

VIDEO CONFERENCING GETS THE JOB DONE 3



MEET THIS OUARTER'S MARKEY MOVER 4

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MARKEY

UKHealthCare.

Markey Cancer Center

quarterly



UPDATED AWARDS AND 5 RECOGNITIONS

SEASONAL NEWS FOR MARKEY CANCER CENTER FACULTY AND STAFF

PUTTING TECHNOLOGY TO WORK

ADVANCING CANCER CARE AT MARKEY - THERE'S AN APP FOR THAT

Technology means many things to many people. At Markey, technology means advancing patient care.

Whether announcing a convenient, secure way for patients to access their records; developing an online tool to help individuals navigate the lung cancer screening decision-making process; or creating a web-based program for healthcare providers to determine which brain tumor cases require testing for a genetic mutation, faculty and staff at Markey are putting technology to work in the fight against cancer.

The My UKHealthCare patient portal allows adult inpatients and outpatients to setup an account to manage appointments; view test results, radiology reports, visit and discharge summaries; access medications; find educational materials and more in one location. Patients can use an app for iOS and Android to connect with the portal using their smartphones. UK HealthCare is the only provider in the region able to supply a patient portal with information from across the continuum of care.

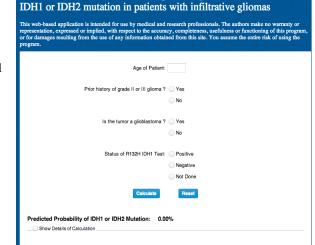
Many health care providers recommend cancer screenings as a precautionary measure, especially for high-risk patients. But in the case of lung cancer, the leading cause of cancer death in the US, the patient's decision to undergo a screening process is more complex.

According to University of Kentucky psychologist Jamie Studts, PhD, patients aren't always aware of the physical and psychological consequences of the lung cancer screening process, which can lead to false positive results, invasive biopsy procedures, harmful radiation exposure and anxiety caused by an ongoing process.

Dr. Studts, a researcher in the UK Department of Behavioral Science and the Cancer Prevention and Control Program of the Markey Cancer

MARKEY BY THE NUMBERS

Number of computers supported by Markey IT.....



An interactive web-based tool for predicting the likelihood of an

A web-based program developed by Markey Cancer Center researchers will provide a simple, free way for healthcare providers to determine which brain tumor cases require testing for a genetic mutation.

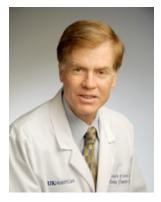
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FROM THE DIRECTOR

B. MARK EVERS, MD, DIRECTOR, MARKEY CANCER CENTER

You may have noticed that many of the features and updates in this issue of the Markey Quarterly deal with how technology is changing the way we treat patients, research new ideas in the fight against cancer, and improve the way we work. The people and ideas explored here are indicative of the innovative environment we've created at Markey, something we touted as part of our National Cancer Institute designation and something we continue to promote every chance we get.

The new opportunities for our patients to engage with us via technologies such as social media, apps, and online patient portals are truly an opportunity for us – we're only beginning to scratch the surface of what's possible. But at the same time, we are interested in taking that same creative look and turning it inward, focusing on how we can improve our own processes using some of



these same tools. For example, we know how crucial Markey's Shared Resource Facilities are to supporting our spectrum of research efforts. Their capacity contributes to everything from basic and preclinical studies to translational, bioinformatic, clinical, cancer prevention and control, epidemiologic and population-based studies. But now, we're exploring ways to help them become more efficient, manage their own internal processes, and better respond to researchers via an online management system that would streamline many of the reporting and tracking processes required of them.

Every day, members of the Markey community are looking to technology to help solve the challenges cancer presents. Even as I write this, I'm preparing for a visit to Nanjing, China, to share the innovative research happening at Markey and to explore new opportunities and research partnerships – and to certainly take advantage of the fact that technology knows no bounds and can be a powerful tool in building collaborations with colleagues on the other side of the world. It's just another way that our ability to adapt to new ideas, technology and opportunities will continue to set Markey apart – at the forefront of cancer research.

Putting Technology to Work, continued

Center, collaborated with Margaret Byrne, PhD, a health economist and medical decision-making researcher at the University of Miami, to propose a decision-making aid designed to accomplish three objectives: disperse knowledge, empower the patient and clarify individual's values. The aid will present accurate information about the screening process and calculate feedback tailored to the individual. The tool will also empower the individual to discuss the decision with their healthcare provider by providing a prompt list of potential questions. Finally, the values clarification component of the tool will explore the patient's personal preferences regarding the lung cancer screening process. The project is funded by a grant awarded from the National Cancer Institute.

To develop the provider education program, Dr. Studts collaborated with a team of UK experts, including Eric Bendsadoun, MD, FRPC, MPH, a pulmonologist and director of the lung cancer screening program; Susanne Arnold, MD, a medical oncologist who is part of the multidisciplinary lung cancer screening program; Michael Brooks, MD, a cardiothoracic radiologist; Mark Dignan, PhD, MPH, a cancer prevention and control researcher; Eric Durbin, DrPH, a cancer research informatics expert; and Brent Shelton, PhD, a cancer biostatistician.

A new web-based program developed by Markey researchers will provide a simple, free way for healthcare providers to determine which brain tumor cases require testing for a genetic mutation.

Gliomas – a type of tumor that begins in the brain or spine – are the most common and deadly form of brain cancer in adults, making up about 80 percent of malignant brain cancer cases. In some of these cases, patients have a mutation in a specific gene, known as an IDH1 mutation – and patients who have this tend to survive years longer than those who do not carry the mutation.

UK researchers Li Chen, PhD, Eric Durbin, DrPH, and Craig Horbinski, MD, PhD, in collaboration with software architect Isaac Hands, MPH, of the MCC Research Informatics Shared Research Facility, developed a program that uses a statistical model to accurately predict the likelihood that a patient carries the IDH1 mutation and requires screening.

The program will help conserve research dollars by helping brain cancer researchers narrow down which specific older gliomas in tumor banks – previously removed in a time before IDH1 testing was routine – should be tested as data for research projects.

Dr. Horbinski's research on the program was published in the May issue of Neuro-Oncology. The work was funded through a grant from the National Cancer Institute, the Peter and Carmen Lucia Buck Training Program in Translational Clinical Oncology, and the UK College of Medicine Physician Scientist Program.

These are just a few of the many ways the Markey Cancer Center is setting the standard for patient care in the region.

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A TELECOMMUTING SUCCESS STORY

Despite offices 500 miles apart, Katie Bathje and Dr. Jennifer Redmond Knight stay in touch and on task.

Jennifer Redmond Knight, DrPH, is an Assistant Professor of Health Management in the College of Public Health. In addition, she is a co-investigator with the Kentucky Cancer Consortium (KCC) where she works closely with the KCC Program Director, Katie Bathje, MA, LPCC. With Dr. Redmond Knight in Little Rock, Ar., and Bathje in Lexington, Ky, they rely on technology to work on special projects and strategic planning for the statewide partnership of diverse organizations united to reduce the burden of cancer in Kentucky.

In August 2013, Dr. Redmond Knight moved from Lexington to Little Rock. Since then, she has telecommuted with monthly visits to Lexington that vary in length from one to two weeks. During these trips to Lexington, Dr. Redmond Knight sets time for face-to-face meetings. "Meeting in person

gives me credibility for later, when I invite people to meet me on Google Hangouts."

Google Hangouts allows for conversations between multiple users, with up to 10 users in a video chat. Google Hangouts also offers an online chat option and photo sharing. For Dr. Redmond Knight, "I needed the ability to talk to multiple people."

Working with Google Hangouts is just one adjustment both women had to make. Bathje describes herself as old-school. "I still read books, no e-readers for me." Admitting she was resistant at first, Bathje had an antiquated concept of meaningful interchange. "I've done a 180, now that I'm used to it. This is just how I work."



Katie Bathje (I), located in Lexington, and Dr. Jennifer Redmond Knight (r), located in Little Rock, rely on video conferencing.

"Jennifer and I are spontaneous. I stay logged into my gmail account so we know when each other are available, then we just click on a link and see each other." When other colleagues are involved, a Doodle poll is sent out, much like walking to another office and asking about someone's availability to meet.

Another popular technology they use is Adobe Connect, a software for online presentations and web conferencing. "One feature I like with Adobe Connect is the desktop sharing," said Dr. Redmond Knight. "It allows anyone to join a webinar and see information on the screen." With 55 KCC member organizations across Kentucky, Dr. Redmond Knight can facilitate discussions online and direct whether participants view documents or her face on screen.

When a meeting was scheduled for a time Dr. Redmond Knight was in Little Rock, Bathje initiated a call, everyone tapped into their virtual offices to work in real-time and the meeting ended with tasks completed. "It can be an amazing time-saving tool," according to Dr. Redmond Knight, "Things are done online in real-time, so there's no follow-up or repetition of tasks."

Like any office setting, there are pros and cons to the collaboration in this working environment.

One benefit is reduced travel costs. Despite budget concerns and issues with the time and cost of travel, Dr. Redmond Knight is able to pull 10-20 partners together to update the Kentucky Cancer Action Plan. "Together, we are able to share screens, work on documents, talk through edits and format our strategies."

A reliable broadband connection is important. "I can think of one instance where a location didn't have the bandwidth to host everyone," said Bathje. Another obstacle is similar

> to traditional conference calls. "With more than four people on video chat, the screens can trip up between who is talking," said Dr. Redmond Knight.

Making the most of this type of arrangement may require setting up accounts and using plugins, webcams and microphones. Knowledgeable IT support helps make the arrangement possible.

One factor Dr. Redmond Knight hadn't considered was helping others overcome the uneasiness of seeing themselves on screen. "Familiar people probably work best this way, it can be intimidating at

first when you're adapting to so many news ways of interacting with colleagues."

"I've been very happy and pleasantly surprised with the

success of telecommuting," said Redmond Knight. "Technology allows me to stay connected to people every day."

The KCC, funded by the Centers for Disease Control and Prevention (CDC), is one of the 64 state, tribal and territorial programs participating in the National Comprehensive Cancer Control Program. "The CDC is very progressive," said Bathje. "There is a strong precedent for this kind of arrangement. I believe this is where the coalition world is headed. With budgets getting tighter and technology advancing, it just makes sense."

"It's important to have people who believe in you and are willing to say, 'Let's try this!" said Dr. Redmond Knight. Bathje agrees, "We're lucky the PI was open to this arrangement. Jennifer is vital, and you either adapt or lose an integral resource. This kind of work-life balance keeps good people at UK."

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MEET A MARKEY MOVER

TERRY HUEY, COMPUTER SUPPORT SEPCIALIST II

This quarter, Markey Quarterly introduces you to Terry Huey, Computer Support Specialist II for the Markey Cancer Center.

Good afternoon, Terry. Thank you for taking some time to talk with us. Tell us a little about your role here at Markey.

Most people probably know me for desktop support at Markey. I handle hardware support like set-up for computers, printers and multi-function printers. I also work on connections to Markey share drives, Exchange Shared Resources and UK HealthCare enterprise resources like SCM and APM. A researcher can use his or her credentials to access any program they are approved for, anywhere on campus. Software support is another area of mine, including Office suites, Adobe products, EndNote and specialized laboratory software like KaleidaGraph and Vector NTI. I also work with vendors to purchase equipment and licenses, install updates and resolve issues that may come up.

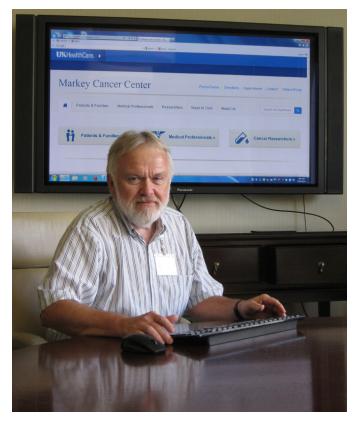
My role at Markey also involves setting up video conferencing. There was a time when I'd have 15 video conferences a week that required me delivering and setting up laptops and projectors for meetings. Now, with technology advancing, many conference rooms are set up for those meetings. The Markey Board Room has Apple TV.

Some of my work happens behind the scenes, like logging in to servers weekly during the off-hours as early as 5:30 a.m. for rebooting. I set these in maintenance mode so users can still logon while I'm also working. I'd say the majority of my time is spent setting up computers or resolving issues. If I can't answer your question, I'll get the answer for you. I try to explain what I'm doing, whether it's helping or fixing or updating, in a language people can understand because I'm here to help.

What advances in technology have you seen over the years at Markey?

I've been at UK for 32 years. I started working with mainframes, huge computers where everyone had a terminal and was plugged into a system. Back then, everything was all text, there were no graphics. Over time, PCs for individuals became numerous so support staff were hired. As PCs became more amd more popular, another level of support, desktop support, was added.

Advances in technology are all about more power in smaller devices. I'd say the USB port has proven to be one of the most important advances. There was time when hooking up a computer required you to plug in all the different components, and if you missed one, you'd have to reboot the entire computer and start over. Now, you just plug in what you need, whenever you need. Flash drives and external drives are great devices for working with memory and transferring data. Not too long ago, something like the iPhone was science fiction. Now, it's commonplace.



Terry Huey sits in the Markey Board Room, now equipped with Apple TV.

What do you like about working at Markey?

I like helping people resolve an issue. I've met a lot of great people working here. People are always happy when a computer delivery arrives early and I get the biggest smiles when I recover a file someone deleted from a server. I don't have a direct impact on treating and curing cancer, but I do help the researchers who are doing what work.

Outside of work, do you have favorite books or movies?

"Embattled Wilderness: The Natural and Human History of Robinson Forest and the Fight for Its Future", by UK professors Erik Reece and James J. Krupa, brings attention to the need to preserve Robinson Forest and all our natural resources. Robinson Forest is one of many sad stories about the destruction of our old growth forests.

I'm a Star Trek fan because I like how Gene Roddenberry envisioned the cultural growth and maturation of society in general. I can't name a single favorite character, but Spock and Counselor Troi would be at the top of my list. I own every series except the prequel, Star Trek: Enterprise. And I don't loan them out.

NOTEWORTHY

WELCOME

Nathalia Araujo, Toxicology GRA Linda Barber, MCC-CRO Stephanie Carmack, Cancer Prevention and Control Marco de Freitas Clementino, Toxicology GRA Piotr Dobrowolski, CESB Tracy Drennan, MCC-CRO Marisa Kamelgarn, Toxicology Sang Hee Lee, Toxciology Linzhang Li, Cancer Center Xian Li, Cancer Center Jinpeng Liu, Cancer Center Ellen Lycan, Cancer Prevention and Control Jacob Machin, Toxicology GRA Christanthi Masero, MCC-CRO Alsu Nazyrova, CESB Youn-Hee Park, Toxicology Kristy Piersawl, MCC-CRO Lisa Potts, Toxicology Shuiping Qiu, Cancer Center Cindy Roberts, Cancer Prevention and Control Kortney Schumann, Toxicology GRA Rustem Shavkhutdinov, CESB Xiaowei Wei, Toxicology Madalyn Willis, Toxicology

PRESENTATIONS & PUBLICATIONS

Markey authors were responsible for 145 manuscripts and publications in journals from Juuly through September 2014. Notable publications include the following.

Berger AH, Imielinski M, Duke F, Wala J, Kaplan N, Shi GX, Andres DA, Meyerson M. Oncogenic rit1 mutations in lung adenocarcinoma. Oncogene 2014;33:4418-4423.

Ely GE, Fields M, Dignan M. School-based vaccination programs and the hpv vaccine in 16 appalachian kentucky school districts: Results from a pilot study. Social Work in Public Health 2014;29:368-379.

Fiore LS, Ganguly SS, Sledziona J, Cibull ML, Wang C, Richards DL, Neltner JM, Beach C, McCorkle JR, Kaetzel DM, Plattner R. C-abl and arg induce cathepsin-mediated lysosomal degradation of the nm23-h1 metastasis suppressor in invasive cancer. Oncogene 2014;33:4508-4520.

Horton TM, Perentesis JP, Gamis AS, Alonzo TA, Gerbing RB, Ballard J, Adlard K, Howard DS, Smith FO, Jenkins G, Kelder A, Schuurhuis GJ, Moscow JA. A phase 2 study of bortezomib combined with either idarubicin/cytarabine or cytarabine/etoposide in children with relapsed, refractory or secondary acute myeloid leukemia: A report from the children's oncology group. Pediatric Blood & Cancer 2014;61:1754-1760. Jarrett SG, Horrell EMW, Christian PA, Vanover JC, Boulanger MC, Zou Y, D'Orazio JA. Pka-mediated phosphorylation of ATR promotes recruitment of XPA to UV-induced DNA damage. Molecular Cell 2014;54:999-1011.

Ponta A, Bae Y. Tumor-preferential sustained drug release enhances antitumor activity of block copolymer micelles. J Drug Target 2014;22:619-628.

Sviripa VM, Zhang W, Kril LM, Liu AX, Yuan YX, Zhan CG, Liu CM, Watt DS. Halogenated diarylacetylenes repress c-myc expression in cancer cells. Bioorg Med Chem Lett 2014;24:3638-3640.

Wang XC, Shaaban KA, Elshahawi SI, Ponomareva LV, Sunkara M, Copley GC, Hower JC, Morris AJ, Kharel MK, Thorson JS. Mullinamides A and B, new cyclopeptides produced by the ruth mullins coal mine fire isolate Streptomyces sp.RM-27-46. Journal of Antibiotics 2014;67:571-575.

Xiong GF, Xu R. Ror alpha binds to E2F1 to inhibit cell proliferation and regulate mammary gland branching morphogenesis. Mol Cell Biol 2014;34:3066-3075.

Zhao Y, Miriyala S, Miao L, Mitov M, Schnell D, Dhar SK, Cai J, Klein JB, Sultana R, Butterfield DA, Vore M. Batinic-Haberle I, Bondada S, St Clair DK. Redox proteomic identification of hne-bound mitochondrial proteins in cardiac tissues reveals a systemic effect on energy metabolism after doxorubicin treatment. Free Radic Biol Med 2014;72:55.

GRANTS

Jennifer Keller, PhD, RN, was awarded National Cancer Institute funding for "Promoting Colorectal Cancer Screening in Rural Emergency Departments."

Jamie Studts, PhD, was awarded Bristol Myers Squibb Foundation Incorporated funding for the "Kentucky Lung Cancer Survivorship Program."

Jessica Burris, PhD, was awarded National Cancer Institute funding for "The Dynamics of Smoking Cessation After Cancer Diagnosis: A Naturalisitic Study."

Mark Dignan, PhD, MPH, was awarded Appalachian Regional Commission funding for "Coordinated, Culturallysensitive, Standardized Patient Navigation Training for Patient Navigators in Appalachia."

Zhou Zhang, MPH, PhD, was awarded National Institute of Environmental Health Sciences funding for "Apoptosis resistance and Cr(VI) carcinogenesis."

NOTEWORTHY, continued

AWARDS, RECOGNITIONS & SELECTIONS

Craig Horbinski, MD, PhD,

Department of Pathology and Laboratory Medicine, is among newly elected members of the College of Medicine Faculty Council, effective September 1. The Faculty Council initiates educational and academic policy matters which transcend departmental responsibilities. Councilors are the voice and liaison with the Dean's Office and the Chair's Council.



Timothy Mullett, MD, has been named Medical Director for the Markey Cancer Center Affiliate Network (MCCAN) and Medical Director for the Markey Cancer Center Research Network (MCCRN). The MCCRN and MCCAN are separate and distinct programs of Markey but are complementary in areas of synergistic goals and relationships of service to Markey and its collaborating sites. Dr. Mullett will work with collaborators to fulfill the MCCAN's mission of providing not only exceptional cancer care, but also education, prevention and outreach programs to minimize the effects of cancer. As the Medical Director for the MCCRN, Dr. Mullett will work with a lead core to develop and offer a portfolio of high-priority trials, research, education and quality assurance.

Edward M. Wolin, MD, a

nationally known expert in treating neuroendocrine and carcinoid tumors, has joined the Markey Cancer Center team. Dr. Wolin will serve as the director of the Carcinoid and Neuroendocrine Tumor Program. His research efforts focus on finding treatments which are more effective and less toxic, including pasireotide, lanreotide, everolimus, other m-tor inhibitors, targeted



radiation including peptide receptor radiotherapy with Lu-177, anti-angiogenic drugs, novel targeted biologic anti-cancer treatments, and targeted treatment of liver metastases. Dr. Wolin's research is also directed at development of new imaging and diagnostic procedures for carcinoid/neuroendocrine tumors. Dr. Wolin earned his medical degree at Yale University School of Medicine. He performed his internship, residency and a medical oncology fellowship at Stanford University Medical Center followed by a clinical fellowship at the National Cancer Institute in Bethesda, Maryland. Prior to coming to Markey, he served as co-director of the Cedars-Sinai Carcinoid and Neuroendocrine Tumor Program at Cedars-Sinai Medical Center in Los Angeles.

MARKEY DIFFERENCE MAKERS

Congratulations to the following Markey Difference Makers for the third quarter of 2014.

Errol Allen Jean Barker Jennie Batsel Jennifer Campbell Kimberly Crockett Sheila Cummins Cathi Curren John Dixon Brandi Elliott Jonathan Feddock Laura Gibson Kelly Hawthorne Virginia Hodskins Donald Kelly Gina Kemp Sharon Martin Elisha Maxson Gay McGarey Patrick McGrath

Jessica Menifee **Stephenie Mullins** Mincha Parker Janki Patel Nikaleigh Pennie **Renee** Rainey **Catherine** Rainwater Edward Romond Francine Rudzik Kathy Russell Havder Saeed Natalie Stratton Donica Sweat Amber Taylor Amy Walsh Edna Ware Odessa West Heather Wright Cassandra Zumwalt

Ovarian Cancer Screening September is Ovarian Cancer Awareness month, a perfect opportunity to raise awareness about the UK Ovarian Screening Program. Started in 1987 and directed by Dr. John R. van Nagell Jr., the program is an ongoing



study that provides free transvaginal ultrasound to detect ovarian cancers. Women over age 50 and women over age 25 who have a family history of ovarian cancer are eligible. More than 256,000 free ultrasound screens have been done through the UK Ovarian Screening Program. Women from every county in Kentucky have participated in the program and more than 85 malignancies have been detected.

TELL US ABOUT IT

Do you have an idea for the Markey Quarterly? Email Markey's Research Communications Office at mccrco@uky.edu with your story idea.

Clinical Trial Boot Camp

The MCC Clinical Trials Boot Camp is an intensive. three-day mentoring experience for clinicians interested in developing clinical trials and an academic career in clinical research. It is a competitive application process provided freeof-charge to selected young investigators. The mentors provide ongoing feedback and assist in the project development. The small group atmosphere lends itself to a very productive, supportive experience. This process is designed to lead to the development of novel, well-designed clinical trials for our patients. Drs. Susanne Arnold, Suleiman Massarweh, Jeff Moscow, Edward Romond, Emily Van Meter and Heidi Weiss participated as mentors to Drs. Hayder Saeed, Peng Wang and Jennifer Whittington.



Drs. Romond, Wang, Van Meter, Whittington, Arnold, Saeed and Evers (I-r).

Turning Big Blue Pink

October is Breast Cancer Awareness month. Led by the Markey Cancer Center's Comprehensive Breast Care Center team, Kentucky families at Markey have significantly better five-year survival rates than those treated elsewhere for brain, breast, liver, lung, ovarian, pancreatic, and prostate cancer, as well as for stage IV colorectal cancer. On October 6, lights around campus were pink to honor survivors, those who are fighting and those we have lost.



MARKEY AFFILIATE NETWORK CONTINUES TO GROW

METHODIST HOSPITAL ORGANIZATION IN HENDERSON, KY IS LATEST TO JOIN MCCAN

The Methodist Hospital organization in Henderson, Ky., announced a new affiliation with the University of Kentucky Markey Cancer Center.

The UK Markey Cancer Center Affiliate Network (MCCAN) was created to provide high-quality cancer care closer to home for patients across the region, and to minimize the effects of cancer through prevention and education programs, exceptional clinical care, and access to research. The MCCAN supports UK HealthCare's overall mission of ensuring no Kentuckian will have to leave the state to get access to top-of-the-line healthcare.

Methodist Hospital in Henderson is a 192-bed acute care facility and is just one facet of the Methodist Hospital Healthcare system. Other facilities serving the area include Methodist Hospital Union County, a critical access hospital in nearby Morganfield, Ky., and 19 outpatient physician offices with 47 providers over a four-county service area.

The MCCAN began in 2006 and comprises 12 hospitals across the state of Kentucky:

- Frankfort Regional Medical Center, Frankfort
- Georgetown Community Hospital, Georgetown
- Hardin Memorial Hospital, Elizabethtown
- Harlan ARH Hospital, Harlan
- Harrison Memorial Hospital, Cynthiana
- Hazard ARH Regional Medical Center, Hazard
- Methodist Hospital, Henderson
- Norton Cancer Institute, Louisville
- (Norton Healthcare-UK HealthCare partnership)Our Lady of Bellefonte Hospital, Ashland
- Rockcastle Regional Hospital, Mt. Vernon
- St. Claire Regional Medical Center, Morehead
- Williamson ARH Hospital, South Williamson

Evaluations are under way for several other hospitals, including two more outside the state of Kentucky, extending Markey's reach and establishing it as the destination cancer center for the region.

NOW ONLINE: FIND A RESEARCHER

You can now access a directory of Markey researchers, complete with updated profiles and links to key publications. Email Markey's Research Communications Office at mccrco@uky.edu for instructions on how to be included in the directory.