the most effective therapies for each patient.

Philanthropy is one way we are able to continue our amazing, life-changing work. We received two major gifts in 2022 that are undoubtedly game changers for Markey. The first – \$10 million from Central Bank – will go toward developing and building a new outpatient cancer treatment center and advanced ambulatory complex. The second – \$5 million from the William Stamps Farish Fund – will help address and combat the high rates of urologic cancers in our state.

I am extremely proud of what we have accomplished so far and what we will achieve in the near future. This is all thanks to our outstanding doctors, nurses, researchers, pharmacists, social workers, volunteers, donors, affiliate partners and so many others.

Together, we will never stop innovating, finding breakthroughs and providing world-class cancer care for our patients and all of Kentucky. That's just who we are. ■



B. Mark Evers

B. Mark Evers, MD
Director, UK Markey Cancer Center

MARKEY CANCER FOUNDATION

LIVING OUR VALUES OUT LOUD

Dr. Mark Evers and his compassionate, committed team at the UK Markey Cancer Center recognize that every Kentuckian is unique and that their cancer care should be, too.

There’s no one-size-fits-all approach to fighting cancer, and the same goes for philanthropy. Donors seek causes that are deeply personal and meaningful to them, especially when cancer has touched their lives in some way.

The Cathy Coop Fund was created by her family and friends following her passing to help women receiving cancer treatment at Markey, where Cathy received care. Amanda Lockey formed a foundation to support Markey oncologist Dr. Lowell Anthony, who treated her for neuroendocrine tumors and saved her life. And Markey Women Strong funds ambitious female cancer researchers who are determined to stamp out the disease in the Commonwealth.

These generous gifts, among others, are how our donors live their values out loud.

To date, the UK Markey Cancer Foundation has proudly given over \$100 million to the University of Kentucky – and we’re nowhere close to being done. This year, our new capital campaign, which will bolster cancer care and research at Markey, raised almost \$11 million with two key gifts leading the way: \$2 million from an anonymous member of the foundation board and \$5 million from the William Stamps Farish Fund.

Donations like these help drive the mission of Markey forward and bring us even closer to our dream of a cancer-free

Kentucky. With this impressive but achievable goal in mind, we at the Markey Cancer Foundation are determined to do everything we can to support Dr. Evers, his team and, most importantly, the people who come to Markey for care.

Patients are why we do what we do. They count on all of us – generous donors, expert providers and innovative researchers – for life-changing and lifesaving outcomes.

We won’t let them down.

Thank you for doing your part in making Markey the place where Kentucky comes to beat cancer. ■



Farra M. Alford, Chair,
UK Markey Cancer Foundation



Michael Delzotti, CFRE, FAHP
President and CEO,
UK Markey Cancer Foundation



EXTENDING MELANOMA RESEARCH BEYOND KENTUCKY

Markey is the lead institution of a multisite trial to discover how to treat melanoma patients who are resistant to conventional therapies.

A team of UK Markey Cancer Center researchers has embarked on a potentially practice-changing mission to find a new standard of care treatment for patients with melanomas harboring BRAF mutations.

Melanoma patients traditionally have two treatment options. The first is immunotherapy, which most patients are put on regardless of any mutations in their melanoma. This treatment can be curative for up to two-thirds of patients.

If immunotherapy doesn't eradicate the cancer or if patients cannot tolerate immunotherapy, melanoma patients with BRAF mutations are usually treated with a BRAF-MEK inhibitor combination. Most patients initially respond well to this treatment, but after 12 to 13 months, their cancer typically recurs in an extremely aggressive fashion.

"When the patients relapse, their melanomas metastasize all over the place," principal investigator Rina Plattner, PhD, said. "These patients then have very little time."

Plattner and her fellow researchers at Markey are trying to figure out why this happens and what they can do to best treat these patients.

"We assembled a team of clinicians, basic scientists and translational researchers to move the needle forward on cancer research."

Dr. Jill Kolesar

Adding an ABL inhibitor

Plattner's lab previously found that the ABL kinases (ABL1, ABL2) are important in driving the metastasis in melanoma patients. They also discovered that these kinases play a critical role in resisting BRAF-MEK inhibitors.

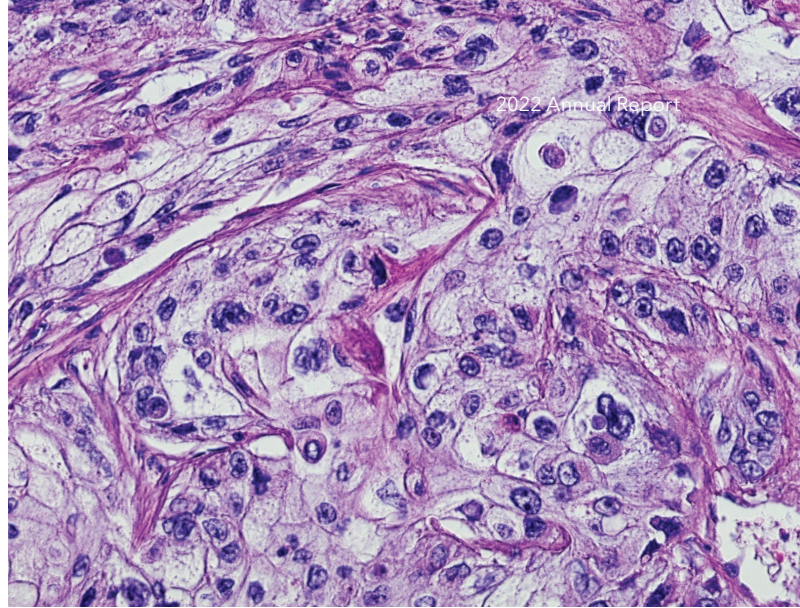
When the researchers treated mice with an ABL inhibitor together with a BRAF-MEK combination, the resistance was reversed and the tumors disappeared. Additionally, the researchers found that giving this combination of inhibitors before the resistance begins almost completely prevents the resistance from developing in the first place.

"Current treatment for BRAF mutant melanoma, for patients who cannot tolerate or fail immunotherapy treatment, is a BRAF and MEK inhibitor combination, and there's no standard treatments if patients fail that," said Jill Kolesar, PharmD, the director of the Precision Medicine Clinic at Markey. "The addition of an ABL inhibitor to this regimen, if efficacious and tolerable, could lead to changes in the way these patients are managed."

Left: Dr. Rina Plattner is the principal investigator for the BRAF melanoma study, Markey's first NCI-funded multisite clinical trial.

Right: Tissue stained metastatic melanoma cells.

Below: Dr. Jill Kolesar leads the Precision Medicine Clinic, helping to develop the early-phase clinical trials program at Markey Cancer Center.



Securing the necessary medicines

Armed with this information, Plattner and former Markey medical oncologist Peng Wang reached out to the pharmaceutical company Novartis, which owns the rights to the BRAF-MEK inhibitors, dabrafenib and trametinib, and manufactures the leukemia drug nilotinib, a second-generation ABL inhibitor.

Novartis agreed to fund a clinical trial. This funding comes in the form of providing the necessary drugs. Nilotinib costs about \$4,000 a month per patient, and insurance companies won't pay for an off-label use.

NCI funds additional research

From there, Plattner developed a multi-PI R01 in collaboration with Kolesar and medical oncologist Dr. Melissa Wilson at St. Luke's in Easton, Pa., and also enlisted melanoma oncologist Dr. Douglas Johnson to run the trial at Vanderbilt Medical Center.

"The launch of this study outside Markey represents the cancer center's maturity since the National Cancer Institute designation," said Dr. Zhonglin Hao, head of multisite clinical trials at Markey.

Since receiving the funding from the NCI in May, the Plattner laboratory is conducting basic science experiments to explore how ABL is driving resistance in both cell culture and in animals. They will also utilize samples from the clinical trial, which has enrolled one patient so far, to confirm their cell culture and animal findings.

Due to the likelihood of drug interactions, Kolesar's lab is measuring the plasma concentrations of the drugs to ensure patient safety.

"The results of this study, if positive, could be written in the National Comprehensive Cancer Network guidelines," Hao added.

Benefits of multisite trials

Markey, Vanderbilt and St. Luke's are all part of this multisite clinical trial. Markey is the leader of three multisite trials supported by the NCI to date, and more are in the works. The cancer center hopes to hire about a dozen people to be able to support up to five multisite studies.

"The main benefit to multisite trials is we can complete them faster," Kolesar said. "Oncology moves really fast now."

"The results of this study, if positive, could change clinical practice and inform the National Comprehensive Cancer Network guidelines."

Dr. Zhonglin Hao

Another advantage of multisite trials is the opportunity to gather the intellectual input of other investigators. Johnson of Vanderbilt is regarded as an international thought leader in melanoma, and Wilson of St. Luke's has years of experience in managing melanoma patients.

"We assembled a team of clinicians, basic scientists and translational researchers to move the needle forward on cancer research," Kolesar said. ■



ADVANCING HEALTH EQUITY

Markey's community health workers play a critical role in cancer screening and prevention.

The Markey Cancer Center is working to meet the needs of communities of color through inclusive outreach and engagement. Two new community health workers (CHWs) are building relationships and making a positive difference by working with community partners to get the word out about cancer screenings and risk reductions.

A history of connections

CHWs are trusted members of the community whose unique strength lies in sharing similar backgrounds and experiences with those they serve. Their connection with the community helps them provide culturally congruent programming and overcome medical mistrust and language divides that prevent people from accessing health care.

For years, CHWs have served as liaisons between health institutions and the community around the country. Since 1994, the Kentucky Homeplace (a part of the UK Center of Excellence in Rural Health) has been the Commonwealth's model to reach medically underserved counties in Appalachia.

The new CHW positions form part of Markey's community outreach and engagement team under the Kentucky Cancer Program (KCP), a statewide cancer control program led by Markey and the University of Louisville/Brown Cancer Center. The CHWs work with regional cancer control specialists to provide strategic outreach to the Black/African American and Hispanic communities. They build



Left: Kentucky Cancer Program community health workers Gabby Rodriguez and Khadijah Wallace provide education on lung health at a local employee health fair.

Above: Amy Oliver-Steinkuhl, Regional Cancer Control Specialist, and Gabby Rodriguez, CHW, talk with a health fair participant on the dangers of vaping.

on the strengths and programs of community partners, such as churches and other organizations, said Dr. Lovoria Williams, associate director of health equity, diversity and inclusion at Markey. “We can work through these settings to meet people where they are to provide education about the resources available at Kentucky’s only NCI-Designated Cancer Center,” she said. “Markey strives to become a resource for all populations. We want people to think about Markey as a resource for education and screening, as well as excellent cancer care.”

Shared experiences

Khadijah Wallace says her passion for helping others and making her community healthier led to her CHW position. The potential impact of her role became clear to Wallace on Dress in Blue Day, an annual event that brings awareness to and honors those affected by colon cancer. Wallace spoke to congregations and pastors in the Lexington area to encourage participation in the event, where people learned more about screenings. “Many had never heard of that event,

and they really enjoyed the chance to be a part of a positive health initiative,” she said.

Many people still don’t want to talk about cancer and view it as the “C” word, Wallace noted. The event sparked conversations about colon cancer. People felt comfortable enough to share their own experiences. At one church, a man talked about his colon cancer diagnosis and treatment with his fellow churchgoers for the first time. “He’d never talked about it before, but he said that Markey took very good care of him,” Wallace said. “He described everything, and he said Markey had a plan of action for him. I’m so glad that he was able to tell that positive story.”

Building relationships

Gabby Rodriguez works with the Hispanic population. Part of her role includes creating Spanish translations of health information resources and interacting with community members in both Spanish and English at community events. “As a Hispanic woman, I understand the struggles many Hispanic families face in regard to access to health care,” she said.

“I’m just happy to have the chance to make an impact in the lives of these communities and let them know that resources are available for those who don’t have the access to the health care that they deserve.”

Gabby Rodriguez

Rodriguez discovered during one of her first days on the job that building trust is key and it’s an ongoing process. She was visiting a store in an area of Lexington with a large Hispanic population to deliver flyers promoting free mammograms and Pap smears. “They told me about their experiences with individuals who come to them to help and never show up again,” she says. “That opened my eyes to how difficult it must be for these communities to open up and to trust individuals.”

Rodriguez wants people to know she’s there for them and willing to help. “I’m just happy to have the chance to make an impact in the lives of these communities and let them know that resources are available for those who don’t have the access to the health care that they deserve,” she said. ■

INTRODUCING A NEW CHAPTER IN **CANCER CARE** FOR KENTUCKY

A historic \$10 million gift will be used to help expand Markey's physical footprint and enhance the patient experience.

Central Bank gifted UK HealthCare \$10 million in February 2022 to support expanded patient care at the UK Markey Cancer Center. The gift is the largest in UK HealthCare history and launched an initiative to raise \$90 million to improve cancer care in Kentucky.

At the end of 2021, the UK Board of Trustees approved a purchase agreement for \$6.9 million to acquire residential parcels across from UK Albert B. Chandler Hospital on South Limestone for the construction of a new outpatient cancer treatment center and advanced ambulatory complex. The new \$10 million gift will be used toward developing and building this new complex.

"Kentucky leads the nation in cancer incidence and mortality," said UK President Eli Capilouto. "As such, we are determined to meet this moment – to channel our fierce resolve and address this stubborn and heartbreaking challenge. No Kentuckian should have to leave the state to receive the highest quality care.

"Luther Deaton, Joan Kincaid and the whole team at Central Bank recognize what it means to serve Kentucky," Capilouto said. "We are deeply grateful for this generous gift that will help us build a better tomorrow."

Kincaid, owner of Central Bank, first gave to the UK Markey Cancer Center – then known as the McDowell Cancer Network – in 1979. Cumulative Kincaid/Central Bank giving to UK exceeds \$20 million.

"Too many Kentucky families have been devastated by cancer, and it is our hope that this gift will help future generations of Kentuckians avoid this terrible diagnosis," said Deaton, chairman/president and CEO of Central Bank.

Since Markey Cancer Center became a National Cancer Institute-Designated Cancer Center in 2013, the center's outpatient clinic visits have increased by 57 percent, including more than 120,000 patient visits in fiscal year 2021. Additionally, cancer-related research funding has increased by 109 percent since 2012; as of June 30, Markey researchers held more than \$59.3 million in grants.

"Markey is the go-to cancer center in the state and that is evident by the growth we have seen on all fronts, including patient volume, basic research, population science research and clinical trials," said Dr. Mark Newman, executive vice president for health affairs at UK HealthCare. "While this growth is tremendous, we need to increase our physical footprint to continue expanding our potential, and most importantly, to further enhance the experience and care for our patients."

The proposed complex – with an estimated 260,000 square feet for cancer services – includes space for other advanced ambulatory clinics and structured parking as





Above: Central Bank's \$10 million gift to the Markey Cancer Center is intended to help future generations of Kentuckians avoid those three terrible words: "you have cancer." Luther Deaton is Central Bank's chairman/president and CEO.

Left: Luther Deaton with Joan Kincaid, Central Bank's Vice Chairwoman.

well as capacity for services such as outpatient operating rooms, procedure rooms, diagnostics and imaging services, pharmacy and lab services, and room for meetings and support services.

"It is our hope that this gift will help future generations of Kentuckians avoid this terrible diagnosis."

Luther Deaton

"This building is a dream come true and will be hugely transformative for our state," said Dr. Mark Evers, director of the Markey Cancer Center. "Currently, our facilities are spread out and our patients oftentimes have to go to multiple buildings to see their physician and obtain laboratory studies and treatments, which can be quite stressful. This new building will allow our patients to be

dropped off at the front door, see their physician, and obtain their lab work, X-rays and treatments, all in one place. It will be a tremendous help and asset for our Markey patients."

A new cancer care/clinical research facility is part of a larger strategy to elevate Markey's national reputation by achieving NCI Comprehensive Cancer Center status. The NCI has awarded this designation – its highest – to only about 50 cancer centers in the U.S., and none within a 200-mile radius of Lexington.

Because NCI-Designated Comprehensive Cancer Centers have expanded access to Phase I and II clinical trials, Markey patients would be able to receive best-in-class care as close to home as possible. Given that Markey and its partners treat half of all the cancer patients in the Commonwealth, the impact of NCI comprehensive status would be significant, especially since Kentucky has the highest rate of cancer incidence and death in the nation. ■

SHARING A VISION TO ELEVATE CANCER CARE

The UK Markey Cancer Center Affiliate Network (MCCAN) is proof of the power of building meaningful connections. From a small-scale start in 2006, the statewide network has grown to include 19 community hospitals.

It's hard enough for patients and their loved ones to deal with a cancer diagnosis. The Markey Cancer Center Affiliate Network was born from a simple idea. No one should need to leave Kentucky for cancer care.

Sixteen years ago, Dr. Michael Karpf was the UK executive vice president for health affairs. Markey was still years away from earning its National Cancer Institute designation. Kentucky had one of the highest cancer rates in the nation, and rural areas of the Commonwealth were consistently underserved. Karpf had a vision to expand cancer care, research and education. A network was the answer. Kentucky hospitals could become partners for the better of the Commonwealth.

Today, the network ensures people in Kentucky and surrounding states can get their care close to home. And when they need it, patients go to Markey for specialized services. The goal is to return patients to their community hospitals for continued care.

The three original Markey Cancer Center Affiliate Network hospitals are still a part of the network: Harrison Memorial Hospital in Cynthiana, St. Claire Regional Medical Center in Morehead and Rockcastle Regional Hospital in Mount Vernon. Today's sites span the Commonwealth, and include Edgewood to the north, Middlesboro to the south, Paducah at the Missouri border and South Williamson in Eastern Kentucky at the West Virginia border.

"We're a statewide network," said Cheri Tolle, Markey Cancer Center Affiliate Network administrative director. The network's staff in Lexington has grown to serve the expanding number of hospitals. "There was one part-time employee in 2006. Today, we have a team of 13 full-time employees that focuses on quality, compliance, education, communications and more."



A focus on quality

Affiliate hospitals set the standard for cancer care in Kentucky. Every affiliate hospital must earn accreditation from the Commission on Cancer (CoC). The accreditation is a sign of quality, leadership and expertise. And, as important, it's a sign of each hospital's commitment to the community it serves. Markey helps hospitals achieve and maintain the rigorous accreditation.

A network of hospitals throughout Kentucky does more than ensure quality cancer care. It means more patients get diagnosed at an earlier stage when there are better treatment options. And they get care backed by the resources of Markey — an academic medical center and Kentucky's only National Cancer Institute-Designated Cancer Center.



Above: Leadership support at UK HealthCare has been invaluable since MCCAN's start in 2006. Dr. Mark Evers (left), Cheri Tolle (center) and Dr. Mark Newman (right).

Left: Dr. Michael Karpf, who retired in 2017, started the Markey Cancer Center Affiliate Network to transform access and care for rural cancer patients throughout the state.

Network hospitals also have access to a wide range of supportive resources, including:

- Professional education and training
- Streamlined patient referral process
- Community outreach and screening
- Marketing and public relations

These resources can be tailored to the specific needs of individual hospitals and their communities.

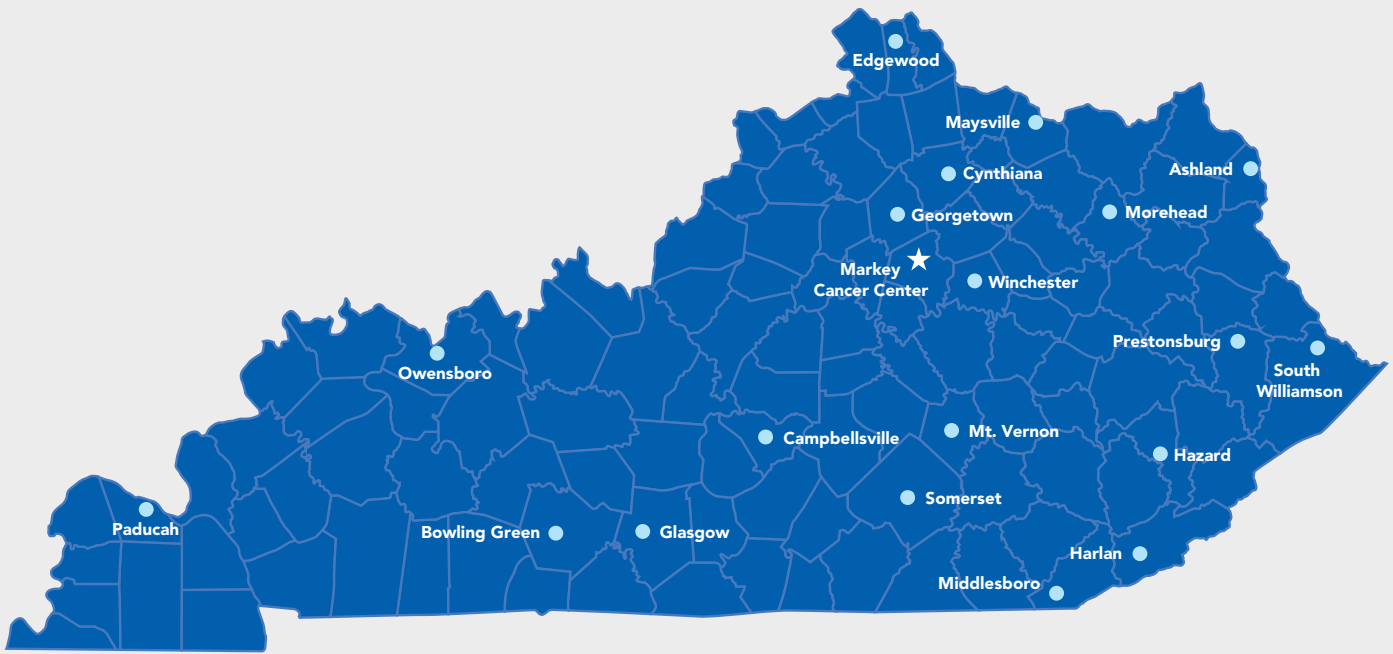
Serving hospitals of all sizes

Affiliate Network hospitals vary in size and service area. "It's not just for one type of hospital. It's for hospitals that have a commitment to high-quality cancer care in their communities," Tolle said. "You can be a small 25-bed facility or a large 500-bed facility. There's a place for you in the affiliate network if you share our vision."

Rockcastle Regional is small, but it offers medical oncology services, chemotherapy and some surgical procedures. "They provide services that many other hospitals of their size can't," Tolle said. "They had a vision and were committed to providing those cancer services close to home." At the other end of the spectrum is St. Elizabeth Healthcare in Edgewood. One of the largest hospitals in the greater Cincinnati area, it has a new state-of-the-art cancer center and continues to value its membership with the Markey Cancer Center Affiliate Network. No matter the size, all affiliate hospitals provide vital care to the communities they serve.

Setting an example

The idea of a statewide network was unique when the Markey network began. But not anymore. Today, the Markey Cancer Center Affiliate Network has caught the attention



MARKEY CANCER CENTER AFFILIATE NETWORK

Clark Regional Medical Center, Winchester

Georgetown Community Hospital, Georgetown

Harlan ARH Hospital, Harlan

Harrison Memorial Hospital, Cynthiana

Hazard ARH Regional Medical Center, Hazard

Highlands ARH Regional Medical Center, Prestonsburg

UK King's Daughters, Ashland

Lake Cumberland Regional Hospital, Somerset

Meadowview Regional Medical Center, Maysville

Mercy Health – Lourdes Hospital, Paducah

Middlesboro ARH Hospital, Middlesboro

Owensboro Health Regional Hospital, Owensboro

Rockcastle Regional Hospital, Mt. Vernon

St. Claire Regional Medical Center, Morehead

St. Elizabeth Healthcare, Edgewood

Taylor Regional Hospital, Campbellsville

The Medical Center at Bowling Green, Bowling Green

TJ Samson Community Hospital, Glasgow

Tug Valley ARH Regional Medical Center, South Williamson

of others who want to learn from its success. Both the National Cancer Institute and the Commission on Cancer are interested in improving the quality of rural cancer care programs. Markey has been asked to provide its expertise in national conversations and task force representation.

Other NCI-Designated Cancer Centers are also hoping to duplicate Markey's success. Staff from the University of Iowa visited Kentucky to learn more about expanding cancer care in rural communities. Markey staff in turn offered consultation and support. The collaboration between the two medical centers has led to joint research papers and a five-year NCI grant award to establish the Iowa Cancer Affiliate Network.

The next 15 years

There's no doubt the Markey Cancer Center Affiliate Network has made a positive impact in Kentucky. But what will the future hold?

Tolle hopes to see an expansion into neighboring states. West Virginia, she notes, doesn't have an NCI-Designated Cancer Center. And she wants to continue tailoring services to the needs of existing member sites.

"I'm so impressed with the network. If you had told me 15 years ago where we would be now, I would've been amazed."

Cheri Tolle

"Our sites look different than they did 15 years ago, and it's exciting to see the growth," Tolle said. "We have grown as an academic medical center with our clinical and research expertise. We've also seen the capacity for clinical and research expertise grow at many of the affiliate sites, too.

"I'm so impressed with the network. If you had told me 15 years ago where we would be now, I would've been amazed." ■



Dr. Timothy Mullett serves as the medical director of the Markey Cancer Center Affiliate and Research Networks and is the current chair of the American College of Surgeons Commission on Cancer.



HELPING CANCER PATIENTS KICK TOBACCO

Clinical trial engages hospitals across Kentucky to test the effectiveness of letting patients choose their preferred cessation methods.

We know smoking contributes to many cancers, but it also makes it harder to treat cancer. Smokers with cancer have lower cure rates than non-smokers. They also have higher rates of surgical complications than non-smokers.

The easy answer is to quit smoking. But of course, it's not that simple, as Dr. Joseph Valentino has observed during 10 years of research. The chief of head and neck surgery at UK Markey Cancer Center, Valentino notes all the stress and anxiety that come with a cancer diagnosis can make it a difficult time to quit. "Smoking almost always falls to the back burner," he said. "There's also not a lot of guidance on how to deal with smoking cessation for people in the midst of cancer treatment."

Valentino is the study chair for a clinical trial called Tobacco Treatment Optimization and Preferences during Concurrent Cancer Treatment (TTOP). The study is testing whether it's easier for cancer patients to quit smoking if they choose their own tobacco treatment.

Above: Dr. Joseph Valentino heads the TTOP study and is passionate about tobacco cessation in his role as an otolaryngologist and cancer surgeon at Markey Cancer Center.

MARKEY CANCER CENTER RESEARCH NETWORK

UK King's Daughters, Ashland
 Owensboro Health, Owensboro
 St. Claire Medical Center, Morehead
 St. Elizabeth Healthcare, Edgewood
 The Medical Center at Bowling Green,
 Bowling Green



A previous Markey randomized study showed many smokers have strong opinions about tobacco treatment. Some refused certain treatments or said they would only try a particular treatment. TTOP participants get to choose the treatment they feel will work best for them. With their provider, patients select their medication, nicotine replacement therapy and level of smoking cessation counseling.

This is a multicenter study developed and led by Valentino in collaboration with the Markey Cancer Center Research Network (MCCRN). Participating sites and investigators include:

- UK King's Daughters, Ashland (Principal Investigator: Dr. David Goebel)
- Med Center Health in Bowling Green (Principal Investigator: Dr. Diego Cabrera)
- Owensboro Health in Owensboro (Principal Investigator: Dr. Alan Mullins)

More sites plan to begin the study in the coming months. When developing the TTOP trial, Valentino collaborated with MCCRN institutions for concept feasibility feedback. This teamwork informed the study plan and provided unique insight for conducting the trial at non-academic facilities.

The research network hospitals ensure a more complete data picture. They can also show how tobacco treatment can work at regional hospitals with different resources than an academic medical center.

“There’s also not a lot of guidance on how to deal with smoking cessation for patients who are in the midst of cancer treatment.”

Dr. Joseph Valentino

Conducting the study across Kentucky at several MCCRN institutions allows the collection of data from a wide range of clinical settings. That in turn provides research findings that represent a broad range of patients. “Community cancer centers have a different set of personnel, a different set of goals and a different form of operation,” Valentino said. “This data becomes much more valuable if we’ve incorporated those community cancer centers since the majority of cancer is treated in community cancer centers.”

TTOP trial participants include smokers with new or recurring cancers. Patients with lung, head and neck, esophagus, pancreas and other cancers are eligible. Funding for the trial is provided by the Markey Cancer Center. ■

TRANSFORMING LIVES FOR OVER FOUR DECADES

The UK Markey Cancer Foundation has a long history of helping donors create lasting legacies.

The ringing of a ceremonial bell. The clang of hammers as a new building takes shape. The impact of philanthropy is in many ways immeasurable, and it can't be calculated in dollars alone. It's measured by the many ways lives are touched and often forever changed.

The UK Markey Cancer Foundation is the philanthropic arm of the UK Markey Cancer Center. Over the last 45 years, the foundation has been the largest donor to UK, giving over \$100 million. Countless professorships, chairs and fellowships have aided Markey's leadership in recruiting the best and brightest. Four new buildings have improved access to patient care. Donations have fueled research in the battle against cancer. Direct assistance has made it easier for patients to get the treatment they need.

"Philanthropy is how our donors live their values out loud," said Michael Delzotti, CFRE, FAHP, president and CEO of the Markey Cancer Foundation. "It allows them to help create the world they believe in. Philanthropy has had a disproportionate impact at Markey because it is targeted specifically to priorities articulated by leadership. It allows Markey to be strategic as they look to the future, but also nimble as they respond to emerging opportunities."

A new capital campaign

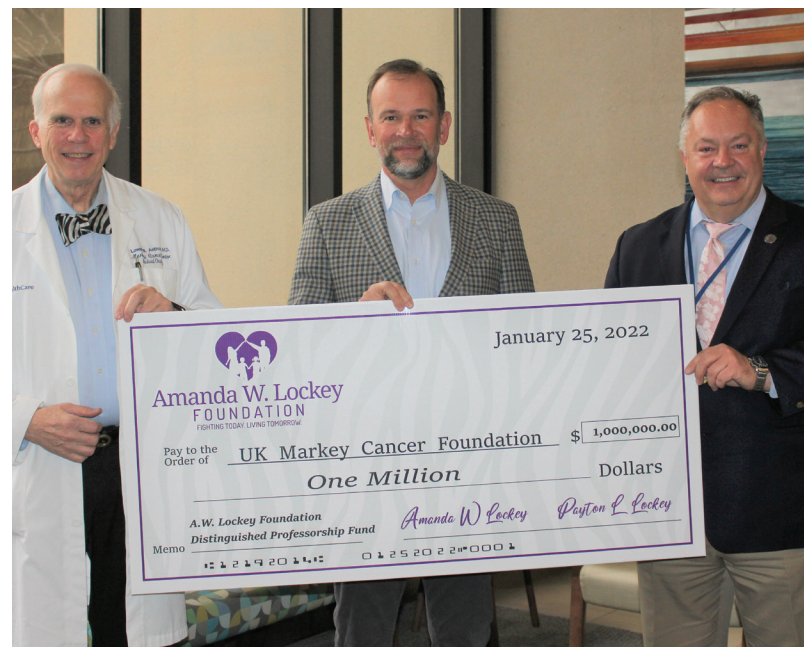
Markey already delivers world-class care to patients from Kentucky and beyond. A new capital campaign will take those efforts to the next level. Already, the Markey Cancer Foundation has received two campaign gifts:

- A \$2 million gift from an anonymous member of the foundation board
- A \$5 million gift from the William Stamps Farish Fund

The campaign includes numerous ways to support cancer care and research at Markey, with a focus on investments in three key areas:

Our people: Markey is stepping up its efforts to attract and retain world-class oncologists, researchers and faculty and fund vital research. "Every cancer center in the country is trying to recruit the top talent," said Dr. Mark Evers, director of the Markey Cancer Center. "We are effectively competing with all of the big cancer centers throughout the U.S. for a relatively limited talent pool of investigators and clinicians." Giving opportunities include new endowed chairs and professorships in areas including cancer education, biostatistics and precision medicine.

Our future: The Appalachian Career Training in Oncology Program – ACTION – is designed to increase enrollment in graduate and professional science degree programs. Students from Kentucky's 54 Appalachian counties participate in research, cancer care, career training and





Above: Jennye Grider addresses the 2022 Markey Golf Dinner to share the impact ringing the chemo bell, funded by the 2021 event, had on her.

Left: Payton Lockey of the Amanda W. Lockey Foundation presents a check to Dr. Lowell Anthony and Michael Delzotti, CFRE, FAHP, of the Markey Cancer Foundation, in the amount of \$1 million to fund the world's first Distinguished Professorship in Neuroendocrine Tumor (NET) Research.

coaching. "ACTION is an experiential training program for youth from Appalachian Kentucky ... where we prepare and motivate students to pursue cancer careers," said program director Nathan Vanderford, PhD, MBA. A named endowment and program support for ACTION will help Markey continue to inspire tomorrow's cancer leaders.

Our facilities: A new comprehensive cancer building for patient care and clinical research will create a centralized home for world-class treatment. The building will double

patient capacity, expand Markey's research footprint and include a center for precision medicine. Alex Boone, a Markey Cancer Foundation trustee, is chair of the capital campaign steering committee. Boone lost his wife and mother to cancer. "It means a lot to me and my family, and Markey is extremely important to Kentucky because, regrettably, we lead the nation in at least three different types of cancer," Boone said. "So I will continue to do whatever I can do to help fellow Kentuckians fight this horrible disease."

"Philanthropy is how our donors live their values out loud. It allows them to help create the world they believe in."

Michael Delzotti, CFRE, FAHP

Supporting women with cancer

While Cathy Wolterman Coop received cancer treatment at Markey, she couldn't help but see women around her who

were struggling. Many were barely making ends meet. They drove themselves to appointments, worked full-time and cared for their families — all while going through cancer treatment. Their stories touched Cathy, and she shared them with her family and friends.

On Cathy's last birthday in 2013, her husband, Brent, and friends and family created the Cathy Coop Fund to support women receiving cancer treatment at Markey and honor Cathy in a lasting and meaningful way. The fund provides money for lodging, transportation, living expenses, medicine, food, wigs and more. It has also provided much-needed lodging support throughout the COVID-19 pandemic to help women traveling long distances for their care. An annual fundraising event organized by the family has helped raise over \$280,000 since the fund's inception.

Advancing NET research

A \$1 million gift to the Markey Cancer Foundation will create the world's first distinguished professorship in neuroendocrine tumor (NET) research. The gift from the Amanda W. Lockey Foundation was given in support of Markey oncologist Dr. Lowell Anthony, who specializes in neuroendocrine tumor treatment. Anthony has treated Lockey at Markey since 2015. She and her husband, Payton, had previously funded a clinical trial for neuroendocrine research.

The gift is the largest given to the Markey Cancer Foundation from the Amanda W. Lockey Foundation in the last three years. It comes as part of a campaign in support of Markey's application for National Cancer Institute Comprehensive Cancer Center status.

The professorship will support the work of Anthony's team by allowing them to focus on clinical and translational research and development of a radiotherapeutic program. "This generous gift is recognition of our expertise in neuroendocrine tumors and will allow the center to advance our understanding of NET biology," Anthony said. "The NET professorship provides additional resources to support our growth in translational NET research and making Markey cutting-edge with this technology."

Health care and horses

A marriage of two Lexington institutions raises funds each year for Markey. The Fayette Alliance Foundation and the Markey Cancer Foundation come together to host an Evening in the Gardens the evening before the Keeneland Bluegrass International Cup. The 2022 event was held, as always, at



Polo players in action at the Keeneland Bluegrass International Cup held at Mt. Brilliant Farm. The annual polo match benefits the UK Markey Cancer Foundation and the Fayette Alliance Foundation - two organizations working to support the people of the Commonwealth.

the historic Mount Brilliant Farm, where 150 guests enjoyed a gourmet dinner, signature cocktails and a live auction.

"The Markey Cancer Foundation would like to extend a special thank you to Greg Goodman and the Mt. Brilliant Family Foundation for the continued support of the Bluegrass International Cup."

Michael Delzotti, CFRE, FAHP

The event celebrates two of Lexington's most important assets — health care and horse farms. The Markey Cancer Foundation supports outstanding health care in Kentucky, and the Fayette Alliance focuses on maintaining the area's bucolic nature while promoting sustainable growth. The fundraiser is the brainchild of H. Greg Goodman, owner of Mount Brilliant. Goodman is a former member of the Markey Cancer Foundation Board of Trustees and a founder of the Fayette Alliance.

Women empowering women

For six consecutive years, Markey Women Strong – a program of the Markey Cancer Foundation – has supported female-led research teams at Markey. A total of \$600,000 has been awarded through the program’s annual Distinguished Researcher Grants. The 2022 grant recipients were Dr. Jill Kolesar and Dr. Krystle Kuhs, who each received a \$50,000 grant.

Started in 2016, Markey Women Strong funds female cancer researchers focused on advancing the fight against the disease at UK. Each Markey Women Strong member contributes \$1,000 annually. Members read grant applications, hear from the researchers and vote on the awards.

Kolesar is researching new treatment options for ovarian cancer, which frequently becomes resistant to standard treatments. The drugs she’s studying target the mitochondria, the powerhouse of the cell. “This award enables us to move our very promising new anti-cancer medications one step closer to clinical trials in women with ovarian cancer,” Kolesar said. “With the help of Markey Women Strong, we are working to end deaths due to this disease.”

Kuhs is studying antibodies that may be a risk marker for HPV-driven throat cancer in men. The research could generate screening methods for detection of this cancer. “I am incredibly honored and humbled to be chosen for this award,” Kuhs said. “Kentucky has one of the highest rates of throat cancer in the country. This award will help us develop better ways to detect throat cancer earlier.”

Recognizing caregivers

Honoring outstanding caregivers is another way to give back to Markey. When Patrick A. Hayden had CAR T-cell therapy to treat lymphoma at Markey, he was impressed by all his providers, but the compassion and care of six doctors and nurses stood out. Hayden recognized those providers with a \$6,000 contribution to the Markey Cancer Foundation. “Their concern meant a lot to me and my family and in turn made this uncertain, and at times scary, process much better,” Hayden wrote in his letter to the foundation. “I appreciate the world-class services of the UK Markey Cancer Center and the amazing efforts of the foundation.”

With his gift, Hayden honored Dr. Gerhard C. Hildebrandt; Dr. Bryce Perkins; Christi L. Conley, APRN; Jody Gibbs, RN; Haley McKirahan, RN; and Susan Harvey, APRN. ■



A joyful noise

Ringing the bell is an important milestone for many cancer patients. For Jennye Grider, it was the culmination of several years of surgeries, chemotherapy, and radiation for breast and thyroid cancer.

When the Frankfort resident received her diagnosis in 2019, she chose the UK Markey Cancer Center for treatment. Her husband and her golden retriever, Winston, had spent a lot of time at Markey as part of the UK HealthCare Canine Counselors program. If they were comfortable with Markey, she knew she would be, too. “I’d heard stories from my husband about all the wonderful nurses and staff,” she said.

Much of Grider’s treatment occurred at the height of the COVID-19 pandemic. She wasn’t allowed to have a loved one with her during her visits to Markey. “But I had a huge support system outside the hospital,” she said. Grider’s sister drove her to Markey and sat outside the window during treatments. Friends, family and sorority sisters also encouraged and comforted her.

The bell that Grider rang was purchased after a fundraiser at the 2021 Annual Markey Golf Classic and Calcutta Dinner. In 2022, she attended the 18th annual dinner at Stonestreet Farm to share her experience.

“Ringing the bell was an important part of my journey,” she told dinner attendees. “I rang the bell not only in celebration of my completion of my rounds of chemotherapy infusion, but also for my support team who walked this path beside me. I also rang the bell in honor of the nurses and medical staff who put their best face forward every day.”

Grider is quick to point out that her cancer journey isn’t over. She has checkups every three months, and she’s starting a new treatment soon. But ringing the bell was a celebration of a significant accomplishment. Now she’s training to be a therapy dog handler with Winston so she can help others like herself. “I know how important that support is,” Grider says, “whether it’s a dog or your sister or the nurse.” ■



SHAPING A LAW TO HELP SAVE LIVES

State-funded program will create greater access to lung cancer screening for Kentuckians.

Kentucky recently established a state-funded lung cancer screening program, making it among the first in the nation to do so. The UK Markey Cancer Center played a significant role in development of the new law.

Signed in July 2022, House Bill 219 created a lung cancer screening program in the Kentucky Department for Public Health. The bill, sponsored by state Rep. Kimberly Moser, also creates a lung cancer screening fund and a Lung Cancer Screening Advisory Committee that will oversee the program. The program has three goals:

- Increase the number of people screened
- Lower lung cancer rates and deaths
- Reduce the cost of treating lung cancer

Lung cancer is the leading cause of cancer death in Kentucky. The Commonwealth also has the unfortunate distinction of being highest in the nation for both lung cancer cases and

deaths. The new screening program could make a significant impact on those numbers. It was inspired in part by the Kentucky Colon Cancer Screening Program. Established in 2008, the colon cancer program contributed to multiple statewide efforts that helped reduce Kentucky's colon cancer rates from 49th in the nation to 22nd.

The Kentucky Cancer Consortium (KCC) Lung Cancer Network and the Kentucky LEADS (Lung Cancer Education Awareness Detection Survivorship) Collaborative, both housed at Markey, were created soon after national lung cancer screening guidelines were first approved in 2013. These groups had a common goal of making Kentucky a leader in lung cancer screening. As a result, the state has had early success and now ranks second highest in the nation for screenings. Still, many people who qualify haven't gotten the annual screening.



Left: Gov. Andy Beshear signs HB-219.

Above: Members of the Kentucky LEADS (Lung Cancer Education Awareness Detection Survivorship) team from left to right: Dr. Timothy Mullett, Dr. Jennifer Redmond-Knight, both with the UK Markey Cancer Center, and Dr. Jamie Studts of the University of Colorado Cancer Center.

Key to inspiring the bill was the KCC Lung Cancer Network. Rep. Moser attended network meetings led by Markey to hear input from this group of more than 150 statewide partners. Markey's community outreach and engagement team and the Kentucky LEADS Collaborative leadership also provided comments, advising on revisions to language in the bill. An earlier draft focused on providing screenings only for uninsured and underinsured people.

"Using data from the 2021 Kentucky Cancer Needs Assessment, we were able to point out that only about 6% of Kentuckians have no insurance and less than 20,000 people would qualify for the program," said Dr. Pamela Hull, Markey associate director of population science and community impact. Based on this input, the bill was reshaped. The program will focus on improving access to high-quality screenings based on current data, guidelines and best practices rather than insurance status.

"Kentucky is home to some of the worst cancer rates in the country, and lung cancer is at the top of that list," said Dr. Timothy Mullett, medical director of the UK Markey Cancer

Center Affiliate and Research Networks and co-principal investigator of the Kentucky LEADS Collaborative. "But because of our collaborative work with many organizations and individuals in early detection in lung cancer, we are seeing decreases in late-stage lung cancer that we have not seen before. [The new legislation] will continue to help reduce the impact of this disease by increasing access to the life-saving procedure for thousands of Kentuckians."

"The new legislation will continue to help reduce the impact of this disease by increasing access to the life-saving procedure for thousands of Kentuckians."

Dr. Timothy Mullett

The lung cancer screening program bill passed with an initial appropriation of \$500,000. The KCC, the Kentucky Cancer Program at UK and the Kentucky Cancer Registry, all housed at Markey, are required members of the program's advisory committee. ■

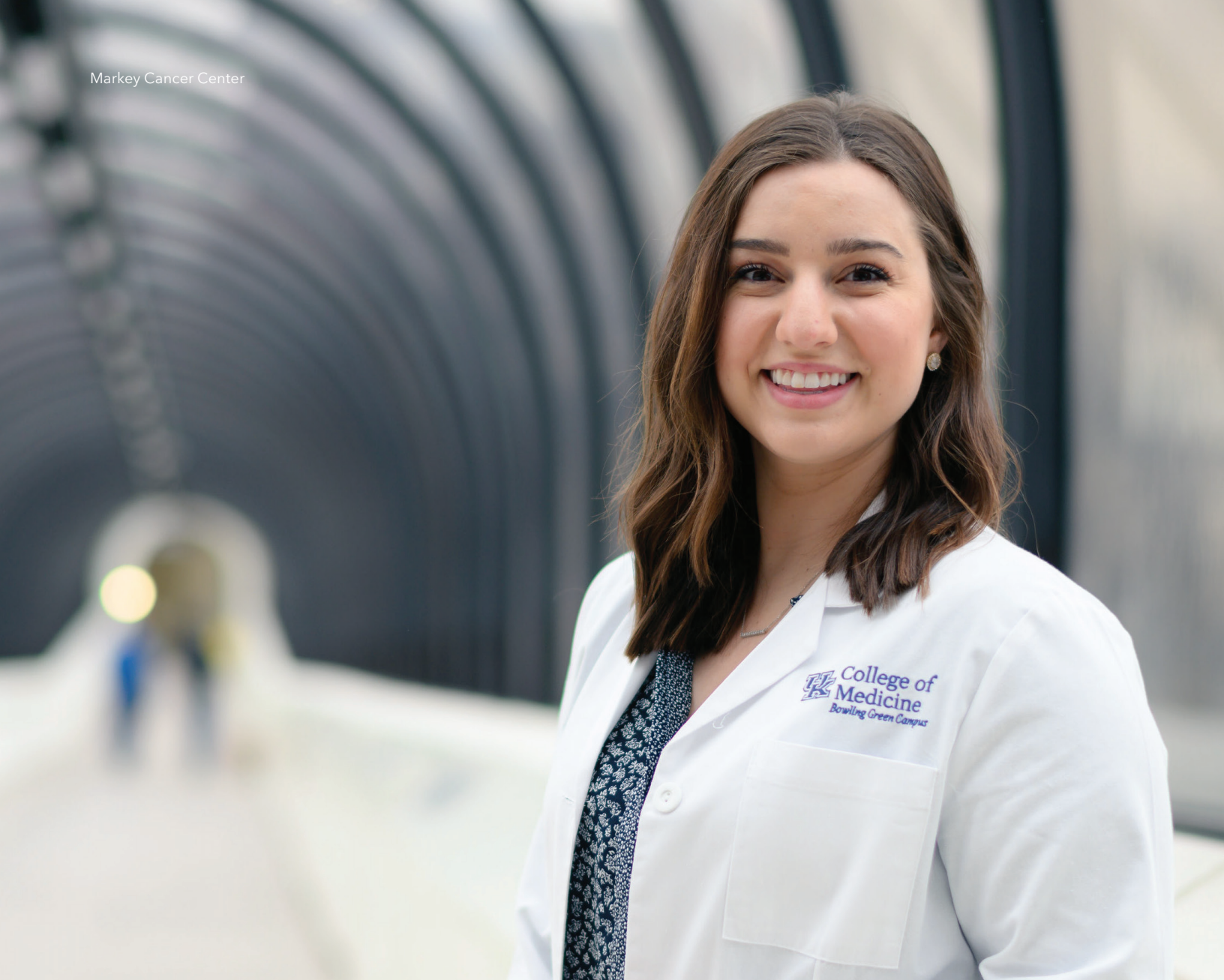


Read more about Markey's influence on health policy on Page 61.

Who is eligible for lung cancer screening?

Early diagnosis of lung cancer increases the odds for successful treatment. To be eligible for lung cancer screening, individuals must meet all of these criteria:

- Adult age 50-80 and in fairly good health
- Have a 20 "pack year" or more smoking history (an average of one pack per day for 20 years or two packs per day for 10 years)
- Currently smoking or have quit within the last 15 years



BEYOND A DIAGNOSIS, SHE FOUND **HER DESTINY**

The care and support Anna Cox received as a patient at UK Markey Cancer Center has led her to pursue a career as a doctor.

When she was diagnosed with cancer in 2018, Anna Cox relied on the support of her care team and her boyfriend, along with her faith in God. She found an inner strength to get her through treatment and a new purpose and goal to help others like her.

Cox was 23 when she developed severe stomach pain that got steadily worse over several days. She knew she needed to go to the ER, and her boyfriend asked where she wanted

to go. Cox chose UK HealthCare. A CT scan of Cox's abdomen showed an infected, swollen lymph node, and doctors suspected cancer. A biopsy several days later confirmed she had stage IV diffuse large B-cell lymphoma, an aggressive type of blood cancer.

Treatment would be complex and involve a variety of UK HealthCare teams, including infectious disease specialists and hematologists/oncologists. Cox knew she'd made the

"Reflecting on it now, it couldn't have turned out any better. I can't imagine my treatment plan at any other institution."

Anna Cox

right choice in going to UK HealthCare. "Reflecting on it now," she said, "it couldn't have turned out any better. I can't imagine my treatment plan at any other institution."

Cox started an outpatient chemotherapy regimen called R-CHOP, which is the standard therapy for her type of lymphoma. R-CHOP is a combination of three chemotherapy drugs, a monoclonal antibody and a steroid. The drugs work together to target and kill cancer cells. Cox visited Markey every three weeks for a six-treatment series.

Throughout her care, Cox leaned on the doctors, nurses and other healthcare providers at the Markey Cancer Center. When she was scared or confused, they were there for her. "They brought so much ease and comfort into my life as I was going through the scariest time," she said.

Cox completed chemotherapy in December 2018, six months after her diagnosis. She was in remission. Dr. Chaitanya

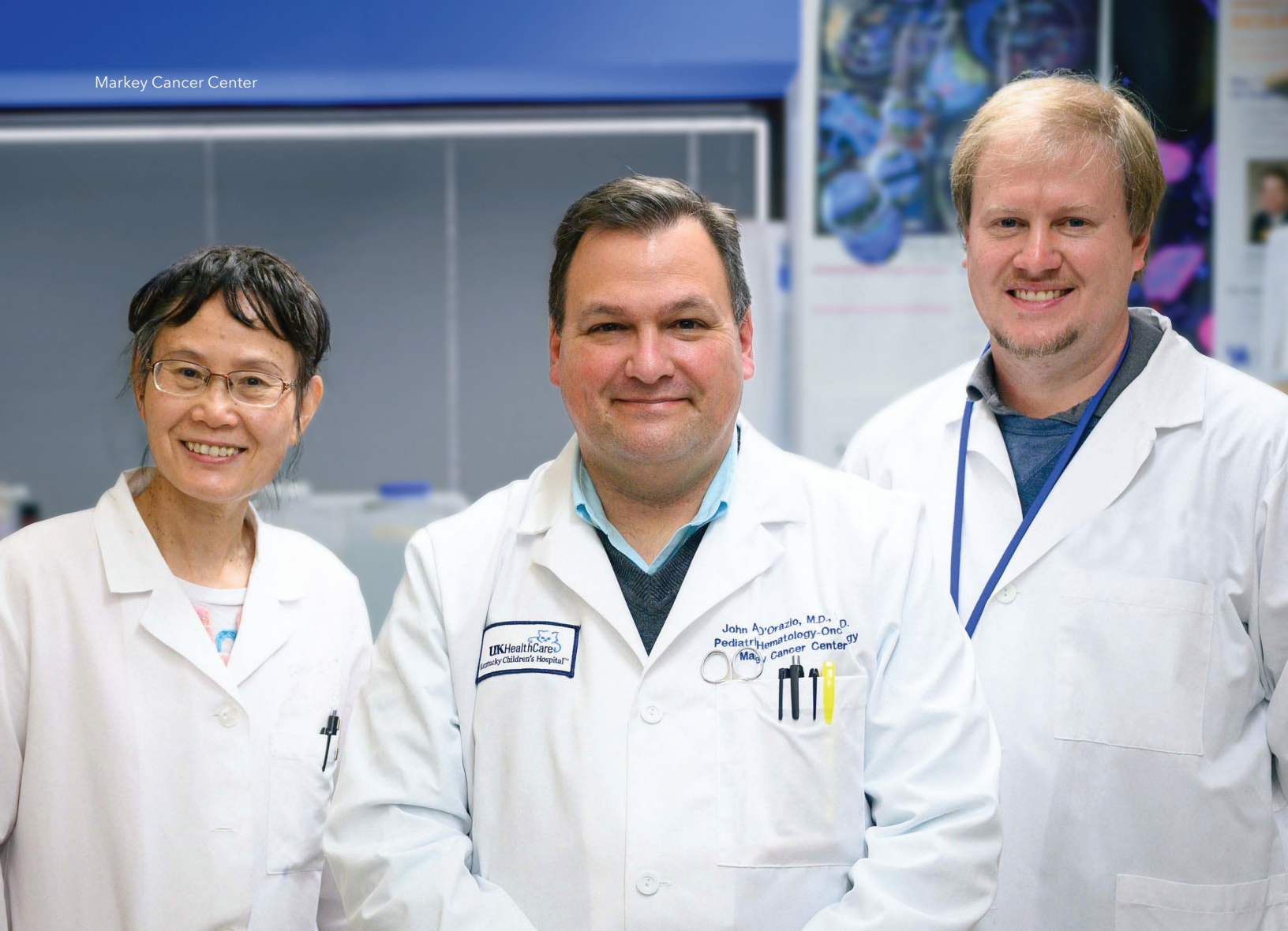
Anna Cox, a medical student at the University of Kentucky College of Medicine - Bowling Green, was inspired to apply to medical school after her desire to give back to the medical profession after her own cancer diagnosis.

Iragavarapu is the Markey hematologist who currently oversees Cox's follow-up care. "The majority of those who go through R-CHOP tend to have a really good response to treatment, in that the cancer either disappears completely, or for the most part," Iragavarapu said. "And about two-thirds of folks who go through R-CHOP chemotherapy tend to have long-lasting remissions."

Iragavarapu sees Cox every six months for follow-up assessments, which have remained clear. Cox feels healthy, her hair has grown back and she and her then-boyfriend have gotten married.

All the support she received from her providers at Markey inspired Cox. She made the choice to return to school at the Bowling Green campus of UK College of Medicine and become a doctor herself. "Seeing that patient-provider relationship, the instant trust, and the fact that they literally had to guide me through this unknown, super scary situation — I want to do that," Cox said. "I want to be on the other end. I want to help someone else get through their scary time."

If it weren't for her diagnosis, Cox says she never would've made the choice to become a doctor. "It has done a 180 on my life, and I'm so thankful," she said. "Because I never in a million years would have ended where I am if it weren't for my experience. There's always a reason that something's happening. I got diagnosed with cancer, but there's so much good — I know what I'm supposed to do with my life. And I really feel like I've figured out God's plan for me." ■



EXPERT SUPPORT FOR A LIFE-CHANGING DIAGNOSIS

A rising number of cancer cases in children and young adults are linked to a genetic predisposition to cancer. Kentucky Children's Hospital created a new clinic to address this issue.

When a family faces a pediatric cancer diagnosis at Kentucky Children's Hospital, it's always life-changing. But those diagnoses can sometimes mean something even more serious: a hidden genetic syndrome that makes that child and their family more susceptible to certain types of cancers.

"In the past, our ability to identify patients with these syndromes has relied on an astute clinician catching clinical clues," said Dr. John D'Orazio, Chief of Pediatric Hematology/Oncology at Kentucky Children's Hospital. "Cancer at an early age. Too much cancer in the family.

Certain kinds of tumors that are over-diagnosed in the family. We realized that we can make much more of an impact in the survival of patients with these kinds of conditions by trying to catch things early."

"A program our size — nobody else is doing this."

Dr. John D'Orazio

Left: Dr. Hong Pu (left), Dr. Nathaniel Holcomb (right) and Dr. John D’Orazio are a part of the clinical trial team making a difference for young cancer patients across Kentucky.

Below: Dr. D’Orazio works with Dr. Amanda Harrington (right) and genetic counselor Terra Armstrong (left) to provide wraparound support for patients and families.

Searching for - and treating - cancers

That’s how Project Inherited Cancer Risk began. It offers every pediatric and young adult cancer patient at Kentucky Children’s Hospital access to DNA sequencing to look for dozens of inherited cancer genes. If one of those genetic markers comes back positive, Kentucky Children’s Hospital and UK Markey Cancer Center can develop an individualized care plan for that child and their family.

In January 2020, the Pediatric Adolescent and Young Adult Inherited Cancer Predisposition Service, located within the DanceBlue Hematology/Oncology Clinic, was launched. It is led by pediatric oncologist Dr. Amanda Harrington and Markey Cancer Center genetics counselor Terra Armstrong. Social workers, child life specialists, nurse navigators, dietitians, financial counselors and school intervention specialists are critical to the comprehensive care of patients and families and are embedded in this clinic.

Early detection, better outcomes

About 8 to 10 percent of children and young adults diagnosed with cancer have an inherited cancer gene. Because 75 to 80 percent of children with cancer survive their first cancer, patients with hereditary cancer syndromes may be at risk for future cancers. Knowing about that risk is critical to their long-term health outcomes and can guide future treatment and management options.

A patient at high risk for colorectal cancer, for example, may begin screening in the teenage years, and they may be prone to other types of cancer in childhood. If a patient has a genetic mutation that predisposes them to melanoma, then they would undergo frequent screenings, and photos of changing moles would be regularly reviewed. These steps help detect cancer in its earliest, most treatable stages.

Ongoing testing isn’t the only option for children who are predisposed to cancer; sometimes, pre-emptive surgery may be recommended to remove tissues at very high risk of cancer. The goal of the program is to identify affected patients as early as possible to offer them comprehensive cancer preventive and surveillance care.

“To be able to give these patients and families a medical home for this kind of surveillance is potentially life-changing,” Harrington said.

Comprehensive care at each stage of life

The clinic currently sees around six to 10 patients a month, but D’Orazio said that he expects that number to grow as more patients and family members are identified with cancer predisposition syndromes.

“The way that I envision it is that these children and families will continue to come in over time, and we’ll continue to talk with them about what this means through each stage of life,” Armstrong said. “I’m going to be able to help transition some of these kids into the adult screening programs and high-risk clinics we have.”

In August 2021, the program began to offer germline cancer risk assessment to patients currently undergoing cancer therapy in the DanceBlue Pediatric Oncology Clinic. Now, it is being offered to all pediatric, adolescent and young adult patients who have been through UK HealthCare’s doors for cancer treatment. Another important aspect of the program is to identify research opportunities to learn how certain genetic mutations cause cancer. The team isn’t just looking for cancer genes – they’re also looking at genes for other medical issues, like heart failure. If one of these issues is detected, providers can then refer the patient to the appropriate specialist, in addition to tailoring their treatments with the genetic mutation in mind.

“We’re very well positioned to really comprehensively take care of those kids, because there’s nowhere else that they get this kind of care around here,” D’Orazio said. “A program our size — nobody else is doing this.” ■





STRENGTH IN NUMBERS

The Oncology Research Information Exchange Network – made up of 18 major cancer centers across the U.S. – is changing how we think about cancer.

What if we could figure out why some patients respond to cancer treatments and others don't? It's a question that's especially important in Kentucky, which has the highest rate of cancer in the country. The UK Markey Cancer Center has joined forces with other hospitals across the nation to unravel this mystery and help advance the fight against cancer.

The Oncology Research Information Exchange Network (ORIEN) is a powerful alliance of 18 major cancer centers that was founded by Moffitt Cancer Center and The Ohio State University Comprehensive Cancer Center with the goal to better understand, detect and treat cancer.

The cancers centers in the network collect data and tissue samples from patients around the country and follow them

Dr. Jill Kolesar brought the ORIEN trial to Markey Cancer Center in 2017 and also established the first pediatric program for the trial in the county.

throughout their lives. ORIEN members are able to easily collaborate and share valuable findings with each other. This joint effort will give researchers a better picture of genetics, tumor types, treatments and other health factors.

“Teamwork is essential to advancing the field of cancer research and treatment,” said Jill Kolesar, PharmD, administrative director of the Precision Medicine Clinic at Markey. “Through our continued successful partnerships and collaborations, we are making incredible progress in understanding cancers affecting families and friends in our own backyard and leading to new initiatives to help Kentuckians with cancer.”

How ORIEN Works

The ORIEN trial uses the Total Cancer Care® (TCC) protocol. TCC is operated by M2Gen, which is a for-profit subsidiary of the Moffitt Cancer Center in Tampa, Florida. Providers swab a patient’s cheek to collect a genetic sample and may also collect blood or tissue taken during tumor removal. All the information gathered is confidential and the program is completely voluntary.

This research has already led to new treatments, improved care, and better quality of life for cancer patients near and far. Markey researchers have used ORIEN data to learn more about local cancer patterns. This knowledge has helped Markey offer patients better matches for leading-edge clinical trials. It has also led to greater insight into the ways genes affect drugs, as well as research for medicines that work with a patient’s genes.



A focus on children

Up to 10 percent of pediatric cancer patients have a genetic mutation that puts them at a higher lifetime cancer risk, but it’s hard to know who’s affected without genetic testing. That’s where ORIEN comes in.

The ORIEN trial allows researchers to better understand child’s future cancer risk. This helps doctors match children with appropriate trials, and it also predicts screenings that children may need in the future.

Markey was the first program in the country to enroll pediatric patients in the ORIEN program. Children are eligible from birth if they are diagnosed with cancer or at high risk for cancer.

Pushing cancer research forward

More than 1,000 Markey patients enrolled in the ORIEN program within the first year. That number placed Markey in the top third of the consortium hospitals. The momentum is continuing, and more and more patients continue to participate each year. To date, more than 6,500 UK HealthCare patients have enrolled in the ORIEN trial.

A key part of Markey’s enrollment numbers is a 2019 collaboration with the Lexington Clinic. This relationship gives patients at the Markey Cancer Center at Lexington Clinic practices access to the ORIEN study. Nearly 900 of these patients have enrolled in the ORIEN trial over the past three years.

“We are making incredible progress in understanding the cancers affecting families and friends in our own backyard.”

Dr. Jill Kolesar

It’s easy for patients to participate in the trial, and many are happy to know they’re contributing to research that will impact the future of cancer care.

“When asked if they’d like to participate in this program, the response from our patients here has been remarkable,” said Dr. William Camp, hematologist/oncologist at the Markey Cancer Center at Lexington Clinic. “They have recognized the value of this alliance studying their personal cancer information not only for themselves, but also to other present and future individuals with cancer and their families.” ■



CHILDHOOD CANCER DISPARITY INSPIRES CRITICAL RESEARCH

After discovering that pediatric brain cancer incidence rates were higher among children in Appalachia, Dr. Eric Durbin launched a number of research projects to try to uncover the cause.

When Eric Durbin, DrPH, director of the Kentucky Cancer Registry, began mapping childhood cancer incidence rates, he noticed a troubling trend: Brain cancer rates appeared to be higher in the Appalachian region of Kentucky. That led Durbin, who is also the director of the Cancer Research Informatics Shared Resource Facility at UK Markey Cancer Center, to conduct a broader study that looked at all childhood brain cancers across the U.S. The goal of this study was to see if there were differences between Appalachian children and children outside Appalachia.

The most alarming disparity he and a team of Markey investigators found was that the rate of low-grade astrocytomas – the most common type of brain tumor – was 41 percent higher among Appalachian children than other children in the U.S. from 2004 to 2011. Nationally, brain tumors have become the leading cause of childhood death related to disease.

Additional research receives funding

Durbin and his team then received a grant from the Kentucky Pediatric Cancer Research Trust Fund. The first study they conducted looked at the role of environmental exposures. The team compared childhood cancer incidence rates in Kentucky with Superfund sites and other known toxic emission sites. So far, they have found no correlation to known industrial or environmental exposures.

Another aspect of this study is examining the incidence of brain tumors within Kentucky. The team was able to identify a number of regions within the state that had higher rates, including a cluster in the north-central area of the state, but not exclusive to the Appalachian region. That prompted the team to hypothesize what could be causing this, such as household pesticide use or other possible exposures.



Above: Dr. Eric Durbin is the director of the Kentucky Cancer Registry at the UK Markey Cancer Center.

Left: The team at Markey Cancer Center discovered a notable trend in brain tumor incidence in children within the Appalachian region of the U.S.

Below: Data from the Cancer Research Informatics Shared Resource Facility helped to demonstrate the disparity in childhood brain tumor data.

Durbin's team also wanted to take a look at the genomic makeup of these tumors to see if there were patterns or differences in Kentucky children compared with children in other parts of the country. The team utilized a unique resource available from the Kentucky Cancer Registry called the Virtual Tissue Repository. Leveraging the infrastructure developed by the cancer registry, they reached out to 14 pathology labs to have residual tumor specimens shipped to them. The team obtained 258 samples, with the Children's Hospital of Philadelphia agreeing to perform next generation sequencing.

"Preliminary results suggest there are indeed patterns of genomic mutations that are unique to our population."

Dr. Eric Durbin



"We're still analyzing these data, but preliminary results suggest there are indeed patterns of genomic mutations that are unique to our population," Durbin said.

The next study – a germline study – builds on Durbin's prior research and fills in the gaps from the previous studies. For this study, the team is reaching out to childhood brain cancer survivors and families in Kentucky, some of whom are adults now. Participants consent to provide a saliva sample and answer an extensive survey that addresses potential environmental and lifestyle factors. This study is currently underway, and the team is still recruiting participants. Over 80 percent of the families they have reached out to have agreed to participate.

"This represents a very high recruitment rate compared to historical research studies," Durbin said. "This demonstrates how important this research is to survivors and their families in Kentucky."

More collaboration in the future

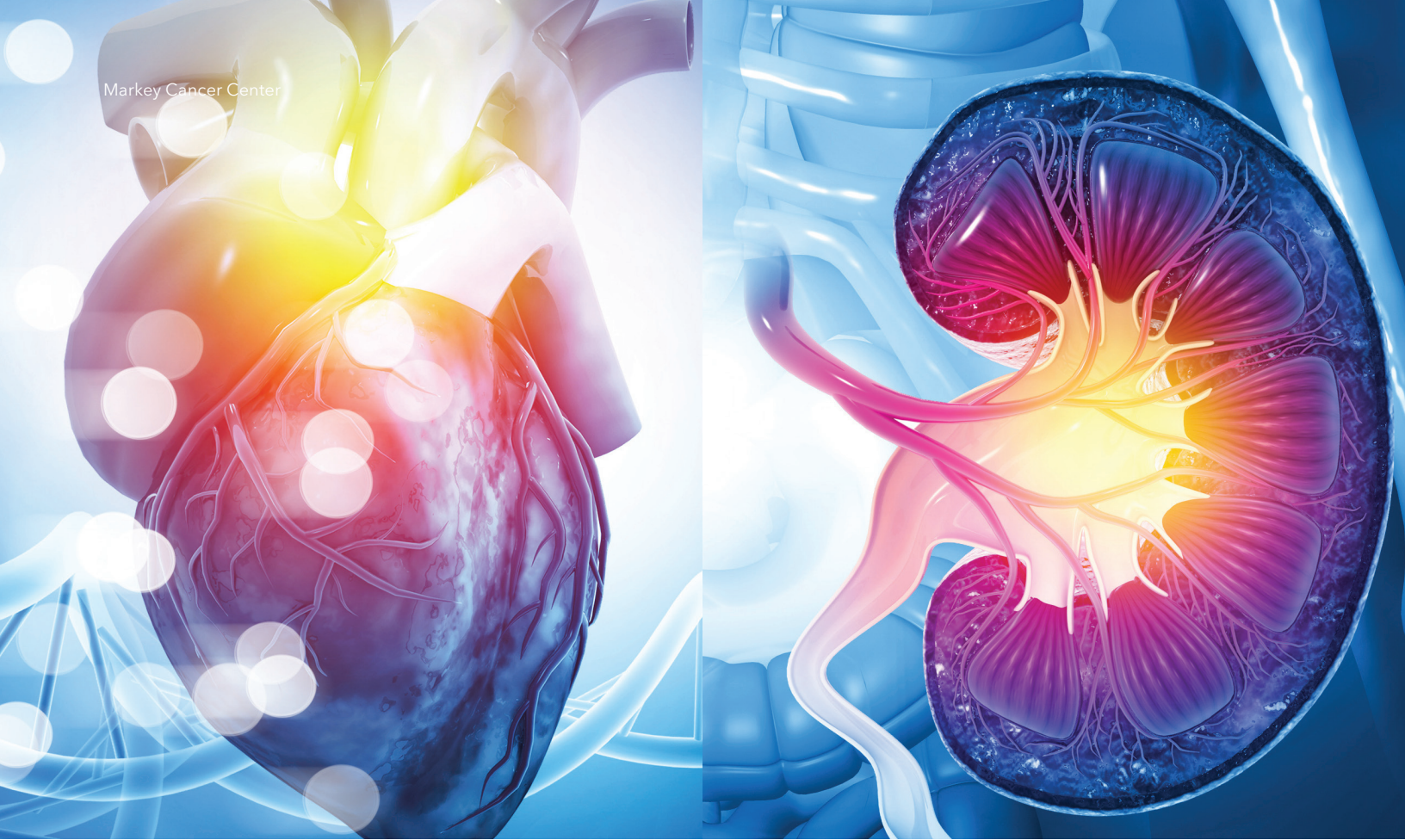
All of this research is reaping additional benefits for Markey, including funding from the National Cancer Institute to contribute data to the National Childhood Cancer Registry, but the work is far from over.

Collaboration will continue to be key to future research into pediatric brain tumors. That's because one of the limitations of this type of research is that the number of cases is so small.

"It occurred to us – wouldn't it be wonderful to pull together a consortium of childhood treatment facilities in the Appalachian region where we've already identified high rates of childhood cancer?" Durbin said.

That idea helped launch a third collaborative project that was funded in July, called the Appalachian and Inner-city Pediatric, Adolescent, and Young Adult Cancer Data Ecosystem (ACCELERATE) Consortium. Markey is already working with Norton Children's Hospital, the University of Louisville, West Virginia University, and the Children's Hospital of Philadelphia and plans to reach out to Vanderbilt, Cincinnati Children's Hospital and other facilities in Ohio.

Together, they will be able to study a larger set of clinical genomic data and – hopefully – make more groundbreaking discoveries in the field of pediatric, adolescent and young adult cancer. ■



COMPLEMENTING MARKEY'S WORLD-CLASS CARE

The new cardio-oncology and onco-nephrology services at UK HealthCare ensure that cancer patients receive the most comprehensive care possible.

Cancer treatments are designed to eradicate cancer, but sometimes these potentially life-saving therapies can have negative, unintended consequences on other parts of the body, like the heart and kidneys.

That's why the UK Markey Cancer Center is complementing its world-class care with two new services: cardio-oncology and onco-nephrology. When cancer patients develop heart or kidney issues alongside their treatments, UK HealthCare's experienced cardio-oncologists and onco-nephrologists collaborate closely with oncologists to provide the most comprehensive care.

Because of this teamwork, patients don't have to forgo leading-edge cancer treatments for fear that heart or kidney problems will develop or worsen. The providers of these two subspecialties work hand-in-hand with Markey's specialists to minimize these risks as much as possible.

Cardio-oncology

UK HealthCare's cardio-oncology service launched in 2020. Cardiologist Dr. Amit Arbune leads the program, with the support of a cardiology nurse practitioner, a nurse coordinator and a dedicated medical assistant.

"We need to make sure their hearts are able to tolerate the chemotherapy and protect them from potential cardiac side effects."

Dr. Amit Arbune

Cancer treatment-induced heart problems affect nearly 10 percent of cancer patients. These problems, including conditions known as cardiotoxicity, can be caused by chemotherapy, immunotherapy or radiation therapy. Symptoms of these health issues can develop immediately during treatment, or they can develop decades after cancer survivors complete treatment. When undiagnosed, these



Dr. Amit Arbune (left) leads the cardio-oncology program at Gill Heart Institute and Dr. Taha Ayach leads the onco-nephrology program, both critical post-treatment services available to patients at Markey Cancer Center.

issues can be a major cause of morbidity or death for cancer survivors. Therefore, it is essential to detect and treat these cancer-induced issues.

“The patients we see at Markey are already complex patients who may have comorbidities, so they need to have the best chemotherapy for their cancer,” Arbune said. “But at the same time, we need to make sure their hearts are able to tolerate the chemotherapy and protect them from potential cardiac side effects.”

All patients undergo rigorous screening for cardiovascular risk prior to cancer treatment. In addition to locating the cancer, providers must ensure the patient’s heart is healthy enough to endure the treatment.

A vital part of this program is the access to best-in-class imaging modalities, including cardiac MRI and cardiac CT scans as well as echocardiograms.

“We’re able to follow patients while they’re receiving chemotherapy to make sure they don’t develop side effects,” Arbune said. “If they do, we’re able to diagnose it early.”

The cardio-oncologist and oncologist jointly develop a thorough treatment plan for their patients with the goal of destroying the cancer while preserving heart function.

Throughout cancer treatment and beyond, patients visit the cardio-oncologist to help ensure early detection of any change in heart health. Other risk factors, including high blood pressure, may also be managed by the cardio-oncologist.

“We need to be patients’ best hope for cancer care as well as cardiac care,” Arbune said.

Onco-nephrology

UK HealthCare began offering onco-nephrology services in 2022. This is the only clinic in Kentucky that offers this much-needed, specialized care.

“The complexity of the field underscores the need for a well-defined, multidisciplinary approach led by a dedicated team to ensure the highest quality care,” said Dr. Taha Ayach, director of the onco-nephrology program.

Kidney disease is a frequent and increasing complication in cancer patients. It’s estimated that almost one-third of cancer patients have some degree of kidney dysfunction.

“The nephrology providers collaborate closely with the oncologists to help guide this coordinated care so that patients can continue to get the life-changing treatment they need.”

Dr. Taha Ayach

Cancer itself can directly injure the kidneys through tumor infiltration or production of nephrotoxic substances. Additionally, cancer treatment can harm kidneys as some new targeted therapeutic drugs and intensive chemotherapy regimens are nephrotoxic.

Patients with underlying chronic kidney disease have limited options for cancer therapies due to their decreased renal function. Chronic kidney disease may already be present in a substantial number of patients before a cancer diagnosis. This is likely because of comorbid conditions, such as diabetes and hypertension, that are highly prevalent in the population.

Having chronic kidney disease impacts the efficacy of chemotherapy and may increase the risk of side effects as well. The onco-nephrology team can therefore carefully tailor their care so that patients are able to reap the most benefits from their treatment and get on the road to recovery.

“The nephrology providers collaborate closely with the oncologists to help guide this coordinated care so that patients can continue to get the life-changing treatment they need,” Ayach said. ■

EASING THE CANCER JOURNEY



Markey's experienced Psych-Oncology team helps patients navigate the stresses accompanying a cancer diagnosis.

When Mary Miller received her cancer diagnosis in August 2020, she was in shock and scared. Other than anemia and shortness of breath, she felt healthy. Her diagnosis brought not only a physical toll, but a mental one as well. At the UK Markey Cancer Center, she received both treatment for the cancer and support for her emotional well-being.

Miller had Waldenstrom macroglobulinemia, a rare type of non-Hodgkin's lymphoma. She started a chemotherapy regimen under the guidance of oncologist Dr. Gregory Monohan in January 2021 and finished six months later.

But her medical struggles continued. She was hospitalized with diverticulitis shortly after finishing chemo. Then in September 2021, Miller contracted COVID-19, which put her back in the hospital. A few weeks later, she began experiencing symptoms of long COVID, and the recovery took a while.

Reaching out for help

It was a lot to handle, and Miller knew she needed help.

"You can imagine the stress at that point," she said. "Not only was my body going through it, but my mental health

Patient Mary Miller is appreciative of the support services available through the Psych-Oncology department at Markey Cancer Center.

was taking a hit, too. In addition to the physical symptoms of a COVID infection, the isolation you experience having to be more careful than most people because of my immunocompromised state — it can become overwhelming.”

“It is tough going through this, and while you can talk to friends and family, they don’t always get it. And there are other times that it just feels like your friends don’t want to really hear the nitty-gritty, the bad stuff. To have somebody you can call any time and lay that out makes a big difference.”

Mary Miller

Miller wanted counseling services from someone who understood her particular needs as a cancer patient. “I really wanted someone who works with cancer patients because when you talk with them about different situations, they understand,” she said. “Another counselor may know some aspects, but not to the depth and nuance that someone who works exclusively with cancer patients would know.”

A wide range of support

For Miller, the answer was right here at Markey. The Markey Psych-Oncology Program provides counseling and other vital services to help cancer patients deal with the many stresses that can come with a diagnosis. Family responsibilities, work, bills — none of that goes away when someone has cancer. Instead, it can all get harder, especially when you add on challenges with insurance, transportation and the costs of treatment. And all while not feeling well and worrying about your health and future.

The program helps people manage the physical, emotional, spiritual and practical hurdles of a cancer journey. The 12-member team includes counselors, social workers, dietitians and a financial counselor with specialized training and experience supporting cancer patients.

“Cancer affects everything,” said Joan Scales, supervisor of Markey’s Psych-Oncology program. “There can be grief, loss of employment, inability to take part in favorite activities and a change in relationships. We really try to help our patients through that process by offering counseling support.”

Someone to rely on

For Miller, it was a relief to share her feelings with someone who understood the challenges she faced. Scales was there for her on hard days and when she needed more practical help.

“It is tough going through this, and while you can talk to friends and family, they don’t always get it,” Miller said. “And there are other times that it just feels like your friends don’t want to really hear the nitty-gritty, the bad stuff. To have somebody you can call any time and lay that out makes a big difference.”

The team addresses a wide variety of issues cancer patients may deal with, including hair loss and other physical changes, pain, loss of libido, transportation challenges and much more. Dietitians also help patients with strategies to improve nutrition, combat weight loss, manage tube feedings and address other concerns.

More than half of Markey patients travel more than 25 miles for one treatment. Many come every day or every week. Transportation hurdles can impact a patient’s outcomes and prevent them from getting timely treatment. The program connects patients with the resources to help them manage financial strains.

The Psych-Oncology team offers counseling and support to empower and encourage caregivers who also endure the cancer experience side-by-side with their loved ones. “They’re living this almost as much as our patients are,” Scales said. “It’s scary and unsettling to see your loved one going through this.”

It may not always be an easy job, but Scales said the work the team does is rewarding. “This job means so much to every single person who puts in the hours to make a difference in our patients’ lives,” she said. “Our patients become our family and we take great pride in helping them through this challenging journey.” ■

MAKING AN IMPACT

Pamela Hull, PhD, associate director for population science and community impact at Markey Cancer Center, discusses her role and inspirations.

What is your role at the University of Kentucky?

I am an associate professor in the Department of Behavioral Science in the College of Medicine. Within Markey Cancer Center, I have two hats as associate director. One is to oversee our population research, which includes the cancer prevention and control research program. The other is to oversee the community outreach and engagement programs at the cancer center.

Why did you choose to come to Markey?

I first heard about Markey's extensive community-engaged research and outreach programs during a presentation by Dr. Robin Vanderpool, who was in this role before me. She talked about how Markey has co-lead the Kentucky Cancer Program with the University of Louisville since 1982 with community outreach staff located across the state and how Markey has managed the state's official cancer coalition, the Kentucky Cancer Consortium, since 2003.

When Dr. Vanderpool moved to the National Cancer Institute, Dr. Evers reached out to me and invited me to come visit. I was fascinated to learn that Markey coordinated research and outreach efforts with many partners across the state that doubled the colon cancer screening rate from 35 percent to 70 percent and led to decreases in colon cancer cases and death rates. I was also impressed with the Markey Cancer Center Affiliate Network, which is an innovative clinical outreach program that has improved the quality of cancer care in community-based hospitals across the state.

Markey showed the power of partnerships to actually move the needle on cancer. And Dr. Evers was committed to health equity and investing in further growth of community engagement. That's why I came here — to be part of those collaborative efforts and to make an impact. That's why we put "impact" in my title.

Dr. Pamela Hull leads the community outreach and engagement programs at the UK Markey Cancer Center.

What are some of the new community engagement initiatives since you joined Markey?

We expanded our staff with two new community health workers and a new Research Integration Team to manage program evaluation, needs assessment data, quality improvement interventions and sharing Markey research findings back to communities.

We've launched several new activities. One is a new Research Advocacy Program for cancer survivors and caregivers to collaborate as partners on research studies. We appointed community impact ambassadors as valuable liaisons with each research program. We created new funding opportunities for community-engaged research pilots and partnership planning projects, and we trained Community Advisory Board members to serve as community reviewers for Markey pilot grant applications.

What inspired you to go into cancer research?

Growing up, I experienced firsthand the harsh reality of not having enough money to cover basic needs, including going to the doctor. I saw how it impacted our family. That inspired my passion to work on health equity and to overcome the social barriers to health, wellness and longevity.

I first started working in cancer prevention research, specifically HPV vaccination and obesity prevention, because a community coalition chose these as priorities. Then I tragically lost my dad to lung cancer. Later my mom was diagnosed with bladder cancer, but fortunately she survived because it was caught early. My dad asked me to do everything I can to help prevent people from getting cancer and get them screened and into treatment as soon as possible so they can have a better chance of surviving. I don't want other people to lose a loved one like I did. Community-engaged research is one way that I can help.

What do you like most about working at UK and living in Lexington?

I've been really impressed with how collaborative, friendly and collegial everybody is. Everybody shares a passion for serving the greater good. Lexington is a beautiful place to live. I love being near the mountains and being surrounded by nature. And I discovered a new taste for bourbon. ■

THE NEXT PHASE OF UROLOGIC CANCER CARE

Urologic cancers are some of the most commonly diagnosed cancers in Kentucky. A new \$5 million gift aims to change that.

The UK Markey Cancer Center received a \$5 million gift in June 2022 to establish the Ambassador William Stamps Farish Program of Excellence in Urologic Cancer.

Given from the William Stamps Farish Fund through the Markey Cancer Foundation, the donation will be celebrated with named space inside the Urologic Cancer Clinic – part of the new Markey outpatient cancer treatment center and advanced ambulatory complex that is slated to open in 2026. “Philanthropy is crucial for us to reach our goals, and I’m incredibly grateful for this new gift from the Farish Fund,” said Dr. Mark Evers, director of the Markey Cancer Center. “This funding will specifically help us address an all-too-common problem in our state — our high rates of prostate, kidney and bladder cancer.”

Urologic cancers in Kentucky

Overall, Kentucky faces disproportionately high rates of cancer incidence and death compared with the rest of the U.S. Also known as genitourinary cancers, urologic cancers make up three of the top 10 most commonly diagnosed cancers in the state: prostate (No. 3), kidney (No. 6) and bladder (No. 7). Kentucky’s high rates of urologic cancers are correlated with socioeconomic factors, including obesity and tobacco use.

“We have all been touched, in some way, by the scourge of cancer,” UK President Eli Capilouto said. “Citizens across the Commonwealth and beyond turn to us — the University for Kentucky — for compassionate care and solutions to the most complex problems. I firmly believe that this new partnership holds such great promise for this state and those we serve.”

How the gift will be used

Previous gifts to the UK Department of Urology from the Farish Fund supported the recruitment of physicians and researchers. A portion of this multimillion-dollar gift has been set aside to foster the growth of young faculty

investigators and their research efforts. This can include connecting them with the necessary support, resources and funds they need to pursue their projects and clinical trials related to urologic cancers. Two professorships are part of the gift as well.

“I want to thank the Farish family for their continued, generous support to our program over the years,” said Dr. Stephen Strup, the James F. Glenn Professor and Chairman of Urology. “With this new funding, we’ll focus on recruiting more faculty and supporting new research into the prevention and treatment of these cancers.”

“With this new funding, we’ll focus on recruiting more faculty and supporting new research into the prevention and treatment of these cancers.”

Dr. Stephen Strup

One of the most important aspects of this new urologic cancer program is how it will ultimately unite oncologists, researchers and faculty members under one roof. This way, they can effectively collaborate and ultimately advance urologic cancer care for Kentuckians.





Above: Dr. Stephen Strup, chair of the Department of Urology and a cancer urologist, will help to establish a new Program of Excellence in Urological Cancer in the new ambulatory building for Markey Cancer Center.

Left: From left to right: Dr. Robert DiPaola, Dr. Charles “Chipper” Griffith, Dr. Mark Evers, Dr. Stephen Strup, Dr. Mark Newman, Dr. Pamela Hull and Michael Delzotti, FAHP, CFRE.

“When you house all that in the same place, that’s how things get moving in the right direction,” Strup said. “This gift is a way to start tying a lot of that together.”

Since becoming the state’s only National Cancer Institute-Designated Cancer Center in 2013, Markey has seen its patient volume double and has launched two major new initiatives in personalized cancer care: the Molecular Tumor Board, which uses genetic analyses to help Markey physicians and researchers determine the best possible treatment for each individual patient, and the Precision Medicine Clinic, home to the latest early-phase clinical

trials not widely available elsewhere. Currently, more than a dozen Phase I and Phase II clinical trials for urologic cancers are available at this clinic.

The Farish family’s generosity

The William Stamps Farish Fund has contributed greatly to the University of Kentucky for many years. With this gift, the fund has given \$9.3 million to support medical, equine and athletics initiatives at UK to date.

“The burden of cancer in Kentucky is immense, and we have watched and been inspired by the Markey Cancer Center’s capacity to provide advanced care to so many people in the Commonwealth,” said William S. Farish Jr., who is a trustee for the Markey Cancer Foundation. “We want to give Kentuckians their best chance at a long and healthy life, and this gift will provide more resources for patients, including more providers and improved access to the latest early-phase clinical trials, as close to home as possible.” ■



TAKING ON TOBACCO USE FROM 3 ANGLES

A trio of researchers at UK is addressing the high rates of tobacco use in Kentucky and beyond with innovative studies and tactics.

Tobacco use continues to take a massive toll on the lives of Kentuckians.

Currently, one in four adults in Kentucky smokes cigarettes, and e-cigarette use remains a concern among high school and college students in the Bluegrass State.

Three researchers at the University of Kentucky are tackling this ongoing trend from different angles: the motivations for quitting, the popularity of vaping among young adults and the health equity impacts of local policies.

Dr. Jessica Burris

Jessica Burris, PhD, a licensed psychologist and the director of the Markey CARES Tobacco Treatment Program, conducts research on the “teachable moment of a cancer diagnosis.” Burris focuses on cancer patients and cancer survivors – especially cervical, head and neck, and lung cancers, which are tobacco-related malignancies – and how a cancer diagnosis can spur them to modify their health behaviors.

Left: Dr. Jessica Burris (left), Dr. Melinda Ickes (center) and Dr. Shyanika Rose (right) represent a transdisciplinary approach to taking on the tobacco prevention and control research within the University of Kentucky and at Markey Cancer Center.

Right: Dr. Melinda Ickes and her team developed a comic book aimed at educating teens and kids about the risks and dangers of vaping.

“What we’ve tried to do is view cancer in a positive light, in terms of motivation to make better changes.”

Dr. Jessica Burris

For one such project that was funded by the National Cancer Institute, Burris and her team asked cancer patients every day for 30 days about the number of cigarettes they smoked, if they tried to quit and if they used any evidence-based treatment to help them quit. Patients were also asked about their thoughts toward their cancer, how they’re coping and their support systems. Based on this data, the team is looking at the differences between those who made a quit attempt and those who didn’t, with the ultimate goal of developing interventions that will increase the likelihood that everyone with cancer is ready and able to quit for good.

Dr. Melinda Ickes

When the UK Center for Clinical and Translational Science held a contest to turn an existing research study into a comic, Melinda Ickes, PhD, saw a perfect opportunity to bring her work about vaping among young people to life.

“Initially vaping became very popular among youth and young adults due to the sleek designs, flavors, friends’ use, curiosity and ease of access,” Ickes said. “Unfortunately, we now know that those who tried the products were very likely to become dependent due to the extremely high levels of nicotine.”

A professor in the Department of Kinesiology and Health Promotion in the UK College of Education, Ickes created a comic that follows Dep and Kat, two college students who are exposed to the influences of peer pressure, the e-cigarette industry’s marketing and normal college



stressors. Dep tries e-cigarettes at a party and eventually becomes dependent.

“We see his journey, all the ups and downs, including the health effects, the stress it puts on his academic and personal life, and his struggle with quitting,” Ickes said. “Integral to the story is the targeting by the e-cigarette industry through flavors, appealing designs and access.”

The pandemic delayed the rollout of the comic, but Ickes is excited to finally share print copies with students in Kentucky.

Dr. Shyanika Rose

Shyanika Rose, PhD, is the principal investigator of a five-year study examining how policies that restrict the sale of flavored tobacco products impact health disparities among populations from racial and ethnic minoritized backgrounds and those from lower-income communities.

“We believe that these types of policies can have a stronger impact in those communities because of their disproportionate use and the targeting of these groups by the tobacco industry to promote menthol and flavored products,” said Rose, who is a member of the Markey Cancer Center Cancer Prevention and Control Program.

The study, which began in 2021, received a \$2.8 million grant from the National Cancer Institute. Rose’s team is working with eight communities across the U.S. that have differing levels of policy coverage and is recruiting youth and young adults to participate in this research. Some of these policies may cover all tobacco products, flavors and retailers, while others may only cover e-cigarette flavors or may exclude menthol/mint flavors.

“We wanted to look at those levels of policies and the extent to which they would reduce young adults’ exposure to tobacco marketing in those communities and ultimately reduce their use of tobacco products,” Rose said.

As recruitment continues, Rose plans to share her findings with the original communities so that they can strengthen their policies, if need be, as well as other cities that may be considering these types of policies. ■

DRIVING NEW DISCOVERIES IN METABOLIC RESEARCH

An \$11.4 million federal COBRE grant supporting the UK Center for Cancer and Metabolism helps pave the way for the treatments – and the researchers – of tomorrow.

An \$11.4 million grant will help the University of Kentucky continue critical research into the metabolism of cancer.

UK received the Centers of Biomedical Research Excellence (COBRE) grant from the National Institutes of General Medical Sciences, part of the National Institutes of Health. The money will support work at the UK Center for Cancer and Metabolism (CCM) for the next five years. CCM is dedicated to defining the role metabolism plays in cancer.

Conquering cancer

Kentucky has high rates of cancer and metabolic disorders. It leads the nation in cancer incidence and deaths and has the second highest adult obesity rate in the country. The new grant will further establish CCM as a nationally recognized research center. CCM brings together UK's experts in cancer and metabolism and junior investigators.



Pediatric surgeon Dr. Eric Rellinger is researching new treatments for neuroblastomas in children.

CCM is a vital part of the UK Markey Cancer Center mission to reduce the cancer burden in the Commonwealth and beyond. An \$11.2 million phase 1 COBRE grant in 2017 established the CCM at UK. The new COBRE grant is a phase 2 award focused on further improving the CCM infrastructure and continuing to develop a group of investigators with shared interests. The CCM team includes basic and clinical scientists performing leading-edge research on metabolic dysregulation in cancer. The lab discoveries at CCM will pave the way for new treatments for patients.

Supporting junior investigators

COBRE grants promote collaborative work. They also encourage early-stage investigators to compete for additional NIH funding. The grant also gives junior investigators access to:

- State-of-the-art technology
- Mentorships
- Funding for hiring

“Many of these junior investigators need a platform and a lab to exercise their dream in cancer research,” said Dr. Peter Zhou, a professor in the Department of Molecular and Cellular Biochemistry. “The COBRE program provides this really unique platform that gives them the salary support and additional money to recruit students and postdocs, as well as basic science and clinical mentors to help foster their career development.” Zhou co-leads the CCM with program director Daret St. Clair, PhD, professor in the Department of Toxicology and Cancer Biology.

The research at CCM helps junior investigators develop into leaders. “Collaboration and a supportive environment is key to our success with this grant,” St. Clair said. “We are able to recruit top-tier researchers who want to make UK their home.”

Research projects underway

Four junior investigators are leading major projects at CCM. Teams of UK clinicians and scientists serve as mentors for the junior researchers. The research covers:

Development of a new microscope

Caigang Zhu, PhD, Department of Biomedical Engineering, UK College of Engineering

- Development of a special metabolic microscope
- Research into why some head and neck cancers are resistant to radiation

Pediatric neuroblastoma

Eric Rellinger, MD, Division of Pediatric Surgery, UK College of Medicine

- Research on the metabolism of neuroblastoma in children
- Investigation of potential new treatments that are less aggressive

Preventing the spread of breast cancer

Xia Liu, PhD, Department of Toxicology and Cancer Biology, UK College of Medicine

- Research into breast cancer metastasis and metabolism
- Ways to prevent the cancer from spreading

Prostate cancer treatment

Will Fong, PhD, Department of Toxicology and Cancer Biology, UK College of Medicine

- Understanding why people with prostate cancer often become resistant to standard therapies

A lasting impact

Having funds for hiring is vital, Liu said, as is the support of clinical and research faculty. “Mentorship is really important for our junior faculty,” she said. “It helps us to guide our project progress... and also helps us to write grants.”

The grant provided Fong with the high-end imaging and instruments he needs to do his research. “COBRE funding provides the hardware and the software to drive the success of my project,” he said.

“It’s been enormously impactful in enhancing the folks that I get to work with, the tools I get to use and the impact that this research is going to achieve over the next several years.”

Dr. Eric Rellinger

The COBRE grant will make a difference for cancer treatment. “It’s been enormously impactful in enhancing the folks that I get to work with, the tools I get to use,” Rellinger said, “and the impact that this research is going to achieve over the next several years.” ■



THE RIGHT CARE AT THE RIGHT PLACE

Through strong partnerships with community hospitals, Markey's radiation oncologists are able to extend the reach of their care into rural areas of Kentucky.

Even though 19 percent of Americans live in rural parts of the country, only 7 percent of oncologists practice in these areas, according to an article published in *The Lancet – Lancet Regional Health, The Americas* in September by radiation oncologist, Dr. Aradhana Kaushal.

"By seeing patients where they live, we remove the barriers to care that my deter patients from seeking treatments they need," Kaushal said.

And with cancer incidence increasing nationwide, it's more important than ever to try to close the rural cancer care gap.

The radiation oncologists at the UK Markey Cancer Center, led by Dr. Mahesh Kudrimoti, are seeking to do just that.

How? Through forging collaborative partnerships with community hospitals and training the next generation of radiation oncologists, some of whom stay in Kentucky to practice.

Morehead practice

For a few decades now, Markey has had a steadfast presence in Morehead, about 70 miles east of Lexington in the Appalachian foothills of Northeastern Kentucky.

Markey radiation oncologists are present at the Morehead Cancer Treatment Center five days a week, treating 15 to 20 patients a day. They offer up-to-date treatments for common cancers – like lung, breast and prostate – to patients, most of whom are from rural areas in Eastern Kentucky. More

Left: Dr. Mahesh Kudrimoti, interim chair of the UK Department of Radiation Medicine, leads a talented team caring for people from all across the Commonwealth.

Right: The Markey Cancer Center at Lexington Clinic - Richmond practice serves patients and their families close to home in the Madison County area.

complex cases can be referred to the Markey Cancer Center in Lexington.

“We provide care to patients who need it most.”

Dr. Mahesh Kudrimoti

The clinic is across the street from St. Claire Regional Medical Center, so patients can easily go from their medical oncology appointments to their radiation oncology appointments.

Morehead also has its own tumor board, which Markey physicians attend to share information about evolving treatments and available clinical trials. These cases can also be discussed at Markey’s own tumor board, giving patients the best chance at survival.

Physicists at Markey deliver calculations and radiation planning from Lexington. Along with engineers, they also provide support for the radiation oncology machines.

Markey will continue its promise of caring for patients in all corners of the state for years to come, as the clinic renewed its lease in Morehead last year for another five-year term.

“This is a long-term commitment from the department’s perspective,” Kudrimoti said.



Collaboration with Lexington Clinic

The Markey Cancer Center at Lexington Clinic is another way that Markey has been able to expand its outpatient care in Central Kentucky.

Among other services, the Richmond location – about 30 miles southeast of Lexington – offers radiation therapy, including intensity-modulated radiation therapy, image-guided radiation therapy, stereotactic body radiation therapy and three-dimensional radiation treatment planning as well as medical oncology.

Next generation of radiation oncologists

In addition to being the interim chief of radiation oncology, Kudrimoti also serves as program director of UK’s Radiation Oncology Residency Program. He has seen graduates from this program stick around in the Bluegrass State and continue to treat patients locally.

“We do have a fair number of alumni from our program who are serving the needs of Kentuckians,” Kudrimoti said.

And they’re not just staying in Lexington – Kudrimoti noted graduates who have gone to smaller towns and more rural areas of the state, including Cambellsville, Elizabethtown and Georgetown. By remaining in Kentucky, these well-educated radiation oncologists are able to bring their expertise and knowledge of the latest practices to cancer patients who need it the most. ■

Read more in The Lancet

The September issue of *The Lancet - Lancet Regional Health, The Americas* features a journal article by University of Kentucky physicians addressing their work in Morehead, Ky., to close the rural cancer care gap. The article, “No Oncology Patient Left Behind: Challenges and Solutions in Rural Radiation Medicine,” was written by physicians in the Department of Radiation Medicine in the UK College of Medicine: Dr. Mark C. Kenamond, a PGY-3 resident physician, Dr. Waleed F. Mourad, Dr. Marcus E. Randall (retired) and Dr. Aradhana Kaushal.



A CELEBRATION OF SURVIVORSHIP

The sun shone one day last June as cancer survivors and their loved ones came together in Lexington. This time, they traded treatment rooms for a football stadium.

The 2022 Expressions of Courage Celebration was a day for camaraderie, education and motivation. Survivors and caregivers gathered at the Longship Club at Kroger Field on the University of Kentucky campus. It was the first time the Markey Cancer Center hosted the event since a two-year break during the COVID-19 pandemic.

Expressions of Courage is a National Cancer Survivors Day event. It is a chance for survivors and caregivers to celebrate the journey through cancer survivorship. Day-to-day cancer treatment is hard. And while it's a relief when treatment is finished, the journey isn't over. "As you continue through treatment, there are aspects that survivors need to manage," said Joan Scales, director of psych-oncology services at Markey and a co-organizer of the event along with Emmy Hammons and Deborah Carey. "They need to stay on top of their health and do the right things to take care of themselves and lessen their chance of recurrence."

Left: Each year, Markey Cancer Center hosts the Expressions of Courage survivorship event for patients and their families.

Right: Markey patient Paul Johnson attended the Expressions of Courage event this year at Kroger Field.



A survivor's story

Paul Johnson was one of many survivors who attended the event. After years of acid reflux, he learned he had a cancerous tumor in his esophagus in Spring 2021. He was diagnosed with stage 2 adenocarcinoma of the gastroesophageal (GE) junction.

"When they told me I had cancer, all I could think is that I was going to die," Johnson said. But that wasn't the case. After chemoradiation treatment, Johnson had surgery to remove his tumor at Markey. Then he had another hurdle to cross. He had to relearn how to eat after being on a feeding tube for six weeks. "Surgery is a whole different journey in and of itself, but I could not have asked for a better team," he said.

The experience was transformative. "Especially after my tumor removal surgery, I actually had more time to reflect on and appreciate the family that I have left and my 27-year relationship with my husband," Johnson said. "It taught me to have patience — that this is a marathon, not a sprint."

A chance to celebrate

Expressions of Courage began as an opportunity for survivors to share artwork on campus, including sculpture, quilts, paintings and music. This year's event included an art gallery of submissions from attendees and their loved ones. Other highlights included a luncheon, musical performances, a photo booth and a healthy living panel.

The keynote speaker was Coach A.W. Hamilton, a Georgetown native and the head men's basketball coach at Eastern Kentucky University. Hamilton is a survivor of stage 2 melanoma. "He empowered everybody to feel like they have what it takes to move forward in this journey as a survivor," Scales said. "His passion was really uplifting for our survivors to hear."

"It was nice to see patients socialize and celebrate this big milestone with other cancer survivors outside of the health care context. Watching them having a good time and taking pictures on the patio overlooking the stadium — it was a beautiful day."

Emmy Hammons

Markey team members and leaders greeted, guided and celebrated with survivors and caregivers.

A beautiful day

Expressions of Courage gave Johnson and other survivors the opportunity to experience UK in a new light.

"Our patients come from all over Kentucky, but they don't get to enjoy the University of Kentucky outside of the buildings where they receive treatment," said Emmy Hammons, quality assurance program manager at Markey. "It was nice to see patients socialize and celebrate this big milestone with other cancer survivors outside of the healthcare context. Watching them having a good time and taking pictures on the patio overlooking the stadium — it was a beautiful day."

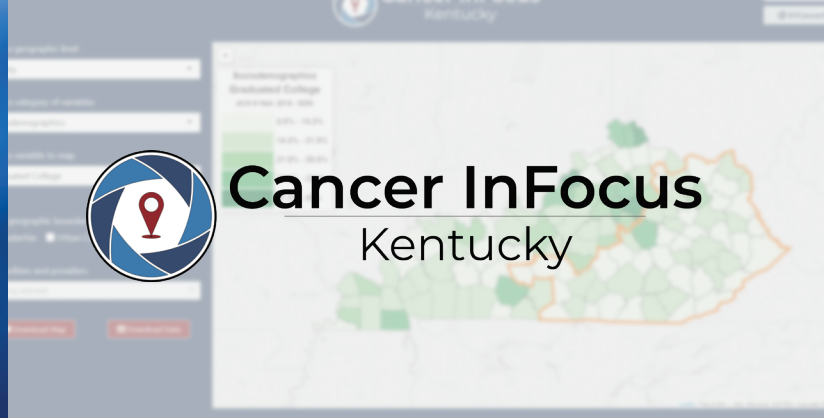
A year and a half after his cancer journey began, Johnson looks forward to the future. "I don't think it dawned on me until very recently that I am actually cancer-free," he said. He celebrated that milestone at the Expressions of Courage event and now hopes to expand his support network to include a group of other cancer survivors. "We already have at least one thing in common," he said. "Forging new friendships with others who can relate to you on a deeper level is powerful." ■

MARKEY IN BRIEF

*Additional highlights that helped
make 2022 another successful
year for Markey Cancer Center.*



PARKER MARKEY CANCER CENTER
ANSLOW COMBS CANCER RESEARCH BUILDING



LOOKING AT CANCER CARE THROUGH A NEW LENS

Molecular tumor boards are a crucial part of patient care at the UK Markey Cancer Center, bringing together specialists from across the hospital to make decisions on the best treatment plan for each patient. A recent project streamlined the way those boards function and connects doctors statewide through one integrated network. It has also improved the development of patient treatment plans.

Markey's tumor board optimization project started in 2019. The goals were to improve efficiency and communication and integrate hospitals in the Markey Cancer Center Affiliate Network. The first phase included conference room technology upgrades. The second focused on making meeting preparation easier by finding a software system for tumor board management. Coordinators previously put together slides, lab reports and images manually. After exploring all the options, only OncoLens met every need.

OncoLens streamlines patient intake from diagnosis to treatment. The software increases efficiency and strengthens teamwork. Markey's 14 tumor boards have reviewed 44 percent more patient cases than before OncoLens was implemented. The software also pulls in relevant clinical trials within specific geographic areas. Markey providers can communicate and share information faster. Affiliate site providers can also find relevant trials for their patients.

The investments made by Markey have made a difference. Dr. Timothy W. Mullett, medical director of network operations for Markey, spearheaded the project along with Emmy Hammons, quality assurance and performance improvement manager. Mullett is also an advisor to OncoLens. "Tumor boards are vital for patient care at Markey and our affiliate network," Hammons said. "OncoLens helped Markey enhance the management of our tumor boards. It's also improved the value tumor boards add to patient care."

Markey implemented OncoLens before UK HealthCare launched the Epic electronic health record. In 2022, Markey became the first hospital in the country to integrate OncoLens with Epic. With that integration, Markey led the way for other hospitals around the country. "OncoLens developed their Epic integration system based on our needs," Hammons said. "By working with an NCI-designated center like Markey, OncoLens can now offer the best product to their other clients." ■

BRINGING MARKEY'S IMPACT INFOCUS

With a final destination in mind, we will often use a map to get us there, but many have never considered a map as a tool used to impact the cancer burden in our state.

Cancer InFocus: Kentucky is a new online data mapping application created by the UK Markey Cancer Center's community outreach and engagement team. It helps tell an interactive story of cancer in Kentucky through customizable maps at different geographic levels. This information can be used to inform strategic planning and community priorities across the Commonwealth. Cancer InFocus complements the 2021 Kentucky Cancer Needs Assessment – a detailed report on the story of cancer in Kentucky developed by a statewide steering committee of individuals convened by Markey.

Users create maps in Cancer InFocus by first choosing a geographic level to visualize and then selecting their variables of interest.

Available data includes:

- Cancer incidence and mortality
- Population demographics
- Social determinants of health
- Behavioral risk factors

For example, a map can show female breast cancer rates at the county level, along with mammography locations. Or educational attainment by Census tract. These maps can then be downloaded for use in presentations, reports and proposals. The data behind the maps is also available in a downloadable workbook.

"This is a valuable tool for stakeholders across Kentucky as we all work together to rewrite the story of cancer in our state," said Pamela Hull, PhD, associate director of population science and community impact in the UK Markey Cancer Center and an associate professor of behavioral science in the UK College of Medicine.

The Cancer InFocus application is made possible by the use of CIFTools – a set of computer programs that compiles data from multiple public sources in a matter of minutes versus the hours and days it would take to do so manually. This software is having an impact beyond Kentucky. To date, over 30 institutions have licensed CIFTools to aid in data collection, with two expressing interest in building versions of the Cancer InFocus website for their own area. ■



DOCUMENTING KENTUCKY'S CANCER NEEDS

The Kentucky Cancer Needs Assessment shows the state ranks first in the nation in new cancer cases and deaths. And every year, there are more than 27,000 new cancer cases and 10,100 deaths in the Commonwealth. Kentucky is also among the top five worst states for many cancers, including lung, colorectal, oral, brain and melanoma.

The assessment combines data with feedback provided by individuals and organizations from communities across the state. It shows how disparities contribute to higher cancer rates. These differences particularly impact rural, Appalachian, Black and Hispanic populations. It also talks about the impact of “persistent poverty” and low education in Appalachia. The report points out a lack of data about the Hispanic and LGBTQ communities.

This information provides a call to action for Kentucky. There are concrete steps many organizations can use for planning and programming. At Markey, the report has helped guide strategic planning and research. A few of the many suggestions in the report include:

- Bringing cancer screenings to local communities
- Removing barriers to health care access
- Setting smoke-free policies to support a healthy environment and reduce second-hand exposure
- Expanding support for cancer patients, including transportation, spiritual care and mental health care

A needs assessment will be produced every five years by a steering committee of collaborative organizations convened by UK Markey Cancer Center.

“The assessment provides actionable information that can be used by a wide range of stakeholders,” said Pamela Hull, PhD, associate director of Population Science and Community Impact in the UK Markey Cancer Center and an associate professor of Behavioral Science in the UK College of Medicine. “It is critical that we work together with partners across the Commonwealth to address the identified needs and respond to community-driven priorities and solutions.” ■

See the full report at markey.uky.edu.

SPARKING CONVERSATIONS ABOUT CANCER

A podcast about cancer may never get as many listeners as popular true crime podcasts. But many people in Kentucky are listening.

“Cancer Conversations on Talking FACS” is produced by the UK College of Agriculture, Food and Environment. It features experts from the UK Markey Cancer Center who join host Jennifer Hunter every month to talk about a range of cancer topics. Episodes feature information on mammograms, lung cancer, nutrition, spirituality and fertility preservation. Others explore mental health and anxiety.

Podcasts are a great way to reach a wide audience, Hunter said. A Nielsen survey shows 26 percent of podcasts listeners have an interest in health podcasts. Plus, 65 percent of people over age 12 have listened to a podcast.

Cancer isn’t always easy to talk about. The podcasts deliver sometimes difficult information in an easy-to-digest, friendly format. “It allows people to normalize the conversation around cancer,” Hunter said. “It gives people encouragement. They can be comfortable sharing concerns with their doctor.”

It’s also convenient for people who don’t have time to visit an extension office for an in-person program. Episodes are about 8 to 10 minutes. Listeners can go in-depth by following links in each episode’s show notes. The 120 county extension offices share the podcasts via social media. So far, over 40,000 people have listened to “Cancer Conversations.”

“The reach is significant,” said Hunter, the UK assistant director for family and consumer science extension. “We’re able to bring the expertise of Markey to the people of the Commonwealth. Through the podcast, we can deliver research-based information and give listeners next steps to learn more.”

“The opportunity to share information in a gentle way is impactful,” said Mindy McCulley, extension specialist for instructional support. “People can start that relationship with Markey before they ever need it.”

“Cancer Conversations” is a special edition of the Kentucky Cooperative Extension Service’s “Talking FACS (Family and Consumer Sciences)” podcast. ■



EVERS RECEIVES LIFETIME ACHIEVEMENT AWARD

The Society of University Surgeons (SUS) recently awarded Dr. Mark Evers its Lifetime Achievement Award. Evers is director of the Markey Cancer Center. The award recognizes surgeons like Evers who have made meaningful contributions to science and trained surgical leaders and scientists.

The Lifetime Achievement Award was presented to Evers in February 2022 at the 17th Annual Academic Surgical Congress (ASC). A gastroenterology and oncologic surgeon, Evers is a nationally recognized clinician-scientist. He was recruited to Markey as its director in 2009 and is also director of the Markey Affiliate Network.

Evers is responsible for all clinical, scientific and operational divisions at Markey. Over the years, he has trained countless surgeons and researchers at Markey. Evers' lab has received continuous NIH funding for more than 29 years. His research focuses on how GI cancers, especially colorectal cancer, develop and spread.

The Lifetime Achievement Award was established in 2004 to recognize the highest achievements in surgical science. Evers' peers nominated him based on his leadership, contributions to the field of academic surgery and service to SUS. Evers has served as SUS president, president-elect, secretary and publications committee chair. His leadership was also key in efforts to partner with the Association for Academic Surgery to establish the ASC meeting.

Founded in 1938, SUS is a membership organization for academic surgeons. The organization is dedicated to advancing the science of surgery. SUS members have pioneered some of the most important advances in modern surgery, including heart bypass, cancer immunotherapy and congenital heart repairs. ■

MAKING IT EASIER TO GET CANCER CARE IN LEXINGTON

Sometimes cancer patients need to leave home to receive care. Getting to the Markey Cancer Center can be a struggle for many of them. The drive back and forth for treatments can be costly and take time away from home and family. It's an added stress for those enduring tough treatments.

For many patients in Kentucky, travel and lodging is their biggest barrier to reduce that burden. An American Cancer Society grant provides funding to help patients stay in Lexington to get the care they need. The ACS awarded the grant to Markey because all people should have a fair and just opportunity to live a longer, healthier life free from cancer regardless of how much money they make, their skin color, sexual orientation, gender identity, disability status or where they live.

"Some patients don't have access to the financial resources they need to pay for lodging," says Michael Delzotti, president and chief executive officer of the UK Markey Cancer Foundation. "Access to care is a big problem in our country."

When patients can't pay for lodging, they may either not get proper treatment or have added financial burdens. The lodging grants help patients to focus on treatment and healing. They also make it easier for patients to get much-needed rest instead of traveling.

ACS awards lodging grants to local health systems, especially ones serving vulnerable communities. Most recently, ACS awarded \$3.3 million in grants to 90 health systems nationwide. Markey staff will work with local hotels and other facilities to provide free lodging for patients and their loved ones.

"This grant will make managing the many appointments that our patients navigate much easier and will help to ease the worry some have about paying for lodging," says Joan Scales, director of psych-oncology services at Markey. ■

MARKEY BY THE NUMBERS

RESEARCH

The UK Markey Cancer Center, Kentucky's only NCI-Designated Cancer Center, is driven by 288 research projects representing \$56.9 million in research funding. Our research portfolio is supplemented by \$2.7 million in education and training funding.

Markey's research efforts across UK include:



250

Faculty researchers



\$56.9M

Research funding



\$2.7M

Education and training
funding



288

Research projects



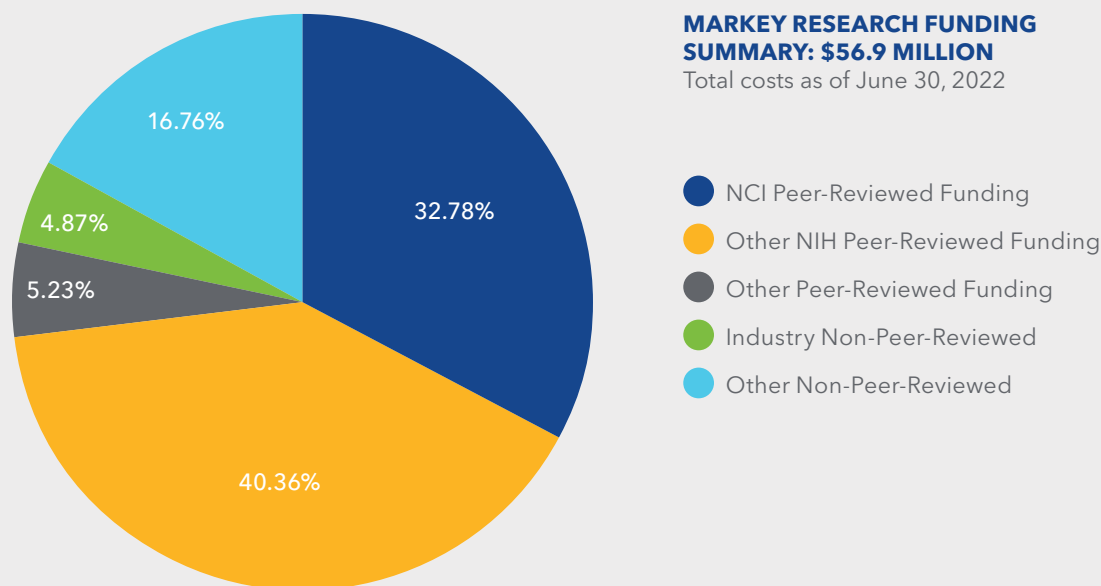
52

Departments



11

Colleges



UK MARKEY CANCER CENTER PUBLICATIONS JULY 2018 TO JUNE 2022

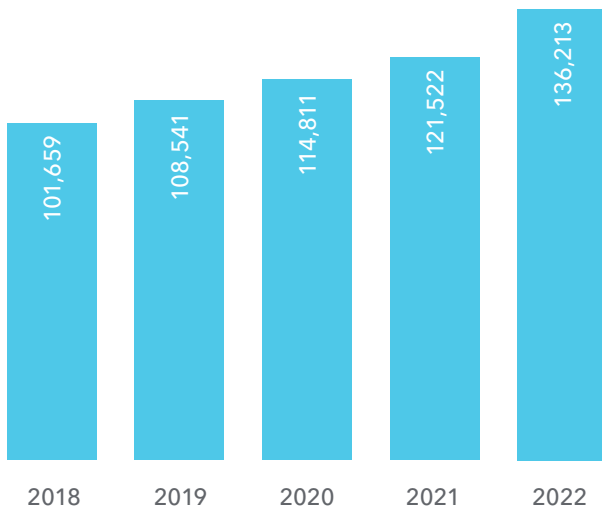
Faculty members in the Markey Cancer Center have produced over 1,093 publications in the last four years of NCI funding. Many of these publications represent collaborations between researchers in multiple Markey research programs and with research institutions outside of UK, from across the country and around the globe.

Research Program	Number of Publications	Publications Involving Collaborations Within a Program	Publications Involving Collaborations Across Programs	Publications Involving Collaborations with Other Research Institutions
Molecular and Cellular Oncology	320	25%	33%	61%
Translational Oncology	613	28%	24%	56%
Cancer Prevention and Control	314	22%	15%	69%
Total Unique Publications	1,093	27%	14%	62%

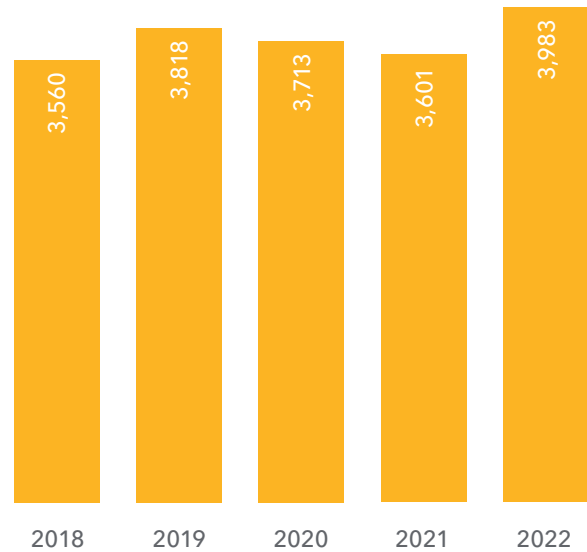
MARKEY BY THE NUMBERS

CLINICAL

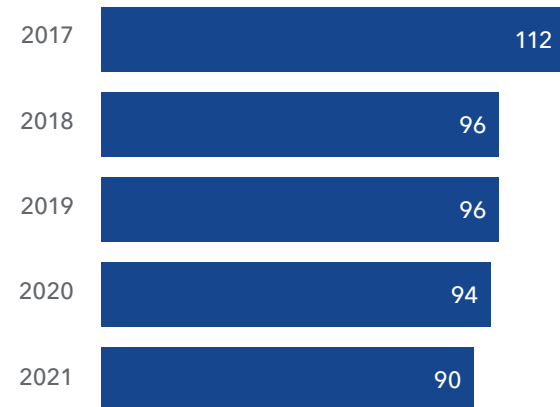
OUTPATIENT NEOPLASMS & HEMATOLOGY VISITS
BY FISCAL YEAR



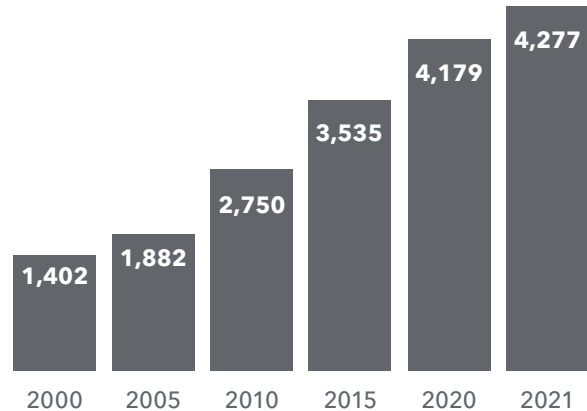
INPATIENT NEOPLASMS & HEMATOLOGY VISITS
BY FISCAL YEAR



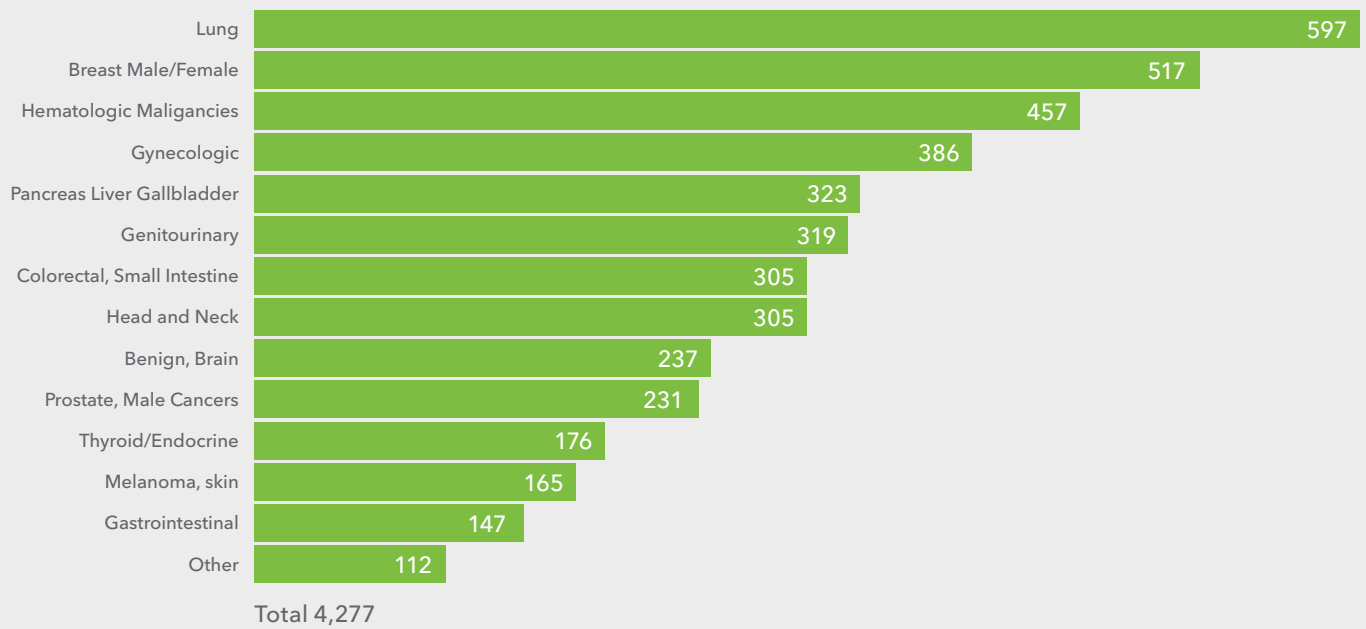
BONE & MARROW TRANSPLANTS
BY CALENDAR YEAR



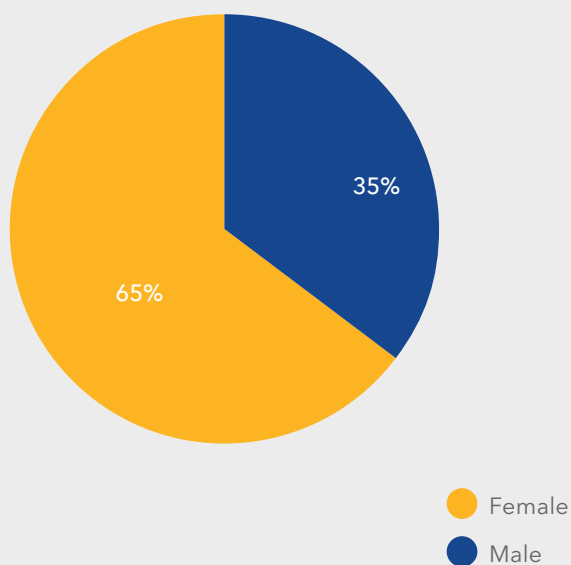
GROWTH IMPACT OF NEW CANCER CASES
BY CALENDAR YEAR



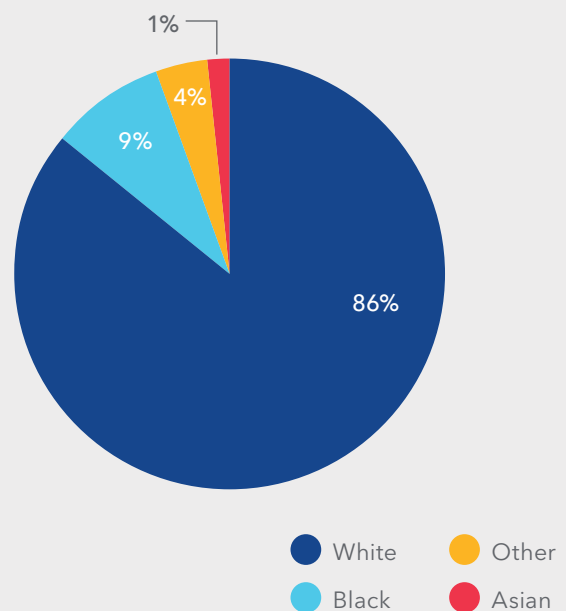
MARKEY CANCER CENTER CANCER CASES BY TUMOR SITE
CALENDAR YEAR 2021



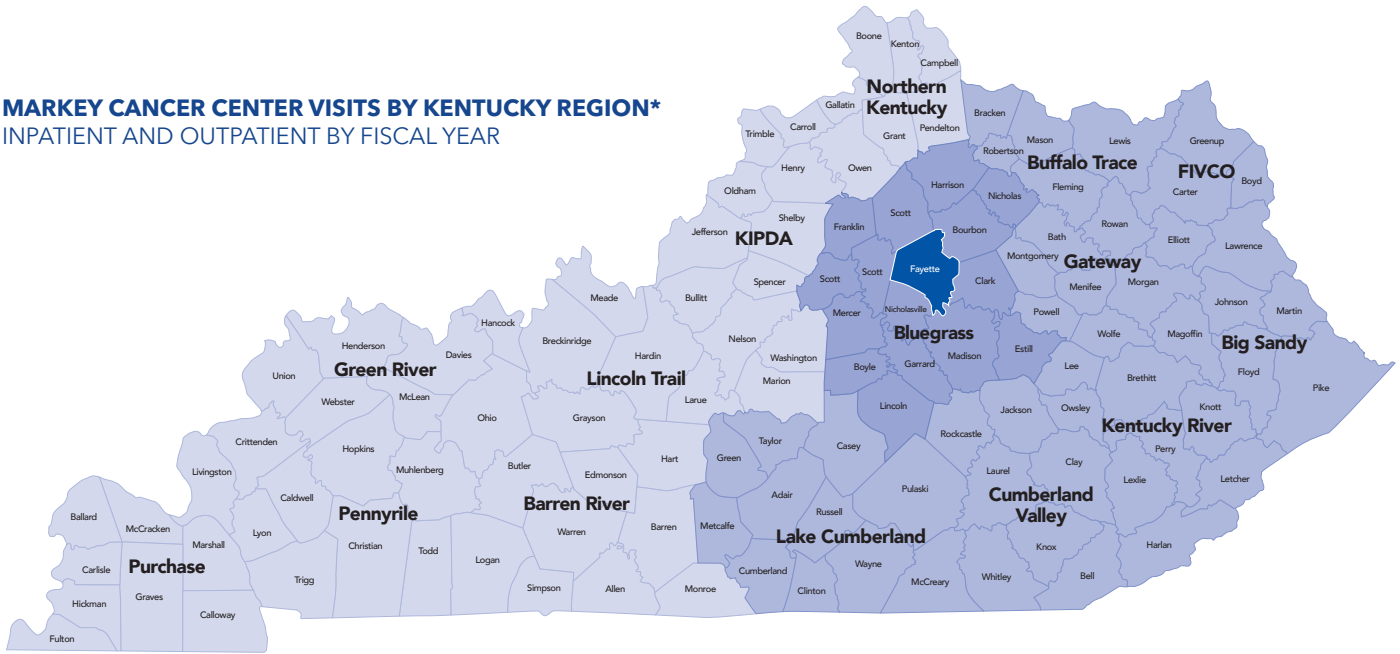
UNIQUE PATIENTS BY GENDER
FY 2022



UNIQUE PATIENTS BY RACE
FY 2022



MARKEY CANCER CENTER VISITS BY KENTUCKY REGION*
 INPATIENT AND OUTPATIENT BY FISCAL YEAR



Market UK Healthcare	Area Development District	2018	2019	2020	2021	2022
PRIMARY	Fayette	33,681	34,943	37,140	40,810	49,207
SECONDARY	Bluegrass	31,391	33,828	38,231	39,373	41,025
TERTIARY	Cumberland Valley	8,597	8,691	8,080	8,847	8,622
	Lake Cumberland	5,169	6,073	6,016	6,012	6,520
	Kentucky River	4,841	4,773	4,632	4,869	4,932
	Gateway	3,570	4,073	4,580	5,132	4,518
	Big Sandy	3,577	4,186	4,150	4,450	4,467
	Fivco	2,144	2,431	2,405	2,788	3,039
	Buffalo Trace	2,662	2,711	2,614	2,828	2,531
OTHER KY ADDs	KIPDA	1,751	1,811	1,533	1,316	2,472
	Lincoln Trail	1,661	1,825	1,707	1,875	2,151
	Lake Cumberland	1,137	1,309	1,337	1,373	1,278
	Northern Kentucky	985	1,113	1,458	1,359	1,865
	Barren River	438	353	418	421	671
	Green River	566	417	475	334	562
	Pennyrile	226	223	422	351	466
Purchase	179	276	307	422	427	
Unknown Out of ST	Unknown Out of St	2,644	3,323	3,019	2,563	5,443
Grand Total		105,219	112,359	118,524	125,123	140,196

*Data includes DX02 Adult Non-Hospice patients Out of State Patients: 2.50% 3.00% 2.50% 2.00% 3.90%

Kentucky Region = Kentucky Area Development Districts (ADD) KY Patient Encounters: 102,575 109,036 115,505 122,560 134,753

*By fiscal year. Data includes DX02 adult non-hospice patients | Kentucky Region = Kentucky Area Development Districts (ADD)

MARKEY BY THE NUMBERS

PHILANTHROPIC DATA



\$2M
for New Facilities



\$10.8M
for Giving in FY 2022



\$3.2M
for Research



\$3.1M
for Endowed Positions



\$100,000
for Markey Women Strong



\$180,000
for Patient Support



\$1M
for Neuroendocrine
Research



\$45,500
for Breast Cancer Research

\$101
MILLION
in total support since
inception

MARKEY CANCER FOUNDATION DONORS

FY 2022

The Markey Cancer Foundation is a 501c3 not-for-profit organization whose efforts exclusively support the programs of the Markey Cancer Center. We are grateful to the members of our community who have generously supported the Markey Cancer Center's mission through their gifts and pledges to the foundation.

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MARKEY WOMEN STRONG

FY 2022

Markey Women Strong is a generous group of donors who have a unique focus — to fund women-led cancer research at the UK Markey Cancer Center. The membership contribution of \$1,000 supports female researchers working to solve the mysteries of cancer through two grants of \$50,000 each.

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CALL TO POST SOCIETY

FY 2022

Members of the Call to Post Society generously contribute \$1,000 or more of unrestricted funds, between July and June each year, to support the fight against cancer. Based on the amount given in the previous fiscal year, donors are placed in different giving levels, with each tier offering its own set of benefits.

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MARKEY IMPACTS COMMUNITY HEALTH POLICY

Over the past five years, UK Markey Cancer Center informed eight state policies and laws that positively impact cancer prevention and patient care for the people of Kentucky. Markey plays a key role in the following collaboratives, which helped shape these successes: the Kentucky Cancer Consortium (managed by Markey Community Outreach and Engagement), BREATHE (Bridging Research Efforts and Advocacy Toward Healthy Environments), and Kentucky LEADS (Lung Cancer Education, Awareness, Detection and Survivorship).

Markey faculty policy influencers



Susanne Arnold, MD



Amanda Fallin-Bennett, PhD, RN



Ellen Hahn, PhD, RN



Pamela Hull, PhD



Melinda Ickes, PhD



Jennifer Redmond Knight, DrPH



Timothy Mullett, MD, MBA, FACS



Nancy Schoenberg, PhD



Thomas Tucker, PhD, MPH

MARKEY INFORMED 8 STATE POLICY CHANGES OVER THE PAST 5 YEARS

2018

Cigarette tax increased from \$0.60 to \$1.10 (House Bill 366)

2019

Insurance coverage required for cancer genetic testing and colon cancer screening starting at age 45 (Senate Bill 30)

2019

100% Tobacco-Free Schools policy (House Bill 11)

2020

Radon testing disclosure in real estate transactions (Administrative policy made by the Kentucky Real Estate Commission)

2021

Codified in Medicaid: genetic testing and closing of "screening" (vs diagnostic) colonoscopy loophole (House Bill 108)

2022

Medicaid to reimburse Community Health Workers (House Bill 525)

2022

Kentucky Lung Cancer Screening Program created (House Bill 219)

2022

21st Century CURE Act (House Bill 529)

AWARDS & ACCREDITATIONS



RANKED
AMONG THE
NATION'S BEST

- No. 1 cancer program in Kentucky, No. 33 nationally.
- Highest possible 30-day patient survival
- High patient volume
- Above average nurse staffing
- Endorsed by national organizations, such as NCI, FACT, CoC and Magnet

Learn more about our ranking at ukhealthcare.com/cancer.

To make a referral: **800-888-5533**.
Appointments available: **866-340-4488**.



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The UK Markey Cancer Foundation has resources available to those interested in exploring their planned-giving options. Planned gifts can be directed toward research, patient care, or any of Markey's other cancer-related programs and funds.

For more information or to discuss making a gift to the UK Markey Cancer Foundation, call **859-323-6448**.



UK MARKEY CANCER CENTER

Our Vision

Working together for a cancer-free tomorrow.

Our Mission

Reduce cancer burden with a focus on Kentucky and its most vulnerable populations through research, prevention, treatment, education, and community engagement.

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