The faces of cancer care

2023 CAMC CANCER SERVICES REPORT

Charleston Area Medical Center

Vandalia Health

2023 CAMC Cancer Services Report

NEW CANCER SERVICES DIRECTOR

Ghulam Abbas, MD

Cancer Services Director named for CAMC/Vandalia South Region

Ghulam Abbas, MD, MHCM, FACS, a thoracic surgeon, joined CAMC in March and has been named Cancer Services Director For CAMC/Vandalia South Region.

Abbas is an internationally recognized expert in robotic thoracic surgery, specializing in high-risk patients with locally advanced lung and esophageal cancers. He has held prestigious positions such as chief of thoracic and esophageal surgery at the WVU Heart and Vascular Institute, where he established a successful thoracic program, and chairman of the department of surgery at UPMC Passavant.

He is board-certified in surgery by the American Board of Surgery and in thoracic and cardiac surgery by the American Board of Thoracic Surgery.

Abbas performs robotic lung sparing surgery for lung cancer and robotic esophagectomy for esophageal cancer. His clinical interests include endoscopic and robotic esophageal surgery for achalasia (POEM), Zenker's diverticulum (Z-POEM), Barrett's esophagus, hiatal hernia and GERD. He is also an expert in robotic surgery for complex lung cancer resection, first rib resection for thoracic outlet syndrome, thymectomy for thymoma and myasthenia gravis, neurogenic tumors, and chest wall tumor resection and reconstruction.

In affiliation with several professional and scientific societies, Abbas is a member of the Society of Thoracic Surgeons, the Society of Robotic Surgery, the International Society of Minimally Invasive Cardiothoracic Surgery, the General Thoracic Surgical Club, and the American College of Healthcare Executives. He is also a Fellow of the American College of Surgeons (FACS).

Thoracic surgery is the field of medicine involved in the surgical treatment of organs inside the thorax. Cardiothoracic surgeons are medical doctors who specialize in surgical procedures inside the thorax, which may involve the heart, lungs, esophagus, and other organs in the chest. Alongside performing surgery, they also diagnose and treat diseases of these organs.

Throughout his work, Abbas has been an invited speaker at many international conferences on lung and esophageal cancer. He is the author of numerous peer-reviewed scientific articles and book chapters.

CAMC: Over 75 years of providing accredited cancer care

The CAMC Cancer Center is accredited by the QOPI Certification Program (QCP™), an affiliate of the American Society of Clinical Oncology (ASCO). The Quality Oncology Practice Initiative (QOPI) was designed by the American Society of Clinical Oncology (ASCO) in recognition of the importance of integrating continuous quality improvement into patient-centered clinical practice. This voluntary program allows facilities to monitor quality initiatives against benchmarks established through ASCO's member oncologists and quality experts using clinical guidelines and published standards.

Having first achieved QOPI certification in December 2012, the CAMC Cancer Center remains the first and only QOPI-accredited center in the state.

CAMC has a long history of providing outstanding cancer care in West Virginia. CAMC's cancer services have been accredited since 1956 and offer the highest trained, nationally-certified health care professionals in the region.

In 2015, CAMC built the CAMC Cancer Center to meet the growing needs for advanced cancer care in the state.

Accredited by the DNV and the Commission on Cancer, the CAMC Cancer Center provides personalized multidisciplinary cancer care, access to innovative clinical cancer research trials, and hematological care for a diversity of benign and malignant conditions. The Center also houses the CAMC Breast Center, where breast surgeons, nurse navigators, genetic counselors and radiologists who are experts in breast diseases provide the highest level of care for patients with breast cancer.

Most of the Cancer Center's nurses are certified in oncology. The Center has a multidisciplinary CARE Team that includes a social worker, psychologist, dietician, financial navigators, patient navigators and pastoral care. The Center also offers a boutique for cancer patients needing assistance with wigs, hair care and other products, as well as an outpatient pharmacy for patients' medication needs.

There are two board certified oncology pharmacists. CAMC's outpatient pharmacy at the Cancer Center, is URAC and ASHP accredited. This dual specialty pharmacy accreditation is only achieved by providing the highest level of patient care, including enhanced patient monitoring, detailed follow up assessments and extensive, detailed reporting. These recognitions will allow the pharmacy to access an even greater variety of specialty medications to provide care for more patients with a broader scope of disease states.

CAMC's commitment to cancer care also extends throughout the community. CAMC's Teays Valley Cancer Center offers hematology/oncology services and infusion for patients in Putnam County and surrounding communities. CAMC offers specialized care to patients diagnosed with cancer of the female reproductive system through our gynecology office. And CAMC's clinical cancer research activities have been central to providing state-of-the-art cancer care opportunities for our patients for more than 25 years.

Internal medicine residents in CAMC's Institute for Academic Medicine can work with Cancer Center staff physicians on research projects leading to academic presentations/publications that are integral to their training requirements.

CAMC Cancer Center

The Cancer Center is for adult medical oncology and hematology care.

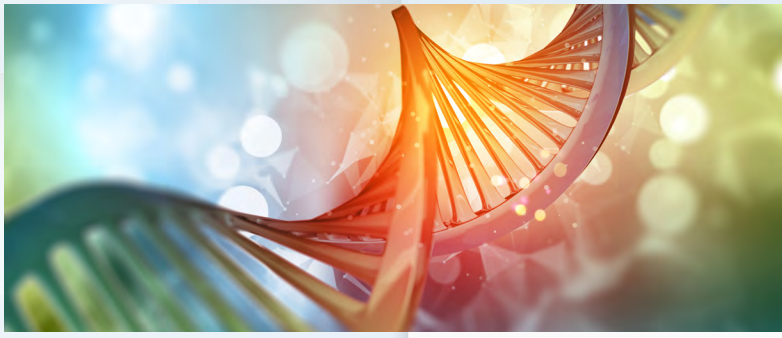
A DNV accredited facility, the CAMC Cancer Center provides personalized multidisciplinary cancer care, access to innovative clinical cancer research trials and hematological care for a diversity of benign and malignant conditions in a caring environment.

The Commission on Cancer survey was conducted in November 2020. CAMC received an accreditation status for three years without contingency. The next survey will occur in the second quarter of 2024.

The Cancer Center is accredited by the QOPI Certification Program (QCP™), an affiliate of the American Society of Clinical Oncology (ASCO). The Quality Oncology Practice Initiative (QOPI) was designed by the American Society of Clinical Oncology (ASCO) in recognition of the importance of integrating continuous quality improvement into patient centered clinical practice. This voluntary program allows facilities to monitor quality initiatives against benchmarks established through ASCO's member oncologists and quality experts using clinical guidelines and published standards.

Ambry Genetic Testing

Some patients are at increased risk of developing cancer due to genetic inheritance (i.e., it runs in the family). Approximately 5-10% of cancer is hereditary. The new assessment and testing, provided by Ambry Genetics, evaluates each patient's risk of developing cancer based on questions answered on survey that pertains to the patient's personal family history.



The Cancer Center:

- Provides infusion for an average of 65–75 patients daily.
- Teays Valley office offers hematology/oncology services and infusion for patients.
- Gynecology oncology office, located in Charleston, offers specialized care to patients diagnosed with cancer of the female reproductive system.
- Features a majority of nurses certified in oncology.
- Has two board certified oncology pharmacists with an additional three pharmacists.
- Physicians help educate internal medicine residents of the West Virginia University School of Medicine Charleston-Division. Trainees also have the opportunity to work with Cancer Center staff physicians on research projects leading to academic presentations/publications integral to their training requirements. An oncology fellowship program is in the planning stages.
- CAMC's Clinical Cancer Research activities have been central to providing state-of-the-art cancer care opportunities for our patients for more than 25 years.
- The resource room, located on the first floor of the cancer center houses our CARE Team, which includes a social worker, psychologist, dietician, financial navigators, patient navigators and pastoral care.
- The boutique, located on the first floor, offers wigs, hair care and other products to cancer patients being treated at the CAMC Cancer Center.
- The outpatient pharmacy, located on the first floor, is open to the public. Hours of operation are 8 a.m. – 6 p.m. Monday through Friday.

Testing is based upon the answered questions and recommendations by NCCN (National Comprehensive Cancer Network) guidelines. Genetic testing results are a tool to help clarify cancer risk and assist the health care provider in determining the best place of action moving forward. Genetic counseling is also offered by Ambry should genetic testing result in a positive genetic mutation.

Pretreatment/Posttreatment/Survivorship Clinic

The goal of the clinic is to schedule patient's beginning treatment related to their cancer diagnosis to discuss treatment plans, as well as evaluate any barriers (financial, psychological, physical, etc.) that may prevent the patient from receiving treatment. The clinic also sees patients who are completing treatment and prepares the patient for life after cancer. A survivorship plan of care is designed specifically for each patient and provides the patient with the information regarding their treatment and plans for follow up and testing in the future. This information is also shared with the patient's primary provider.

Walk-In Clinic

The Cancer Center's walk-in clinic features quick, convenient access for nonemergency care. Staffed by medical providers who specialize in cancer care the clinic treats walk-ins (no appointment or referral required) who are existing patients in active treatment. Physicians are supported by eight advance practice professionals. The clinic is at the Cancer Center, Monday through Friday, 8 a.m. to 3 p.m. For more information, call **(304) 388-8380.**

Sickle Cell Clinic provides specialized, ongoing care for patients

CAMC provides care to patients with Sickle Cell Disease for both adult and pediatric patients.

The CAMC Sickle Cell program is dedicated to delivering comprehensive care for patients with sickle cell disease by providing easy access to specialists for disease management and preventative care. Its physicians specialize in both adult and pediatric sickle cell disease, and its multidisciplinary approach to care ensures patients receive the highest level of care to treat the many complicated facets of the disease.

The clinical team provides ongoing care for patients with individualized treatment plans, including rapid access to infusion care services for blood infusion and transfusion therapies. It also provides patient education, coaching and support, and easy access to other hospital services for any complications that may arise.

We accept new patients. To schedule an appointment for pediatric patients, call **(304) 388-4979.** Adult patients can call **(304) 388-8380** to schedule an appointment or for more information.

Project ECHO

Most medical oncologists practice in urban areas, leaving rural communities without the capacity to screen, diagnose and treat patients with cancer, many of whom are diagnosed at later and less treatable stages.

Project ECHO links expert specialist teams at an academic hub, such as CAMC, with primary care clinicians in local communities. Together, they manage patient cases so that patients get the care they need. Although the ECHO model makes use of telecommunications technology, it is different from telemedicine.

The CAMC Cancer Center has conducted Project Echo sessions on topics applicable to breast cancer survivorship. The format includes a short didactic by specialists followed by an in-depth case discussion.

For more information, log on to **camc.org/Cancer**.

LUNG CANCER TREATMENT

Lung cancer is the most common cause of cancer-related deaths in the world. Unfortunately, West Virginia, has one of the highest incidence rates and worst outcomes for the disease.

Ghulam Abbas, MD, joined the CAMC medical staff in 2023 specializing in robotic thoracic surgery. He is certified by the American Board of Surgery and American Board of Thoracic Surgery.

Dr. Abbas brought his expertise in robotic lung-sparing surgery for lung cancer and robotic esophagectomy for esophageal cancer.

Among all the interventions to tackle lung cancer, early detection has been proven to be the most effective.

“At CAMC, we have a very robust lung cancer screening and intervention program,” Abbas said. “patients with suspicious lung nodules are seen in the lung nodule clinic and using the state-of-the-art robotic navigation system we are able to biopsy these nodules by passing a robotic catheter through the patient’s wind pipe in the outpatient setting.”

If lung cancer is found, he may perform a robotic lung cancer resection program where we can remove early-stage lung cancer from patients who have severe COPD with oxygen at home.

“We have a very strong multidisciplinary lung cancer team,” Abbas said. “All patients with lung are discussed and we decide what is the best treatment.”

Click here for more information about the diagnosis and treatment for lung cancer at CAMC.

In their own words: Marty's cancer journey

There is HOPE for the future!

My name is Marty Henley. You may know me as a Certified Registered Nurse Anesthetist (CRNA).

I now have a new label, Cancer Patient. My cancer is Non-Small Cell Lung Cancer (NSCLC). It is driven by the EGFR mutation. Patients with lung cancer with EGFR mutations tend to have minimal to no smoking history.

Environmental factors such as secondhand smoke, air pollution and radon can influence being susceptible to lung cancer. I grew up in East Liverpool, Ohio, near the heart of the steel industry and air pollution.

My mother died of lung cancer eight years ago. There was not much hope then, but thanks to new research, there are more treatment options available today.

I learned about my mutation because my oncologist at the CAMC Cancer Center ordered biomarker testing. This can be achieved by a blood test and/or a tumor tissue biopsy. Cancer biomarkers are genes, proteins or other substances. Tests for these biomarkers can reveal important details about a person's cancer. There are many known biomarkers, and new ones are being found all the time. Testing for biomarkers might not be helpful for everyone; however, people with many different types of cancer can obtain useful information to allow them to have treatment targeted for their specific type of cancer. This testing has been very useful for me and allowed me to take a targeted therapy in the form of a pill for my cancer. Radiation treatments have been another useful treatment also offered in the CAMC Cancer Center.

As a patient, it's been a long three-year journey, versus providing health care to others. I'm an energetic, positive person and a lifelong learner. Cancer does not change that. I don't let cancer control my life. Like all of you, I want cancer to be eradicated in all its forms. But in the meantime, I refuse to waste this precious time while I deal with my disease.

There are many life lessons I have learned on this cancer journey. Mental health during this time is essential. There are support groups available to tap into, so I do not have to walk this journey alone. Exercise, which increases overall survivor rates should not be underrated. My hope is that we all find a way to move through cancer to feel better and live longer. In addition, I have reignited my faith. I live the life I am fighting for!

You too can become a cancer advocate by helping fund research, join a clinical trial, join online forums, become active in your local cancer community and most importantly educate yourself and others about your disease and the amazing progress in research and treatment.

There is HOPE for the future!

There are an many online organizations for every type of cancer and these groups are full of helpful information and resources. Early screening for all types of cancer needs to be funded. Be your own advocate while advocating for others.

If I can inspire one person, my cancer journey has made a difference. Strength in numbers makes the most of this journey …one cancer fighter at a time.

Interventional radiology

Cutting edge interventional radiology procedures

CAMC specialists are using new minimally invasive procedures to treat cancer and the pain cancer often causes.

Amy R. Deipolyi, MD, PHD, specializes in the unique practice of Interventional oncology, which uses minimally invasive image guided therapies to diagnose and treat cancer. The treatment adds another important pillar to cancer care, alongside surgical, radiation and medical oncology options. Interventional oncology allows patients with cancer to receive lifesaving treatments using minimally invasive techniques, which have proven to be less dangerous than traditional surgical methods. Specifically, using imaging guidance, physicians are able to target tumors with small skin incisions and without the need for large surgeries. As interventional oncology is at the forefront of medical enhancement, new and emerging techniques currently are being researched.

Michael V. Korona, Jr., MD, FACR is an interventional radiologist with the CAMC Vascular Center of Excellence. He earned his medical degree from the University of Virginia. His residency and fellowship were completed at the George Washington University Hospital in Washington, DC. Dr. Korona provided interventional radiology services to the greater Huntington, WV, area for 28 years before moving his practice to CAMC. He is a board certified interventional radiologist with clinical expertise in image guided interventions. He uses CT, MRI, ultrasound and/or X-ray guidance to perform minimally invasive procedures using state-of-the-art technologies that enable delivery of treatments to multiple locations throughout the body.

Using imaging guidance, physicians can target tumors with small incisions and without the need for large surgeries. Interventional oncology is at the forefront of medical enhancement.

In the past few months, there have been several “firsts” performed in interventional radiology allowing patients to receive the best cancer therapies close to home.

Attacking the point of pain

Many patients diagnosed with cancer often complain of severe pain.

There are various pain management strategies available, but often are not effective and come with side effects. One minimally invasive therapeutic technique decreases pain, improve function and reduces opiate dependence: a nerve block.

Celiac neurolysis

Neurolysis is a more enduring form of nerve block. During a celiac neurolysis, the patient is sedated, and needles are advanced into the celiac plexus. A local anesthetic is injected to numb the nerves, then ethanol is injected to induce a long-term disruption of the nerve fibers that innervate the bowel, pancreas, liver and spleen.

This pain management procedure could be performed via endoscopy. This is the first time physicians at CAMC performed the nerve block with CT guidance in CAMC radiology targeting the pain directly with more precision.

Cryoablation

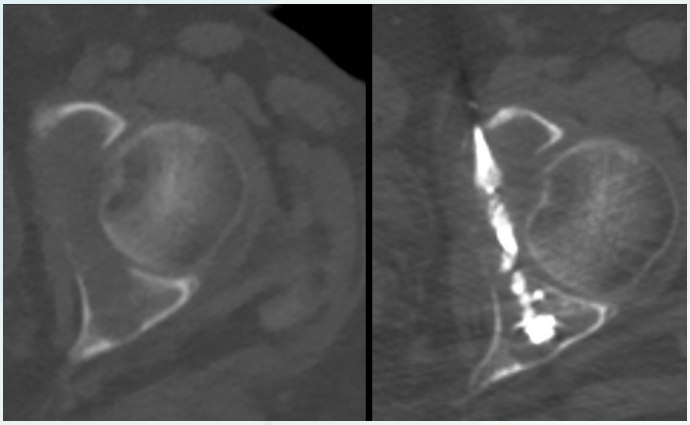
CAMC interventional radiologists are performing CT-guided cryoablation to fight cancer and help reduce patients’ pain.

Cryoablation uses extreme cold to destroy cancerous tissue. For many patients with smaller cancerous masses involving the kidney or lungs, cryoablation can yield excellent results.

Compared to more common methods of treatment like surgery, cryoablation is significantly less invasive and has been shown to effectively destroy targeted tissues while maintaining the patient’s quality of life.

During the procedure, the patient is sedated, and one or more needles are inserted through the skin into the tumor. Ice is created at the needle tip by delivering argon gas under pressure through the needle shaft. The size and shape of the ice ball is controlled by the physician, who can closely monitor the ice zone under imaging technology.

Cryoablation is an effective treatment for painful bone tumors – the most common cause of pain in cancer patients. Cryoablation can also be used to cure cancer – such as small breast cancers in patients who are not safe to undergo more invasive surgeries.



Cementoplasty

The team uses cementoplasty for painful bone metastasis, in conjunction with cryoablaion. The combination treatment usually provides pain relief in less than one week. After the tumor is treated with cryoablation, a small amount of medical cement is injected through the ablation needles into the tumor after ablation. This provides stability to the bone and can help patients bear weight on affected bones.

Y90 radioembolization

Radioembolization is a safe and highly effective treatment for cancer in the liver that targets tumors with a high dose of radiation without affecting other healthy parts of the body.

Y90 refers to the radioactive isotope yttrium90, which is loaded onto microscopic particles used to deliver radiation directly to tumors via long, thin tubes called catheters. This approach delivers radiation directly to tumors while sparing normal tissue.

The interventional radiologist accesses the arteries either through the groin or wrist and navigates the catheters to the liver to deliver millions of radioactive particles into the liver tumors causing them to shrink and die.

The therapy is administered on an outpatient basis with a much easier recovery than traditional treatments, which includes other types of infusion and surgery to remove tumors, requiring hospitalization.

It is highly effective at controlling cancer and can be used in combination with traditional treatments, including surgery, chemotherapy and immunotherapy.

Radioembolization can help extend the lives of patients with inoperable tumors and improve their quality of life.

Biopsies

Biopsies can be life changing. They allow the physician to make a diagnosis that drives treatment. Facility improvements and staff expansion have allowed CAMC to increase capacity meaning more biopsies can be performed, reducing wait times and allowing patients to receive state-of-the-art care locally, without having to travel for this procedure. Expediting biopsies can speed up treatment and increase patients' survival.

New space expands capacity

Physicians, clinicians and staff at CAMC Memorial Hospital opened a new imaging prep and recovery area for interventional cases. The space will be used by the imaging nursing diagnostics team and interventional radiologists and will improve patient experience and reduce wait times.

This new radiology peri-procedure area expanded capacity, from one bed to four, improving throughput and allowing patients who need biopsies for a cancer determination to be seen sooner.

CAMC is opening its first combined CT and angiography suite. This is a unique procedure room in West Virginia, allowing for advanced techniques involving complex multi-modality imaging, such as vascular mapping for arterial cancer therapies. The room will also allow for combination procedures such as same-day biopsy and venous access, expediting cancer care.

By growing the interventional radiology department, CAMC can offer more cancer therapies.

Click here for more information or call **(304) 388-0193.**

Urology Services

The CAMC urology department continues to grow and expand urologic services in West Virginia. CAMC Urology remains a leader in urologic cancer care in this region with three fellowship-trained urologic oncologists who work closely with medical oncology and radiation oncology to provide state of the art medical care. We now have 4 daVinci robots with plans to add more in the future to continue to provide minimally invasive approaches for all cancer surgery.

Our multidisciplinary approach to cancer care is coordinated through the CAMC Genitourinary Tumor Board consisting of medical oncology, pathology, radiation oncology, radiology, urology and other specialties. Bi-weekly the CAMC Genitourinary Tumor Board meets to create a multidisciplinary treatment plan for our patients to ensure best outcomes. All treatment is initially based on the National Comprehensive Cancer Network guidelines then adapted to the specific characteristic of each patient. Our multidisciplinary approach is facilitated by CAMC's standalone state-of-the-art cancer center.

Some of the most modern techniques and services are being offered at CAMC including:

Prostate cancer

- Now offering Exosome DX urine screening and Prostate Health Index blood screening for prostate cancer
- All Prostate Biopsies now performed as Transperineal Prostate Needle Biopsy – a technique that virtually eliminates infection from prostate biopsy and improves prostate cancer detection
- 3 Tesla Multi-Parametric MRI of Prostate – most advanced imaging modality for localized prostate cancer detection
- MRI/US Fusion Transperineal Prostate Needle Biopsy – Uronav Software allowing direct biopsy of prostate cancer lesion seen on MRI making biopsy much more accurate
- Multiple Experts in Robotic (Minimally Invasive) Prostate Surgery with same day discharge encouraged
- Stereotactic radiation is available which decreases the number of visits necessary to receive radiation treatment

- Barrigel, a gel developed to protect the intestine near the prostate for the patient receiving radiation therapy for their prostate cancer
- Genetic testing (Prolaris, Oncotype DX, Decipher) for improved management of prostate cancer
- Robust Active Surveillance program avoiding unnecessary treatment in low-risk prostate cancer
- Now offering High Intensity Focused Ultrasound (HIFU) program to limit toxicity while treating prostate cancer

Bladder Cancer

- Cysview Bladder Cancer tool for diagnosis and treatment – technique using fluorescent technology to improve bladder cancer detection
- Use of Gemcitabine and Docetaxel as intravesical chemotherapy to reduce recurrence of certain bladder cancers – adjunct to current use of BCG, Mitomycin, Valrubicin
- Bladder Sparing Trimodal Therapy for Muscle Invasive Bladder Cancer
- Robotic (Minimally Invasive) Surgery for Muscle Invasive Bladder Cancer

Kidney Cancer

- Minimally invasive robotic partial and radical nephrectomy including robotic retroperitoneal approach
- Firefly technology for immunofluorescence to improve surgery capabilities
- Intraoperative laparoscopic ultrasound technology for improved outcomes with robotic partial nephrectomies
- Advanced genetic counseling and testing for hereditary cancers through Ambry Genetics
- Robust active surveillance program for small renal masses avoiding surgical risks in appropriate candidates
- Ablation therapy options available by our trained Interventional Radiologist

Academically, CAMC has an ACGME accredited urology residency with 10 total residents working to make the patient experience better with more attention during their hospital stay. Multiple academic research projects and clinical trials are being completed at CAMC including:

1. *Keynote 866, Keynote 905 and Keynote 902 testing perioperative Pembrolizumab for patients with muscle invasive bladder cancer*
2. *Proteus Study: Perioperative treatment with Erleada and surgery for high-risk prostate cancer patients*
3. *National Cancer Database retrospective study reviewing the value of lymph node dissection during radical prostatectomy*
4. *Retrospective study reviewing depression in the bladder cancer patient.*
5. *Multiple other prospective and retrospective studies current and upcoming*

Click here for more information or call **(304) 388-5280** or **(304) 388-1965.**

CAMC UROLOGY FIRST IN WEST VIRGINIA TO TREAT PROSTATE CANCER USING ADVANCED ULTRASOUND TECHNOLOGY

CAMC is the first in West Virginia to offer Focal One™ noninvasive robotic HIFU (high intensity focused ultrasound) for the treatment of localized prostate cancer. For patients that means no blade, no scar, no radiation and minimal side effects. It also means less time away from work and daily activities.

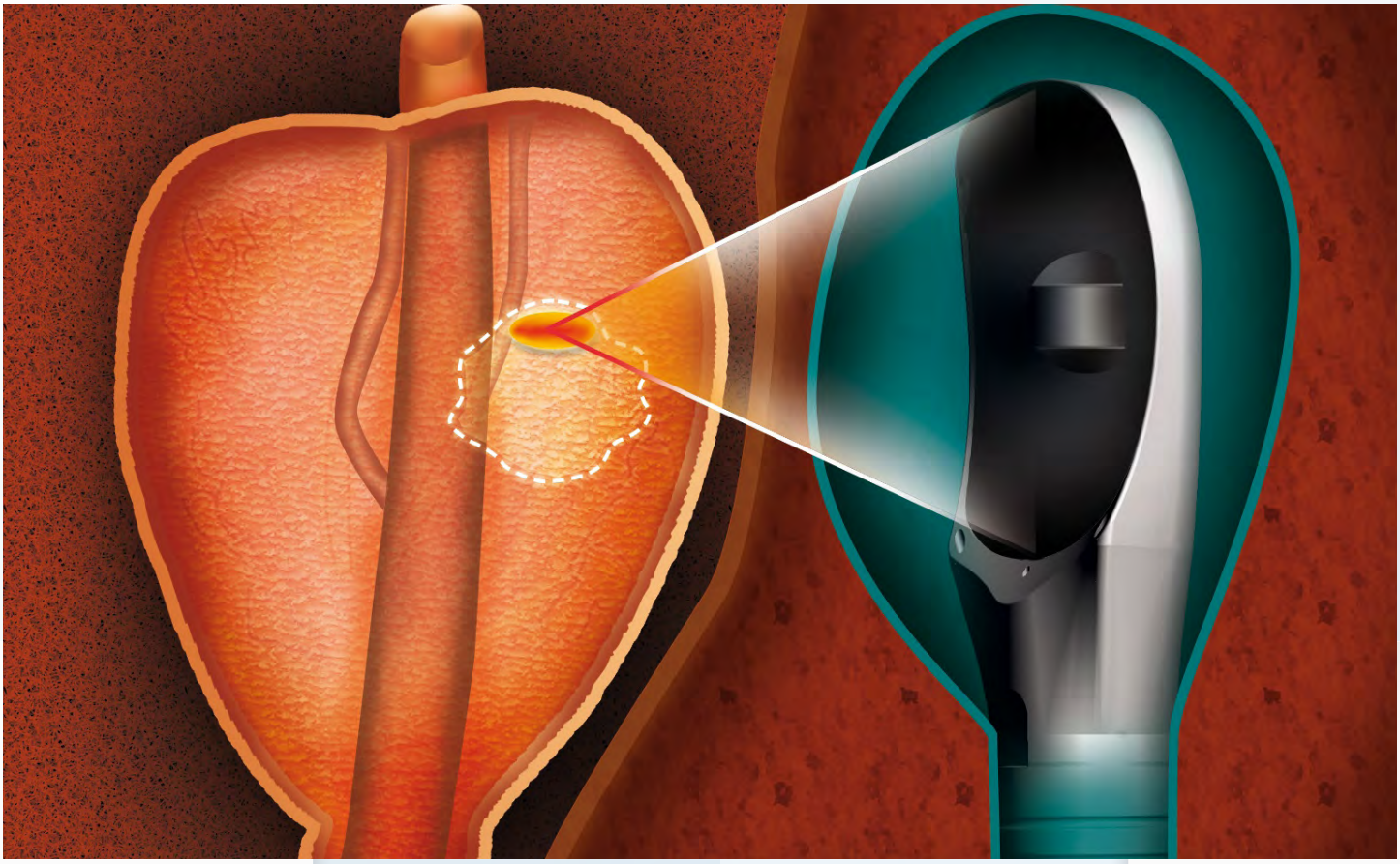
Similar to a lumpectomy for breast cancer, focal therapy targets the cancerous tumor within the prostate, sparing healthy surrounding tissue and minimizing the risk of side effects like urinary incontinence, erectile dysfunction and impotence, which are commonly associated with more invasive treatments like radiation and radical prostatectomy.

Focal One combines real-time ultrasound image guidance with magnetic resonance imaging (MRI) and biopsy data to create a 3D image of the targeted treatment area. Using a small probe inserted into the rectum (no incisions), the urologist navigates to the tumor using 3D image guidance, directs high-speed ultrasound energy at the target area and ablates, or destroys, the diseased portion of the prostate – similar to how rays of sunlight pass through a magnifying glass and are concentrated at a single point.

"We're proud to be at the forefront of urologic care by giving patients access to this advanced treatment," said Samuel Deem, DO, a urologist and expert in urologic cancer who has been trained to perform robotic HIFU. "This technology opens new doors in the treatment of a very common form of cancer by preventing the need for radical surgery or radiation, while preserving patients' quality of life."

Prostate cancer is the second most common cancer in men in the United States, behind non-melanoma skin cancers. About 11% (1 in 9) of American men will be diagnosed with prostate cancer in their lifetime, and about 2.5% (1 in 41) will die from it, according to the National Cancer Institute.

Focal therapy is a treatment option for patients with prostate cancer of low to intermediate aggressiveness that is contained (localized) within the prostate. To learn more, visit camc.org/FocalOne or call CAMC Urology at **(304) 388-5280.**



CAMC OFFERING NEW TARGETED THERAPY FOR TREATMENT OF PROGRESSIVE PROSTATE CANCER

Prostate cancer is one of the most common types of cancer affecting men.

Many prostate cancers grow slowly and stay in the prostate gland. However, other types can spread to other parts of the body.

The US Food and Drug Administration (FDA) recently approved a new treatment for adult patients with a certain type of advanced cancer called prostate-specific membrane antigen–positive metastatic castration-resistant prostate cancer (PSMA-positive mCRPC) that has spread to other parts of the body.

“We’re excited to offer a new treatment like this,” said Steven Mandish, MD, radiation oncologist practicing at CAMC. “It is cutting-edge technology. It’s very different from other ways we deliver radiation and different from classic cancer treatments. This gives us another tool to treat patients who may not have had many treatment options previously.”

This is the first FDA-approved targeted radioligand therapy for eligible patients. In radioligand therapy, two molecules are attached to each other, one that seeks out molecules associated with prostate cancer and the other delivers focused radiation to the tumor.

“This medicine seeks out prostate cancer cells allowing us to deliver focused radiation just to areas of the body that have prostate cancer in them, with high doses of radiation to that area sparing nearby normal tissues,” Mandish explained. “This is different than a lot of radiations. As a radiation oncologist, most of the time we’re giving radiation from the outside in. This treatment is an injectable given through the vein once every six weeks for up to six treatments.”

Mandish said clinical trials showed that men whose prostate cancer had spread outside of the prostate, and who had progressed on certain other traditional treatments, can live longer after receiving this treatment than men who haven’t received that treatment.

“This new treatment is offered at major cancer centers across the country,” Mandish said. “We’re honored to be able to offer this type of cutting-edge technology here in our community.”

Esophageal cancer

Esophageal cancer treatment

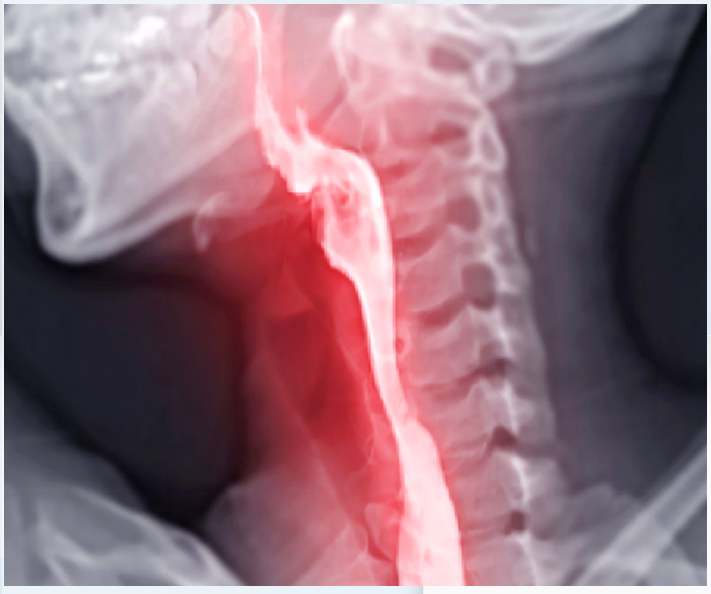
Esophageal cancer is the sixth most common cause of cancer related deaths in USA and significantly more common in middle aged males.

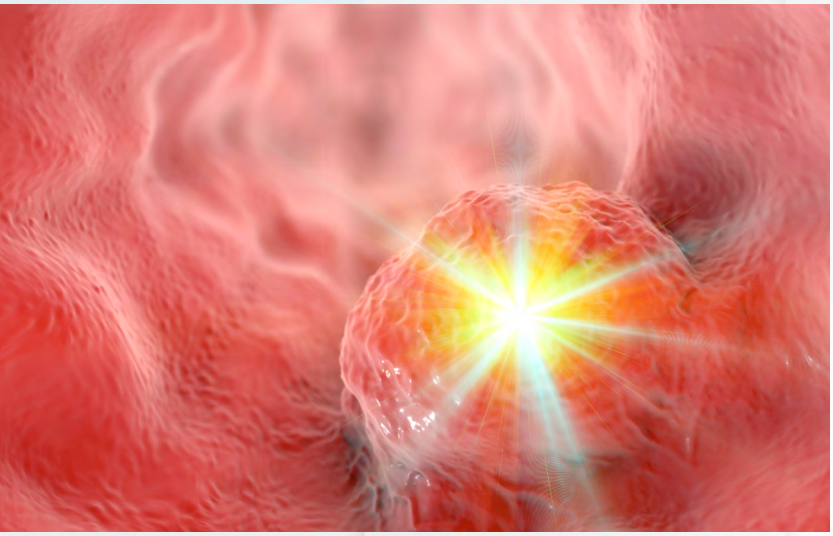
Ghulam Abbas, MD, joined the CAMC medical staff in 2023 specializing in robotic thoracic surgery. He is certified by the American Board of Surgery and American Board of Thoracic Surgery.

Dr. Abbas brought his expertise in robotic lung-sparing surgery for lung cancer and Robotic esophagectomy for esophageal cancer.

Esophageal cancer is more like the progression of a chronic disease. Uncontrolled reflux leads to precancerous condition which leads to esophageal cancer.

“We’re lucky to have a comprehensive center for esophageal disease at CAMC where we have state-of-the-art modern intervention for different stages of the disease,” Abbas said. “For example, we provide cryotherapy and radiofrequency ablation for Barrett’s esophagus. We have a state-of-the-art esophageal lab which provides Reflux testing and esophageal manometry which helps patients with reflux disease and swallowing difficulties.”





Barrett's esophagus is a condition in which the flat pink lining of the swallowing tube that connects the mouth to the stomach becomes damaged by acid reflux.

If patients are in the early stages of esophageal cancer, an endoscopic resection may be performed rather than an esophagectomy. But if the patient has a more advanced disease, CAMC has an outstanding, multidisciplinary team providing chemotherapy and radiation therapy followed by a robotic esophagectomy. The advance gastroenterologist performs endoscopic ultrasound for accurate staging of esophageal cancer to help guide the appropriate treatment.

"Right now, we are the only center in West Virginia right now providing robotic esophagectomy for esophageal cancer."

CAMC Breast Center

The CAMC Breast Center takes a multifaceted approach to breast health, from routine screenings and diagnosis to innovative treatments and supportive care. It was the first of its kind in the state and the first to be fully accredited by the American College of Surgeons.

The Breast Center team treats the largest number of patients with breast cancer in West Virginia. Board certified surgeons specialize in all aspects of breast health. Experienced radiologists use the latest, most advanced technologies to diagnose a full range of breast diseases.

Experienced nurses and technologists working with you for better health and outcomes. Navigators working behind the scenes to help guide, manage and enhance your experience.

The CAMC Breast Center is a comprehensive system that cares for patients from screening to survivorship using the skills of a multidisciplinary team of experts on a routine basis.

The Breast Center's services include:

- 3-D mammography (known as digital tomosynthesis)
- Breast ultrasound
- Minimally-invasive breast biopsies
- Rapid diagnostic program and rapid consultation program
- Multidisciplinary care from breast specialists, surgeons, medical and radiation oncologists
- Nurse navigators to provide care coordination
- Bone density screenings
- Pelvic ultrasounds
- Genetic Evaluation and Testing

The Breast Center is located on the third floor of the CAMC Cancer Center at 3415 MacCorkle Ave., SE in Charleston. Office hours are Monday through Friday from 7 a.m. to 4:30 p.m. Please schedule an appointment for any of our imaging services by calling **(304) 388-9677.**

For referrals/appointments to see a breast surgeon regarding breast health issues, please call **(304) 388-2872**. For

more information, call **(304) 388-2861** or visit camc.org/BreastCenter.

Breast Cancer Multidisciplinary Clinic

When you're diagnosed with breast cancer, you need quick and convenient access to skilled and experienced specialists who will help guide you through your diagnosis, treatment and recovery.

At CAMC, our breast cancer multidisciplinary clinic was designed to provide patients with comprehensive, coordinated care from a team of experts who work together to plan and implement your treatment.

In a single-day visit, you will be seen and evaluated by multiple specialists involved in your care. This team-approach allows for efficient, collaborative treatment and ensures a personalized plan of care specific to your type of cancer and individual needs.

Your team of physicians can include your breast surgeon, medical oncologist, radiation oncologist, plastic surgeon, genetic specialist and your nurse navigators. Working with you and your family, we will help you navigate the course of your treatment and recovery – every step of the way.

The clinic operates out of the Breast Center located on the third floor of the CAMC Cancer Center. If you receive a positive breast biopsy, talk to your doctor about a referral to the CAMC Breast Cancer Multidisciplinary Clinic. For more information go to www.camc.org/locations/camc-breast-center or call **(304) 388-2872.**

NEW BREAST CANCER TREATMENT

CAMC offers new technologies to reduce unnecessary breast cancer surgeries

CAMC surgeons are the first in West Virginia to offer groundbreaking techniques that could spare breast cancer patients unnecessary surgeries.

For patients with early-stage cancer, the likelihood of cancer having spread to other parts of the body can be low.

Delayed sentinel lymph node biopsy is a procedure that allows surgeons to more accurately diagnose when patients with early-stage cancer undergoing mastectomy need their lymph nodes removed. CAMC is the first hospital in West Virginia to offer the procedure.

Delayed sentinel node biopsy provides an opportunity for up to 80% of early-stage cancer patients to protect lymph nodes that do not need to be removed.

The innovative procedure can only be performed with Magtrace® lymphatic tracer, a non-radioactive, single-injection liquid that helps determine if cancer has spread. After injecting the liquid in the breast, it moves to the sentinel lymph nodes (located in the armpit, the most common location for cancer that has spread), and remains there for up to 30 days, allowing surgeons enough time for pathology results to return before deciding whether additional surgery is necessary. If no invasive cancer is detected, there's no need to undergo additional surgery, thereby decreasing time spent in the hospital and the patient's anxiety.

For breast conservation surgeries, CAMC has introduced the Magseed marker to advance the standard of care for lesion localizations. Magseed® replaces the need for a traditional wire to be placed in the breast noting where the tumor is located. By implanting a seed, weeks or even months ahead of surgery, patients don't have to undergo an additional procedure on the day of surgery as was the case with the older wire technology.

Magseed is a tiny magnetic seed measuring smaller a grain of rice. Magseed can be injected into the tumor and gives off a signal, without any side effects, to pinpoint the location of the cancer. The tumor is removed through minimally invasive surgery, resulting in a small incision and quicker recovery.

"Magseed helps surgeons avoid needle localizations, which can be burdensome," said **Jade Gallimore**, DO. "Magtrace is a dual tracer, so it meets standard of care with only one injection."

Gallimore and **Yancy Short,** MD, both offer Magtrace® and Magseed®.

CAMC is proud to offer patients access to these innovative techniques that are improving the standard of breast cancer care in West Virginia.

Plastic and reconstructive surgery

CAMC Plastic Surgery is one of the largest divisions of its kind in the state of West Virginia. We provide our patients with the most up-to-date and highest quality of care. We see more than 7,000 patients a year in our outpatient clinics and perform more than 1,600 major operations annually.

Our specialists provide a broad range of reconstructive services related to oncological care including breast reconstruction, post-colorectal and gynecologic reconstruction, and soft tissue reconstruction after resection of malignancies, e.g., melanoma, sarcoma and other skin cancers. We have many well-trained and experienced surgeons able to provide the patients of West Virginia the best reconstruction options available.

The goal of reconstruction is to return the patient to their pre-cancer form and provide them with a sense of well-being and confidence.

Breast reconstruction

Reconstructive plastic surgery for breast cancer is performed to replace skin, breast tissue, and the nipple removed during mastectomy. Factors contributing to the amount of tissue removed include the size, and location of the original tumor, and its proximity to the armpit (called the axilla), where the lymph glands are located.

Options for reconstruction include both autologous (i.e., the patient's own tissue) tissue flap transfer and/or prosthetic implant-based reconstruction with the goal to restore symmetry between the two breasts.

Is reconstruction right for me?

The choice that is right for one woman won't necessarily be right for another. That's because the long-term prospects of living without a breast or part of a breast affect every woman differently.

After your mastectomy, you might choose to wear external breast forms or pads or make no attempt to alter your appearance. On the other hand, you might choose breast reconstruction, using either breast implants or your own tissue.

Improvements in plastic surgery techniques offer better results today than ever before and make breast reconstruction an option for most women undergoing a mastectomy.

Many women believe that breast reconstruction not only improves physical appearance, but many scientific studies have demonstrated psychological benefits as well. It's thought to promote a sense of wellness for the woman and her family.

The decision, however, is a personal one and is often not easy to make.

Is this considered cosmetic surgery?

Restoring the breast is NOT considered cosmetic surgery. Operations performed to restore anatomy and symmetry, like breast reconstruction after a mastectomy, are considered reconstructive surgery.

When is the best time to have reconstruction?

Timing of reconstructive surgery is based on the woman's desires, other medical conditions and cancer treatment. Whenever possible, plastic surgeons encourage women to begin breast reconstruction at the same time they are having their mastectomy. For many women, immediate reconstruction reduces the trauma of having a breast removed, as well as the expense and discomfort of undergoing two major operations.

It is also possible to perform the reconstruction months or years after a mastectomy. If chemotherapy or radiation treatments have been started, reconstruction may need to be postponed until those treatments are completed.

The surgical team can help you decide the best timing and options for reconstruction.

Does insurance cover breast reconstruction?

Yes. Federal law has mandated that insurance companies cover patients undergoing reconstructive breast cancer surgery or after risk reducing breast surgery (lumpectomy). Since breast reconstruction after mastectomy is part of the treatment of a disease and not cosmetic surgery, according to the American Medical Association, health insurance companies are required to pay the cost of any reconstruction surgery or any surgery on the contralateral breast such as breast lift, reduction or augmentation if needed to achieve symmetry.

Meet our Providers:

J. Chase Burns, MD

J. David Hayes, MD

Justin L. McKinney, DO

William A. Stewart, MD

Kari Hunter, PA-C received her master's degree in Physician Assistant Studies from the University of Charleston.

Alexis Kitzmiller, FNP-BC received her BSN at the University of Charleston and her MSN-FNP at Marshall University.

Nathaniel Rainey, PA-C received his bachelor's degree in Exercise Science from Marshall University, master's degree in Physician Assistant Studies from Alderson Broaddus University.

Lindsay Stahlman APRN-CNP received her bachelor's degree in nursing from the University of Charleston and her family nurse practitioner degree from the University of Cincinnati

Mackenzie Summers received her master's degree in Physician Assistant Studies from the University of Kentucky.

Our providers are available and happy to meet with you to discuss any questions or concerns you might have regarding reconstructive surgery. Contact our office for an appointment at **(304) 388-1930.**

Comprehensive Assistance with Resources and Education (CARE) Team

WV Legislative Photography, Photo by Perry Bennett

Located on the first floor of the CAMC Cancer Center in the Patient Resource Center (PRC), the CARE team is a multi-disciplinary team consisting of nurse navigation, financial navigation, social work, psychology, chaplaincy and nutrition.

The team addresses patient stressors and barriers which may interfere with their cancer treatment and care. Many times, patients are overcome with financial hardships, emotional concerns and a vast amount of other social stressors that may affect their ability to obtain cancer treatment. With the help of our financial navigators, social worker, psychologist and chaplain assistance to aid and resources can be provided to eliminate these barriers to care. Patients can also obtain free information on their specific disease in the PRC.

Nurse navigation and dietitian services provide detailed clinical assistance, tools and resources to aid cancer patients before, during and after cancer treatment.

CAMC Cancer Center's creation of a new treatment clinic helps recently diagnosed cancer patients navigate their treatment journey. The clinic allows newly diagnosed patients to meet the many members of their care team in a single visit. Two separate visit types (pre- and post-treatment) are available to assist patients with any specific barrier to care as well as tailored educational needs.

TREATMENT CLINIC

Pre-Treatment Clinic Visit:

The pre-treatment clinic is a multidisciplinary clinic staffed by an oncology advanced practice professional, nurse navigator, financial navigator, social worker and dietitian. Currently, the clinic supports newly diagnosed breast, colorectal, head and neck and lung cancer patients, and allows newly diagnosed patients to meet the many members of their care team in a single visit.

Patients are scheduled for the pre-treatment visit 7-10 days after meeting with their medical oncologist and being consented for chemotherapy or immunotherapy treatment. This space between treatment consent and pre-treatment clinic visit allows patients time to process their questions about treatment. This time is also used for any additional testing needs before the start of treatment.

Information: Meeting with a medical oncologist and processing the amount of information can be overwhelming.

Consenting to chemotherapy or immunotherapy is a rigorous process. Patients are provided with information related to treatment schedule, side effects of treatment, intent (curative or palliative), administered drugs/chemo agents, education on each drug, symptom management, instructions (importance of checking temperature after treatment, contact information, etc.) and risks and benefits.

Patients are often overloaded with information. By bringing patients back, ideally one week after the consent process, patients are better equipped to participate in an educational visit. They have additional time to read through the educational material, write down their questions, and are better able to process information related to their treatment. Essentially, they will have received chemotherapy/ immunotherapy information and education twice before their treatment begins.

Preparing for Clinic:

Prior to their pre-treatment clinic visit, patients receive an email or text to their mobile device to complete a patient questionnaire from the comfort of their home. This questionnaire is provided by navigational software that integrates with CAMC's electronic medical record platform. This questionnaire includes the NCCN Distress Thermometer as well as several other questions that help to identify any barriers to care. Nurse navigators review this information along with the physician note and create a detailed treatment plan with tailored educational information and resources specific to their cancer type.

Benefits of completing questionnaire prior to visit:

Patients can take their time thinking through their concerns, and they are often more forthcoming about challenges when endorsing on a questionnaire rather than when being directly asked in person. Self-report questionnaires can be an invaluable addition to comprehensive assessment in patient care. Completion of the questionnaire prior to clinic also significantly reduces the clinic appointment time as the healthcare team is aware of the barriers ahead of the appointment time. This also provides the team with additional time to research resources available to the patient, perhaps in their community, to better address any barriers to care.

Pre-Treatment Clinic Visit:

Most patients access and complete the questionnaire at home. However, some lack technology, internet service or lack literacy skills. For those without adequate technology, an I-Pad is provided for them to complete the questionnaire prior to meeting with the treatment team. The psychosocial support coordinator assists patients who exhibit low literacy or need assistance for various other reasons. The psychosocial coordinator also ensures that all demographics and contact information is up to date to ensure that patients do not fall through the cracks.

Post-Treatment Clinic:

All patients who receive treatment with a curative intent are scheduled for a post-treatment clinic visit at their estimated completion of treatment, ensuring that survivorship care is introduced early on. The post-treatment visit focuses on identifying and managing long-term and late effects of treatment, and on educating patients about the importance of monitoring for cancer recurrence as well as screening for new cancers.

Patients receive a survivorship care plan (SCP) and the visit includes education on how to optimize patients' health and quality of life. A copy of the SCP is provided to the patient's primary care provider (PCP) for coordinated patient-centered care. The patient is scheduled 6 to 8 weeks anticipated post-treatment completion, which allows enough time for the patient to have any completed scans and follow-up appointments with the medical oncologist. Survivorship care plans are prepared by the nurse navigator and reviewed by the mid-level provider for accuracy. Both the nurse navigator and mid-level provider participate in the visit together to identify patient needs and concerns experienced after treatment completion. The SCP is compiled utilizing the documentation within the EHR and use of the secondary software which includes the patients' questionnaire responses. The result is a SCP that provides educational content addressing the specific needs of the patient, follow-up and screening schedule recommendations and access to resources for optimizing their ongoing survivorship needs.

Referrals are provided for supportive services, including physical therapy, survivorship support groups, nutrition, and any other concerns that may affect coping with cancer survivorship.

Growing Hope

When we consider the consequences of a cancer diagnosis we usually think about the financial burden for families, however we don't always consider the lack of food access that often occurs. During cancer treatment especially, it is important to maintain a healthy diet. In West Virginia, only 7.6% of cancer survivors consume the daily recommended servings of fruits and vegetables. The percentage of households unable to provide adequate food for one or more household members due to lack of resources is 15.1% in West Virginia, compared to 10.7% nationwide. In addition, the continual decline of grocery stores and influx of small box stores offering mostly dry food options has created financial and access barriers to healthy food options, for cancer

patients this is just another hurdle to overcome after a cancer diagnosis.

The CARE team participated in their second year of providing nutritional foods to cancer center patients through the Growing Hope Project. Originally started as a pilot program in 2022 the cancer center was provided funding through the CAMC Foundation for the 2023 growing season. A partnership with Gritts Farm was again established to provide fresh produce baskets weekly throughout the months of June – September. Gritt's Farm delivered the packages to the cancer center on Mondays and patients were able to receive the boxes at an appointment during the week, removing the transportation barrier often experienced by people receiving cancer treatment. Recipe cards were created by the dietitian to educate patients on nutritional information and cooking tips. These bags were distributed to patients currently in treatment and those identified as experiencing food insecurities. 2022 results yielded providing 132 baskets distributed in 16 counties. 2023 results will be available by December 2023.

Mindfulness

With the help of the CAMC Volunteer Services and CAMC Foundational support, the cancer center can offer a creative process called the Zentangle® method. Taught by a certified instructor. The method promotes meditation and mindfulness through combining dots, lines, simple curves and circles to create images. A kit is provided to participants during their outpatient treatment stay encouraging fun and relaxation.

GIG's PLACE

Created in honor of a young mother who lost her battle with cancer. Counseling services are provided by a psychologist to children who have loved ones undergoing treatment or have lost a parent to cancer. An area for crafts, artwork and other interactive activities is available during the appointment for those obtaining services.

Run For Your Life

Members of the Cancer Center participated in the annual Run for Your Life run/walk on June 10, 2023. There were 504 registered participants and raised $108,600 to support colorectal cancer screening and education. Staff members were in attendance providing materials on screening guidelines and education using the inflatable colon.

For more information, log on to camc.org/Care-Team.

Radiation oncology services

Radiation oncology services at Charleston Area Medical Center, a department of CAMC in partnership with Akumin/Alliance Oncology, the nationwide leader in radiation oncology and radiosurgery programs, offers current and advanced radiation therapy treatments, provided by an experienced and caring team which includes board-certified radiation oncologists, nurse practitioners, medical physicists, dosimetrists, radiation therapists, radiation oncology nurses, support staff, a physician services representative and a site administrator.

The team at radiation oncology services at CAMC treats early-stage, recurring, and advanced cancer using many radiation therapy techniques, which has been used for more than a century to treat cancer. Radiation therapy is performed as an outpatient procedure, with little to no recovery time. Treatments are quick and painless, with minimal to no side effects, and most patients return to their normal daily routines following each treatment session. Radiation therapy may be an option for patients with medically inoperable or surgically complex tumors or those who seek an alternative to surgery or conventional chemotherapy, patients with recurrent cancer or metastatic tumors that have spread to other areas of the body from the main tumor site, and those who have a high risk of developing complications after surgery.

CAMC Radiation Oncology Services offers several types of state-of-the-art radiation therapy techniques designed to treat all forms and stages of cancer and some noncancerous conditions, including:

- Pluvicto (lutetium Lu 177 vipivotide tetraxetan), a new treatment for metastatic prostate-specific membrane antigen-positive metastatic castration-resistant prostate cancer (PSMA-positive mCRPC), which has spread to other parts of the body and has been resistant to other treatments.
- Stereotactic radiosurgery and body radiation therapy (SRS/SBRT)
- Intensity modulated radiation therapy (IMRT)
- 3-D conformal therapy
- 4D (four-dimension) CT-based treatment planning
- mage guided radiation therapy (IGRT)
- High Dose Rate Brachytherapy (HDR)

Radiation oncology services at CAMC provides individualized, compassionate cancer care using today's most advanced radiation therapies. We provide state-of-the art cancer fighting technology in a location close to home for the cancer patients in our communities. In addition to offering the latest technology, radiation oncology services patient satisfaction surveys yielded exceptionally high marks in the past year with an average 96 percent of patients surveyed reporting a positive experience with their care.

Pediatric Radiation Therapy

Radiation treatment is often an integral part of optimal treatment for cancers in the pediatric population. Depending on each child's specific diagnosis, radiation therapy may be used as the primary form of treatment or may be used before or after other types of treatment such as surgery or chemotherapy. Radiation oncology services at CAMC are on the leading edge in offering state-of-the-art radiation therapy options for childhood cancer. The pediatric radiation therapy program builds upon CAMC's well established and experienced pediatric oncology department. Along with CAMC pediatric oncologists and their staff, the radiation oncologists, medical physicists, and other scientists actively participate in research through the national Children's Oncology Group.

Radiation oncology research and education

Radiation oncology services at CAMC is dedicated to providing patients with the most up-to-date radiation treatment options. We are affiliated with the internationally renowned Radiation Therapy Oncology Group (RTOG) and offer enrollment in RTOG clinical trials for qualifying patients. Through this affiliation, multiple clinical trials for patients with higher risk prostate cancers have recently been made available for enrollment. The radiation oncologists also participate as assistant clinical professors for the West Virginia University School of Medicine and offer elective educational rotations for medical students as well as for CAMC training resident doctors interested in oncology. The multidisciplinary approach to cancer care, coupled with the use of cutting edge technologies and dedication to research and education, help provide better outcomes and experiences for patients.

CAMC Gastroenterology

We use a patient-centered approach to diagnose and manage gastrointestinal malignancies and associated gastrointestinal conditions. Our advanced endoscopy unit is equipped with cutting-edge technology to provide our patients with the latest diagnostic and therapeutic options, and the best diagnostic approaches are complemented by a broad range of services to improve your overall health and promote wellness.

We provide a wide range of endoscopic procedures including endoscopic ultrasound for diagnosis and tissue acquisition for confirmation of pancreatobiliary cancers in the least invasive and safe manner. Our team is capable of debulking bile duct cancers using ablation techniques to enhance the latency of ducts in progressive malignancies. Close collaboration with the pathology department has helped us minimize the wait time for results of biopsies obtained from high-risk lesions suspicious for cancer. We practice a wellness-based approach to proper digestive health and improved quality of life. Our team is not only capable of diagnosing early stage esophageal and gastric cancers but also offers organ preserving endoscopic treatment options for precancerous and early-stage cancers throughout the GI tract. We provide our patients with a close follow-up to ensure their well-being and cancer-free survival.

We offer endoscopic resection of large polyps of colon which helps prevent progression to cancer, without undergoing major surgical intervention. We have the opportunity to discuss our case in the Tumor Board conference to review many of our diagnostic and treatment plans in concert with a radiologist, surgical oncologist, radiation oncologist, GI pathologist, as well as other specialties as needed.

For patients with advanced stage cancers, our team offers endoluminal stenting of biliary tree, esophagus, duodenum and colon. We have capabilities to perform endoscopic gastrojejunostomy for patients with malignancy associated bowel obstruction. Percutaneous endoscopic gastrostomy and jejunostomy tube placement is offered to patients with limitations of oral intake to assist them with their nutritional requirements.

In addition to consultation in GI related cancer diagnosis and their management, we provide screenings and other endoscopic procedures, for patients with higher risk of developing cancer due to genetic predisposition or other reasons. We help our pancreatobiliary cancer patients by performing pain control procedures such as celiac nerve plexus block and neurolysis. We can also perform endoscopic ultrasound guided liver biopsies for evaluation of liver diseases.

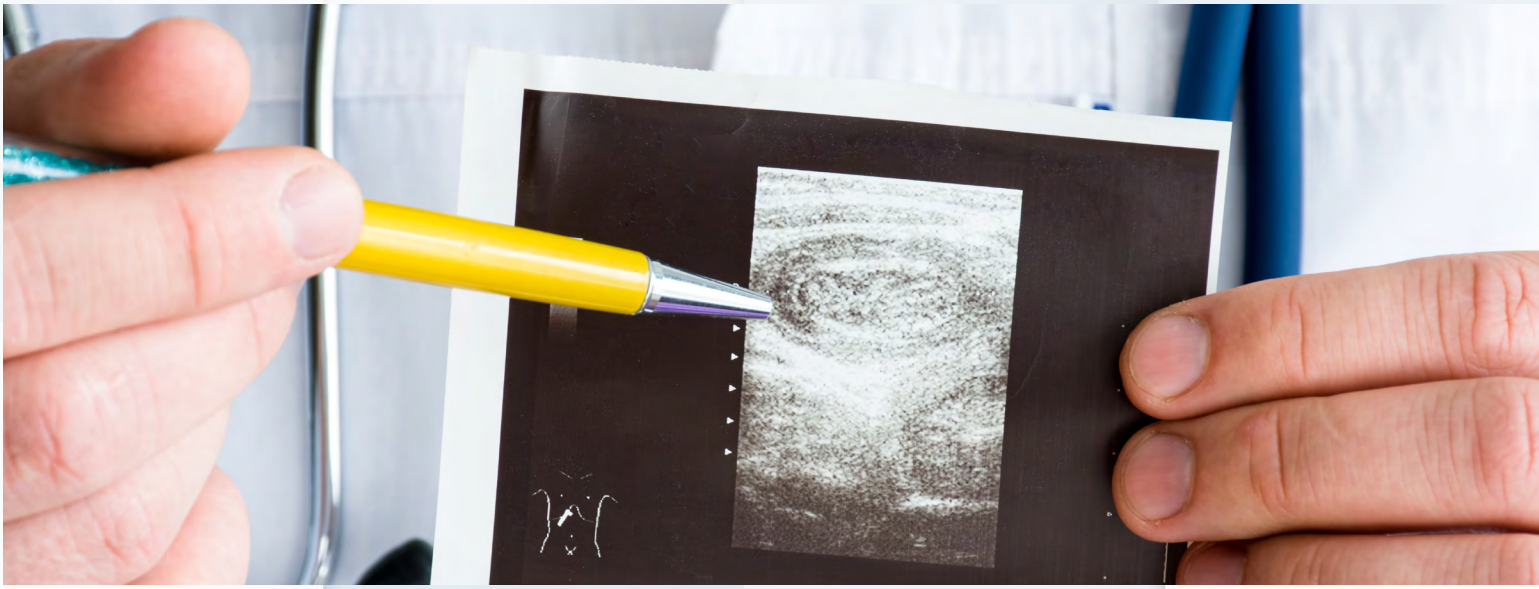
Our center provides a calming environment where patients will be heard and not rushed through their office visit or endoscopic procedures. We answer their questions and engage our patients as an active participant in their health care. Patient education is an integral part of our program. Our service continues to grow and draws patients from the tri-state area. This is one of the busiest and most skilled advanced endoscopy centers in the region.

Meet our Providers:

Nadeem Anwar, MD
Muhammad Bashir, MD
Emily Battle, MD
Harleen Chela, MD
Cheryl Cox, MD
Ebubekir Daglilar MD
Roberta Hunter, MD
Sara Iqbal, MD
Vishnu Naravadi, MD
Kamran Zahid, MD

Contact our office for referrals at **(304) 351-1700** or visit camc.org/Gastroenterology for more information.

CAMC Gastroenterology, is located at 2930 Chesterfield Ave. in Charleston.



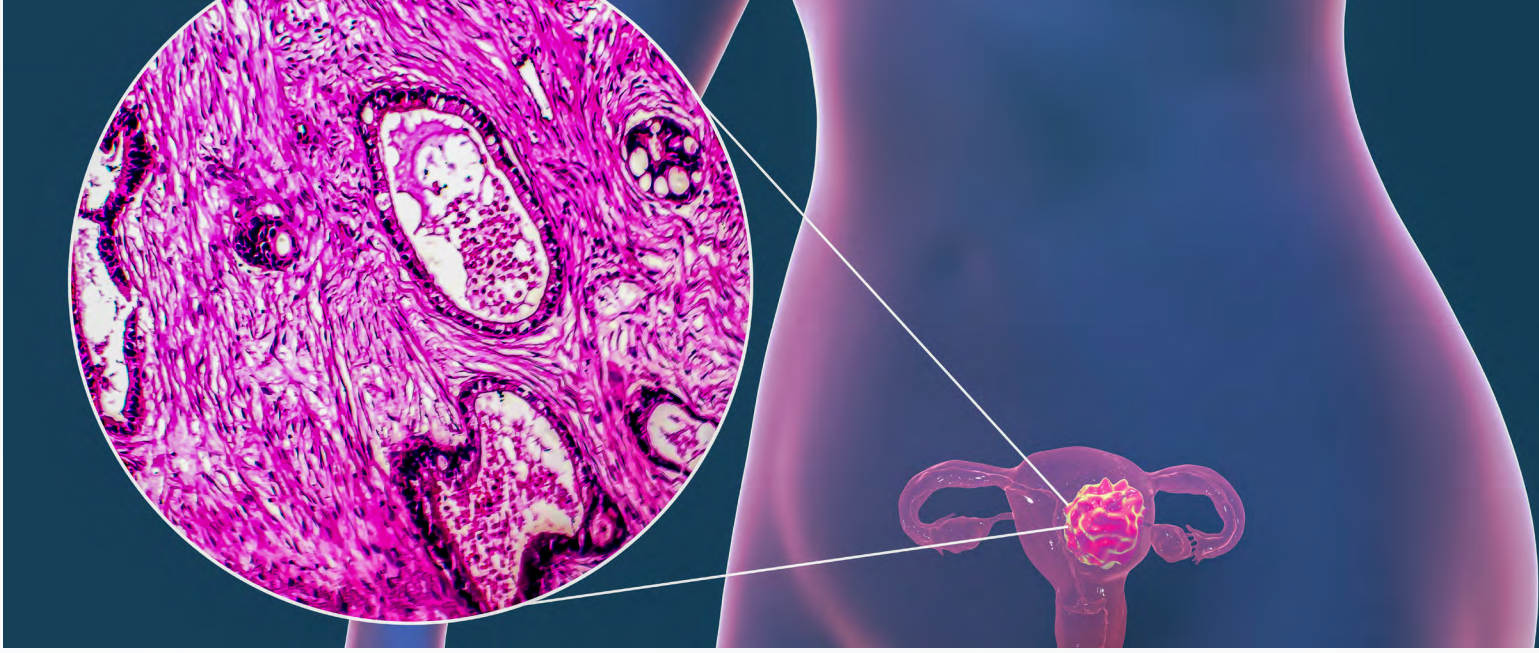
Gynecologic Oncology

CAMC Gynecologic Oncology provides a patient and family centered approach to treating gynecologic malignancies such as ovarian, uterine, cervical and vulvar/vaginal cancers. We also manage many complex benign gynecologic conditions. Our goal is to provide the highest quality cancer care for gynecologic malignancies to patients in southern West Virginia and the surrounding communities. This includes access to both national cooperative groups and industry sponsored clinical trials. We also offer the most up to date minimally invasive and robotic surgical techniques available.

Gynecologic oncology is a small field with only about 50 new graduates a year. We are lucky to have two full time gynecologic oncologists and a nurse practitioner on staff. Our service continues to grow and draws patients from the tri-state area. This is one of the busiest and most experienced gynecologic oncology departments in the state. A gynecologic oncologist is an obstetrician/gynecologist who completed additional training to specialize in the diagnosis and treatment of women with cancer of the reproductive organs. This includes cancer of the ovary, uterus (endometrial), cervix, vagina, vulva, as well as trophoblastic disease, and complex benign gynecologic conditions.

We offer a twice monthly Gynecologic Oncology Tumor Board conference to review many of our cancer treatment plans in concert with a radiologist, radiation oncologist, gynecologic pathologist, as well as other specialties as needed.

Michael Schiano, MD, is an ABOG board certified gynecologic oncologist having nearly 30 years of clinical practice and research experience. Dr. Schiano completed his residency in obstetrics and gynecology at the San Antonio Uniformed Services Health Education Consortium and his gynecologic oncology fellowship at the University of Miami. Dr. Schiano is also an associate clinical professor for the WVU/CAMC Division School of Medicine and provides clinical/surgical training for resident physicians from the CAMC obstetric gynecology residency training program. Dr. Schiano and his team's dedication to the education of future specialists and the multidisciplinary



approach to female cancer care helps to insure optimal outcomes for women in our community.

Dr. Schiano has won many teaching awards and is particularly adept at complex gynecologic surgery both cancerous and benign. He is actively involved in many research projects. Dr. Schiano has multiple publications in peer reviewed medical journals. Dr. Schiano's experience is invaluable to our patients.

Stephen Bush II, MD, was born and raised in Charleston, West Virginia. He completed his undergraduate degree in biochemistry as well as medical school at West Virginia University. He completed a residency in obstetrics and gynecology as well as a pelvic surgery fellowship at the Medical College of Georgia. Dr. Bush completed a 3-year gynecologic oncology fellowship at the University of South Florida and Moffitt Cancer Center in Tampa, Florida. He is board certified in Obstetrics/Gynecology and Gynecologic Oncology.

Dr. Bush is the one of the few gynecologic oncologists in the region who offers the full spectrum of minimally invasive gynecologic surgery options including robotic surgery, laparoscopic surgery, single incisions laparoscopic surgery, vaginal surgery, reduced port techniques, VNOTES, and contained specimen extraction for large uteri.

Dr. Bush has approximately 30 manuscripts published in peer-reviewed medical journals as well as numerous presentations at national and international conferences. He was awarded the Gynecologic Oncology Group Foundation New Investigator Award in 2019. He has been an invited speaker on minimally invasive techniques and trains other surgeons on advanced laparoscopic techniques. He was one of the first surgeons in the U.S. to perform a VNOTES hysterectomy. Dr. Bush is a highly skilled surgeon with expertise in both Robotic and Laparoscopic surgery for complex gynecological conditions including cancer. Dr. Bush is PI on numerous cooperative group clinical trials available at CAMC Cancer Center for ovarian cancer, endometrial cancer and cervical cancer patients.

He was recently selected as a National Board Examiner by the American Board of Obstetricians and Gynecologists for the certification exam in Obstetrics and Gynecology. He participates in many national committees including NRG Oncology Ovarian Cancer subcommittee, NRG Oncology Cervical Cancer subcommittee, and the Coding Committee for the Society of Gynecologic Oncologists.

Krista Ellison, FNP, has significant experience caring for gynecologic oncology patients. Before graduating from nurse practitioner, school she was a nurse on the gynecology floor at CAMC Women and Children's Hospital caring for many of our patients after surgery.

She also was a nurse in the gynecologic oncology office. This gives her a unique understanding of what our patients will experience during and after chemotherapy and surgery care for their needs.

Gynecologic Oncology surgery at CAMC is done at both CAMC Women and Children's Hospital and CAMC Memorial Hospital. Both offer the DaVinci Xi robotic platform. Chemotherapy is administered at the CAMC Cancer Center.

Children's Cancer Center

The CAMC Children's Cancer Center is accredited by the Children's Oncology Group (COG), a National Cancer Institute supported clinical trials group, which is the world's largest organization devoted exclusively to childhood and adolescent cancer research.

Comprehensive care is provided by a multidisciplinary team from CAMC and WVU Physicians of Charleston, which includes pediatric hematology/oncology physicians, a physician assistant, infusion center nurses, psychologist, chaplain, child life specialist, dietitian, social worker, physical therapist and a clinical research associate. The Center provides infusions of chemotherapy and other drugs to hematology/oncology patients, as well as infusion services for patients with other illnesses. These include blood or genetic disorders, gastrointestinal, immune and endocrine disorders.

The Children's Cancer Center team includes:

Mohamad Badawi, MD, Associate Professor specializes in pediatrics and pediatric hematology/oncology. He completed a pediatrics residency at CAMC and a pediatric hematology/ oncology fellowship at Cohen Children's Medical Center of New York. Dr. Badawi is certified by the American Board of Pediatrics in Pediatrics and in the hematology oncology subspecialty. He is currently the primary investigator for the Children's Oncology Group in Charleston, WV.

Sana Farooki, MD, Assistant Professor specializes in pediatric hematology/oncology. She completed a combined internal medicine-pediatrics residency at CAMC and a pediatric hematology/ oncology fellowship at Children's Mercy Hospital and a pediatric Bone Marrow Transplant and Cellular Therapy fellowship at Memorial Sloan Kettering, New York. Dr. Farooki is certified by the American Board of Pediatrics in Pediatrics with a subspecialty in pediatric hematology/ oncology. She is also certified by the American Board of Internal Medicine.

Katelyn Steigerwald, PA-C, specializes in pediatric hematology/oncology and pediatric cardiology. She completed PA school at Alderson Broaddus University in Philippi, WV. Katelyn is certified by the National Commission on Certification of Physician Assistants (NCCPA).

Donna Pauley, BA CCRP, is the clinical research coordinator and Children's Oncology Group (COG)-Lead CRA. She brings more than 20 years of experience to the CAMC Children's Cancer Center. The institutional lead CRA assists the COG member site principal investigator (PI) in the implementation, communications, and oversight for COG research studies (protocols) according to regulatory and institutional requirements. The lead CRA acts as the primary point of contact for all

aspects of member requirements, protocol coordination and management. Together, the PI and COG lead CRA are leaders whose responsibilities are diverse, in task, delegation and management regarding their COG institutional member site.

Melissa Appleton, RN, is a pediatric certified chemotherapy nurse with more than 20 years' nursing experience and 12 years dedicated to the care of our pediatric cancer patients. She has been awarded the CAMC's Heart and Soul recognition.

Natalie Alltop, RN, is a pediatric certified chemotherapy nurse, with more than 15 years' nursing experience.

Linda Ankeney, LPN is a licensed practical nurse with more than 15 years' experience with our pediatric cancer patients.

Summer Ray, CLS, Women and Children's Hospital child life specialist, holds a degree in child development and family studies. Child life provides patients with developmentally appropriate education on their oncology diagnosis and helps to prepare and support patients through procedures and visits to the center. Child Life normalizes the hospital environment and helps promote positive coping through a patient's treatment journey.

Kayla Dew, MSW, LGSW is the social worker for the children's cancer center. She does an initial psychosocial assessment with the family and offers support by providing financial applications to assist the family while in treatment.

Emily Rodriguez, MS RD CSP is a registered dietitian certified in pediatric nutrition. She is a graduate of Marshall University's dietetic internship and master's program in dietetics. She joined CAMC's Cancer Center in 2020. She provides nutrition education to families, ensures patients are meeting nutrition needs throughout treatment, monitors growth goals and manages nutrition support. She is available to families both inpatient and in the Children's Cancer Center.

Jennifer Adkinson, MSW, LCSW, is a licensed clinical social worker who provides mental health therapy to outpatients at the Family Resource Center. Prior to her therapy role, she spent five years as a hospital social worker at CAMC Women and Children's. She participates in weekly rounding for the Children's Cancer Center patients and follows them for mental health needs.

Kendra Dye, NRCMA, is a pediatric medical assistant. She has provided quality care for hematology/oncology patients for the past four years after completing her clinical experience at the CAMC Cancer Center.

Andrew Kang is the Children's Chaplain at CAMC Hospitals. Andrew earned degrees from the University of North Carolina at Greensboro in Sociology and a Master of Divinity degree from Andrews University Seminary. Andrew completed his clinical chaplaincy training at UNC Medical Center and joined CAMC as full-time staff in 2022. He provides spiritual and emotional support to patient and families and offering supportive presence to staff. He is passionate about providing trauma-informed spiritual care and walking alongside people to provide encouragement, a gentle caring presence, and to share in holding the difficult stories and life's trials.

Services provided by this center accommodate those pediatric patients receiving care in which inpatient hospitalization is not required. Care is based on a family centered approach.

The CAMC Children's Cancer Center started a dedicated cancer survivorship clinic. An oncologist, psychologist, dietitian, and other pediatric subspecialties are available on the third Friday of every month to help our cancer survivors.

Infusion Services at the Children's Cancer Center include:

- IV infusions of chemotherapy
- Blood product transfusions
- Administration of immune disorder solutions
- Enzyme replacement therapy
- IV antibiotic therapy
- Serial laboratory work
- Intramuscular (IM) injections
- Management of centrally placed lines/ports

The Children's Cancer Center has state of the art equipment with each individual patient room providing comfortable recliners and a welcoming atmosphere offering games, televisions, DVDs and a playroom for each child battling cancer or other diseases to have the experience of a home environment during their treatment. All the patient rooms are private which allows for added safety and comfort for those who are sick or are immune compromised.

Our goal is to provide family centered care. For more information, click here to visit the CAMC Children's Cancer Center.

Publications in 2022:

Merry-Sperry, A., Alqudah, E., Magner, A., Thompson, S., Smith, P., Meyer, A., Badawi, M (2022). Pain Control in Pediatric Oncology: Utility of EMLA Cream vs Lidocaine Injection in Lumbar Punctures. Avicenna Medical Journal. https://doi.org/10.1055/s-0042-1758389. ISSN 2231-0770

Fraint E, Farooki S, Klein E, Mauguen A, Prockop SE, Scaradavou A, Curran K, Cancio M, Spitzer B, Boelens JJ, Oved J. Durable engraftment and excellent overall survival after CD34-selected peripheral blood stem cell boost in pediatric patients with poor graft function following allogeneic stem cell transplantation. Transplantation and Cellular Therapy. 2022 Oct. 6.

Alalem M, Bhosale M, Ranjan A, Yamamoto S, Kaida A, Nishikawa S, Parrales A, Farooki S, Anant S, Padhye S, Iwakuma T. Mutant p53 Depletion by Novel Inhibitors for HSP40/J-Domain Proteins Derived from the Natural Compound Plumbagin. Cancers. 2022 Aug. 29;14(17):4187.

Inpatient Oncology Unit

The inpatient oncology unit at CAMC Memorial Hospital is designed for the unique needs of our oncology population.

With 29 private rooms, this provides privacy and the convenience for participation of designated care partner to be actively involved in patient's plan of care.

The interdisciplinary care team works together to evaluate and direct the optimal course for the patients and their transition to home or ancillary facilities, with focus on symptom management and necessary in-home services that are available.

We recognize the importance of healing of the spirit and have provided for additional experiences such as arts and crafts, pet therapy and music therapy. We have a piano placed on our unit that anyone is welcome to use.

We strive to provide a healing atmosphere while assisting patients through a stressful and challenging time of their life.

Pathology

CAMC department of pathology laboratory medicine is accredited by the College of American Pathologists. The department's11 experienced pathologists actively participate in the cancer care at CAMC. The pathologists are all certified by the American Board of Pathology. Many of them hold subspecialty board certifications including hematopathology, neuropathology, cytopathology and transfusion medicine. Several pathologists have specialty training and particular areas of expertise and interest in fine-needle aspiration, gynecologic oncology, breast pathology, gastrointestinal pathology and bone and soft tissue (orthopedic) pathology.

The department offers in-house ancillary diagnostic modalities: flow cytometry, immunohistochemistry and automated quantitative image analysis. The department has telepathology capability for intraoperative consultation between all four CAMC hospitals.

Pathologists participate in conferences and tumor boards including: General and breast tumor board, urology tumor board, gynecology tumor board, gastrointestinal tumor board, thoracic tumor board, neuroscience rounds and orthopedic conference.

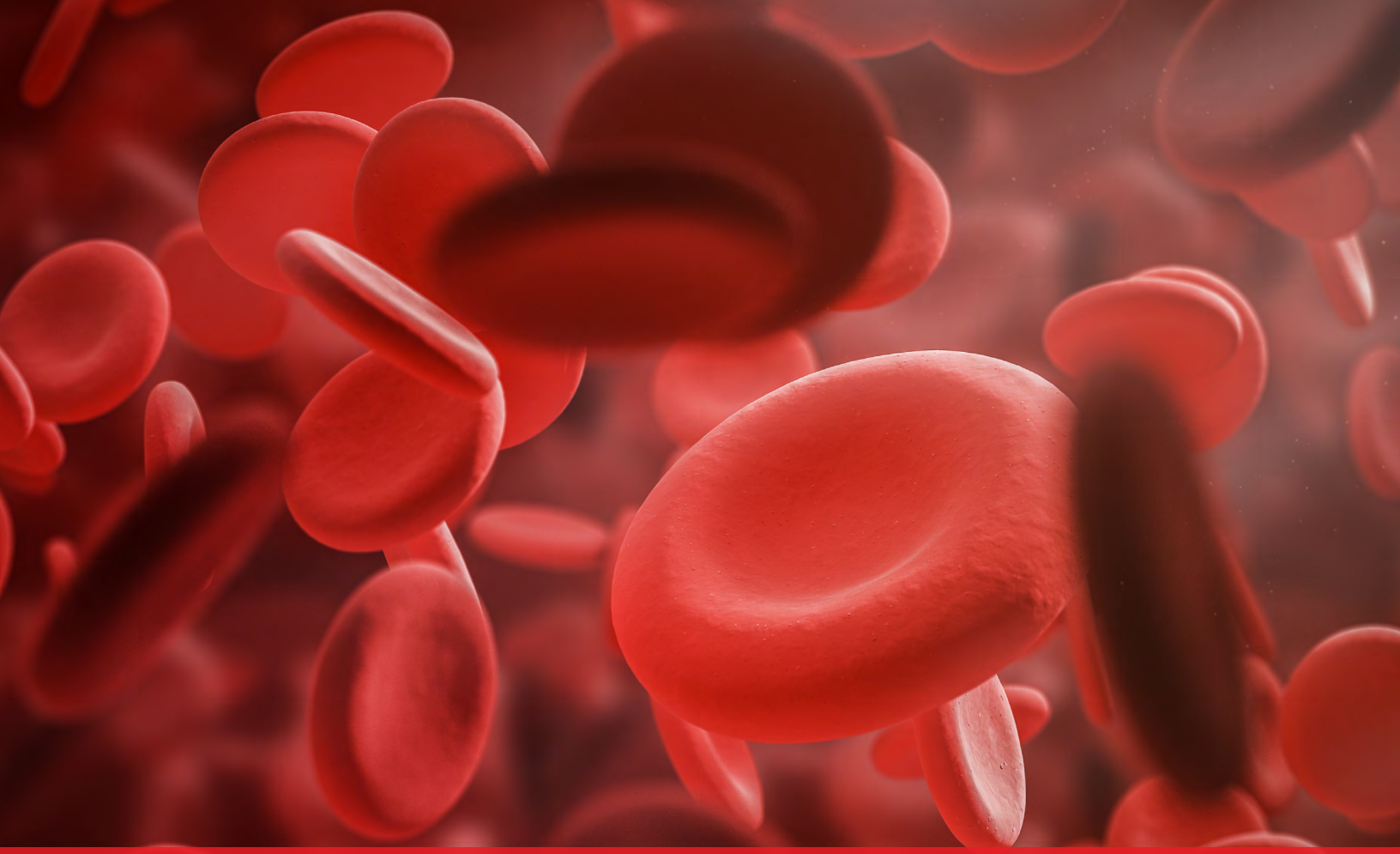
Surgery

Charleston Area Medical Center is fortunate to have a very experienced and well-trained group of surgeons that can effectively treat the cancer patients of the region.

The section of oncologic surgery has advanced steadily over the years, supported by a long history of cutting-edge approaches to the treatment of solid tumors.

Every week, surgeons treat patients with tumors of the breast, prostate, kidney, thyroid, colon, rectum, gynecologic, pancreas, liver, skin (including melanoma), esophagus, stomach, lung and many others.

A unique feature of the surgeons at CAMC is the collaborative effort put forth to ensure that the best care is provided for each patient. It is not unusual to have surgeons from different specialties or expertise to assist each other on some of the more complicated procedures when a multidisciplinary approach is needed. This teamwork approach assures the patient of better recovery and outcomes.



Hemophilia Treatment Center

The CAMC Hemophilia Treatment Center (HTC) is a comprehensive program funded in part through two federal grants for the diagnosis, treatment and prevention of bleeding disorders. People throughout the life span are seen who have a congenital bleeding disorder such as hemophilia, von Willebrand disease, and other bleeding disorders along with congenital clotting disorders such as factor V Leiden.

CAMC is part of the Mid-Atlantic/Region 3 federally funded hemophilia treatment centers. The comprehensive team includes a hematologist, nurse, social worker and physical therapists. Collaboration between providers such as orthopedic surgeons, dental providers and the patient/family provides education of bleeding disorders, home infusion teaching and support. This collaboration begins at birth or with a new diagnosis of a bleeding or clotting disorder.

An educational program is offered to schools, preschools, and daycares that have children who have been diagnosed with a congenital bleeding disorder. A Point of Care muscular/skeletal ultrasound (MSKUS) evaluation is offered during clinic appointments. This allows us to enhance patient education, improve patient outcomes along with containing costs associated with unnecessary factor product and expensive imaging studies like MRIs. This is the gold standard for joint evaluations by providing better visualization of the joints through ultrasounds.

In collaboration with the WV State Chapter of the National Hemophilia Foundation, the WV Oral Health Coalition and the CAMC HTC, a program is available for all patients needing dental care with local dentists who have knowledge of bleeding disorders. Financial assistance for dental care is available through the state chapter.

The annual Camp Hemovon is available for children ages 7-17 years old who have a congenital bleeding disorder.

Research studies are also available for eligible patients. Education and outreach for patients and their family members who have a bleeding disorder are focuses of the HTC.

In 2021, the Hemophilia Treatment Center moved into a new location at the Medical Staff Office Building at CAMC Memorial Hospital. This is dedicated space for the HTC, the patients and families for the treatment of bleeding and clotting disorders.

Palliative care

Palliative care is an inpatient service at CAMC that helps cancer patients and their families cope with the multiple dimensions of their disease. Attention focuses on quality of life and relief from pain and symptoms that can interfere with daily life. Assistance is also provided with goal clarification, advance care planning and discharge options. As part of the cancer team, palliative care collaborates with the oncologists, supporting curative treatment or helping with options when cure no longer is the goal.

Psychosocial, emotional and spiritual needs are addressed through family meetings with patients and their loved ones. Hospice referrals can be made if appropriate.

The team consists of a social worker, pharmacist, physicians and nurse practitioners available week days from 8 a.m. to 5 p.m. for inpatient consultations.

2022 Center for Cancer Research Status Report

CAMC Institute for Academic Medicine, Center for Cancer Research continues to provide local access to clinically relevant clinical trials, diagnostics and treatments to the people of West Virginia. We have an active Clinical Trial protocol list that covers a broad range of malignancies. We collaborate with major Cancer institutions such as the National Institute of Health/ NCI, Johns Hopkins, Cleveland Clinic, Duke, Ohio State and Sloan Kettering Cancer Centers.

This year we worked with CAMC Institute for Academic Medicine Clinical Trials Center on several projects including studies that involve blood and tissue collection for the development of new diagnostic assays for cancer patients. We have also worked with Outcomes Research on investigator-initiated projects.

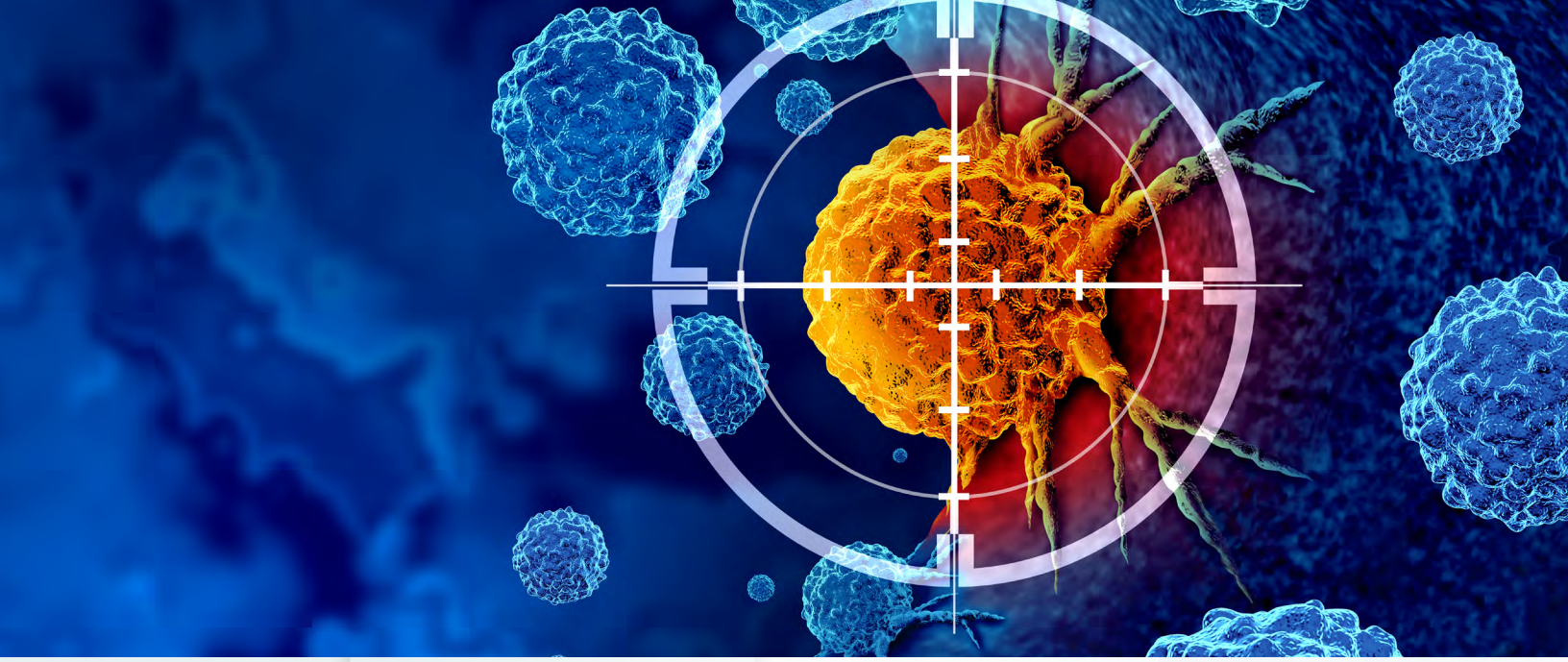
Our Principal Investigator for the last several decades was Dr. Steven Jubelirer, he retired this year. There is no adequate way we can acknowledge Dr. Jubelirer's contributions to the Cancer Research Center, we are immensely grateful for his leadership in the field of cancer research, and we will miss him. While we are saddened by the retirement of Dr. Jubelirer, we are pleased to be working with Dr. Ahmed Khalid as our new Principal Investigator, Dr. Khalid has been an active investigator for many years and has graciously accepted this leadership role. Also, we would like to acknowledge Dr. Stephen H Bush II our lead investigator for our gynecologic oncology protocols. He has been a consistent contributor to our accrual over the past years.

Dr. Amir Kamran the Director of the Hematology and Oncology Fellowship program has been on-site for the last year preparing for the credentialing of the Fellowship program. Individual research will be a part of the fellows course of work and we plan to play a supporting role in the process.

From the Outcomes Research department, the following projects have been ongoing and or published or presented by our local investigators:

Knotts C, Van Horn A, Orminski K, Thompson S, Minor J, Elmore M, Richmond BK. Clinical and Socioeconomic Factors that Predict Non-completion of Adjuvant Chemotherapy for Colorectal Cancer in a Rural Cancer Center. Am Surg. 2023 May;89(5):1592-1597. doi: 10.1177/00031348211054708. Epub 2022 Jan 4. PMID: 35850535.

Deipolyi AR, Johnson CB, Riedl CC, Kunin H, Solomon SB, Oklu R, Hsu M, Moskowitz CS, Kombak FE, Bhanot



U, Erinjeri JP. Prospective Evaluation of Immune Activation Associated with Response to Radioembolization Assessed with PET/CT in Women with Breast Cancer Liver Metastasis. Radiology 2023;306(1):279-87. PMID:35972356

Tobin EC, Nolan N, Thompson S, Elmore M, Richmond BK. The Intersection of Race and Rurality and its Effect on Colorectal Cancer Survival. Am Surg [published online: March 08, 2023]. PMID:36890731

Daye D, Panagides J, Norton L, Ahmed M, Fukuma E, Ward RC, Gomez D, Kokabi N, Vogl T, Abi-Jaoudeh N, Deipolyi A. New Frontiers in the Role of Locoregional Therapies in Breast Cancer: Proceedings from the Society of Interventional Radiology Foundation Research Consensus Panel. J Vasc Interv Radiol [published online: July 04, 2023]. S1051-0443(23)00497-9 PMID:37414212

Deipolyi AR, Ward RC, Riaz A, Vogl TJ, Simmons RM, Pieper CC, Bryce Y. Locoregional Therapies for Primary and Metastatic Breast Cancer: AJR Expert Panel Narrative Review. AJR Am J Roentgenol. Jun 28. PMID:37377360

Ranjan T, Sengupta S, Glantz MJ, Green RM, Yu A, Aregawi D, Chaudhary R, Chen R, Zuccarello M, Lu-Emerson C, Moulding HD, Belman N, Glass J, Mammoser A, Anderson M, Valluri J, Marko N, Schroeder J, Jubelirer S, Chow F, Claudio PP, Alberico AM, Lirette ST, Denning KL, Howard CM. Cancer stem cell assay-guided chemotherapy improves survival of patients with recurrent glioblastoma in a randomized trial. Cell Rep Med 2023 May 16;4(5):101025. PMID:37137304

Richmond BK, Gallimore J. Genetic Considerations in the Tumorigenesis, Diagnosis, and Treatment of Differentiated Thyroid Cancer: Current State of the Science. Am Surg [published online: May 30, 2023], 31348231180952. PMID:37253623

Zekan D, O'Connor L, Novak M, Elbakry A, Wiseman B, Haffar A, Williams A, Hale N, Luchey A, Hajiran A. Rural disparities in penile cancer: A multi-institutional statewide review in West Virginia. The Journal of Urology. 209(45):Supplement. 04/28/2023

Currently accruing studies by local investigators

- Incidence and epidemiology of biliary cancers in the Charleston service area
- Utilization of adjuvant therapy among completely resected non-small cell lung cancer (NSCLC) patients at CAMC.
- A survey of cancer risk factors of those living in the Charleston, WV, area
- Utilization of health care resources by patients who died at CAMC.
- Surveillance of Hodgkin's Lymphoma patients at CAMC and within the TriNetX database.
- Health literacy inpatients with early state cancer
- Reviewing the pattern of care and treatment effectiveness for Glioblastomas at CAMC
- Assessing the use of clinic and hospital services to treat the emerging health problems of breast cancer patients after chemotherapy at CAMC.
- The role of metformin in prolonged survival in renal cell carcinoma
- Barriers to mammograms in the West Virginia Population
- Inflammatory breast cancer a CAMC, a 10-year review

- Breast Cancer during pregnancy
- Relation of absolute number of polyclonal CD5+ B-cells in the peripheral blood to the various human disease
- Factors related to delayed treatment between diagnosis and initial treatment in West Virginia Patients with breast cancer.
- Extracting Larger Uteri at Time of Minimally Invasive Hysterectomy
- Effect of LAOO on atrial fibrillation
- Improving Sun Protection Knowledge in Children in West Virginia
- Predicting Successful Laparoscopic Transhiatal Esophagectomy by Preoperative Mediastinal height measurement: A Retrospective Study
- Ability of MRIUS Fusion Prostate Needle Biopsy to Detect Clinically Significant Prostate Cancer in a Community-Based Hospital Setting
- Implementation and outcomes of prostate needle biopsy using a trans-perineal approach.
- Transurethral resection and single installation intravesical chemotherapy evaluation in bladder cancer treatment
- Prostate Health Index and Positive Prostate Needle Biopsies
- Depression and Adjuvant Chemotherapy in bladder cancer patients
- Does Same Day Discharge Post Robotic Radical Prostatectomy Affect Patient Outcomes?
- Contemporary surgical management of advanced renal cell carcinoma with venous extension: Does timing of pre-operative imaging make a difference?
- Utilization of the Lung Cancer Screening Program at CAMC

We thank our investigators and staff for their hard work on these important cancer related projects.

Research is a key element in the American College of Surgeons Cancer Center accreditation program. The Center for Cancer Research has consistently met or exceeded the accrual goals required for the Academic Comprehensive Cancer Program with the cooperation of the CAMC Clinical Trials Center and the CAMC Outcomes Research departments.

Clinical trials have the potential for positively changing the treatment paradigm of cancer patients and we are always looking forward to the opportunity to participate in this process.

CAMC Center for Cancer Research is committed to providing the people of WV access to state-of-the-art clinical trials, our mission is to continue to improve the treatment of cancer through the clinical trial process.

Augusta Kosowicz, PA-C,
Heather Thaxton, RN, OCN
Donna Pauley, BA, CCRA
Megan Ware, BA, CCRA
Jongie Shelton, BA

Cancer Registry

Cancer Registries have existed since 1913 to systematically collect diagnostic and treatment data on cancer patients. This data collection involves cancer occurrence type, extent, treatment, and outcomes as reported both nationally to the National Cancer Data Base (NCDB) and to the West Virginia state cancer registry. As an accredited cancer program with the Commission on Cancer (CoC), Charleston Area Medical Center is we are required to maintain a cancer data registry to collect information on all patients diagnosed and/or treated at a CAMC facility.

Since the NCDB was formed in 1989 physicians, researchers, facilities, and other interested parties have a means by which we can study the efficacy of cancer treatments for cancers diagnosed at varying stages of disease. A facility can compare performance with the other CoC accredited facilities to assist in evaluating and improving patient outcomes. A researcher can use this data to help identify when one treatment is more effective than another. Such as the case with the treatment of breast cancer when data showed that breast conserving therapies were as effective as the radical mastectomies performed in the past and resulted in major changes in how breast cancer has been treated in recent years.

Throughout this annual report there are graphs of data collected by CAMC's cancer registry demonstrating how CAMC compares to other CoC accredited facilities. The following statistics may be of interest:

- CAMC has the highest volume for cancer care in West Virginia
- In 2022, CAMC accessioned 2,252 new cancer patients into the registry. CAMC has 67,353 cancer cases in the cancer registry database. Of this total population 33,954 patients have been diagnosed and/or treated since Jan. 1, 2005.
- CAMC's follow-up rate of all patients in the registry is currently 93.48 % well above the CoC's required standard of 80%. Likewise, CAMC's follow-up rate for patients diagnosed within the past five years is at 92.57% above the required 90% rate.
- The annual Call for Data for the NCDB was performed on 03-08-23 and resulted in zero quality problems and zero cases being rejected on the first submission.
- Some registrars attended the West Virginia State Cancer Registrar's Annual Meeting on 10-21-22 in Flatwoods, WV
- Susan Thompson attended the National Cancer Registrars Association Annual Conference virtually May 8 – 10, 2023.
- CAMC staff also receives training through monthly webinars from the NCRA and the North American Association of Central Cancer Registries (NAACCR).

The CoC requires personnel working in the cancer registry to obtain the Certified Tumor Registrar (CTR) credential within three years. This standard was implemented Jan. 1, 2015. CAMC recognized the importance of having educated staff in the registrar role and began enrolling all registry staff in training programs well before the CoC made this requirement Jan. 1, 2015. All staff who abstract are credentialed. Staff members include:

- Melissa Roebuck, CTR
- Susan Thompson, CTR
- Jennifer Butcher, CTR

CAMC hired an additional employee to the cancer registry in November 2020, Tessa Kinder. She comes to the registry from the coding department. She will be performing AA responsibilities, follow-up, case finding and various other duties. Kinder has completed her pre-requisite studies and has enrolled and began her AHIMA Cancer Registry Program.

Cancer registry data elements are nationally standardized and considered open source. Each of these measures were developed by the CoC with the exception that cancer registries would be used to collect the necessary data to assess and monitor concordance with the measures. Extensive assessment and validation of the measures were performed using cancer registry data reported to the National Cancer Database (NCDB).

All measures are designed to assess performance at the hospital or systems-level and are not intended for application to individual physician performance.

In the Commission on Cancer (CoC) Optimal Resources for Cancer Care (2020 Standards), Standard 7.1 requires CoC-accredited cancer programs to treat cancer patients according to nationally accepted measures indicated by the CoC and included in the Rapid Cancer Reporting System (RCRS) tool. Standard 7.1 states that each calendar year, the expected performance rate is met for each of the selected Standards measures as defined by the CoC, and the cancer committee of each accredited program monitors them.

New quality measures were added in 2022

- New breast quality measure – BCSdx – First therapeutic breast surgery in a non-neoadjuvant setting is performed within 60 days of diagnosis for patients with AJCC Clinical Stage I-III breast cancer.
- New gastric quality measure – GCTRT – Neoadjuvant chemotherapy and/or chemo-radiation is administer within 120 days preoperatively for patients with AJCC cT2+ or cN1,cM0 for gastric carcinoma; or (cT2 and poor differentiation) or cT3+ or cN1, cM0 for esophageal or gastroesophageal junction carcinoma, age 18-79.
- New head and neck measure – HadjRT – Time to initiation of postoperative radiation therapy less than 6 weeks for patients with surgically-managed head and neck squamous cell carcinoma.
- New melanoma quality measure – MadjRx – Melanoma adjuvant systemic therapy was administered within 6 months of surgery or recommended for eligible patients with Stage IIIB-D resected melanoma.
- New rectum quality measure – RCRM – Circumferential Margin is greater than 1 mm from the tumor to the inked, non-serosalized resection margin for Rectal Resections.

Rapid Cancer Reporting System (RCRS) The following updates to the measure specifications were applied in July 2023.

Change Measures affected Description Clinical updates to three Quality Measures BCSRT Clinical definition of the breast BCSRT measure selection criteria changed from: Radiation therapy is administered within one year (365 days) of diagnosis for women under age 70 receiving breast conserving surgery for breast cancer to new definition Radiation therapy, when administered, is initiated less than or equal to 60 days of definitive surgery for patients receiving breast conserving surgery for Stage I-III breast cancer who do not undergo adjuvant chemo- or immuno-therapy.

Result: Programs will see differences in the EPRs, and denominator counts due to the major change in clinical requirements.

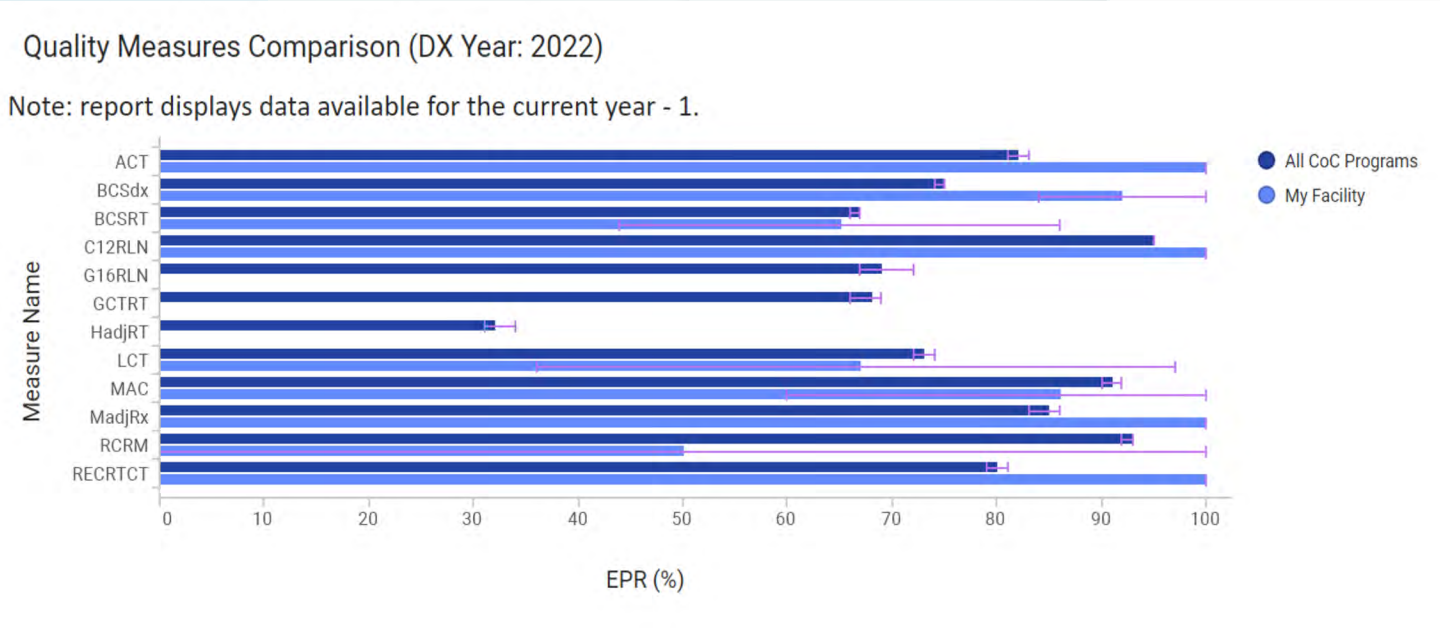
G16RLN The name of the G15RLN measure has changed to G16RLN. Clinical definition of the new gastric G16RLN measure selection criteria changed from: At least 15 regional lymph nodes are removed and pathologically examined for resected gastric cancer to new definition: At least 16 regional lymph nodes are removed and pathologically examined for patients with surgically resected gastric adenocarcinoma undergoing curative intent therapy.

Result: Programs will see differences in the EPRs and denominator counts due to the change in clinical requirements: increase to 16 regional lymph nodes and exclude palliative care.

LCT Clinical definition of the lung LCT measure selection criteria changed from: Systemic chemotherapy is administered within four months to day preoperatively or day of surgery to six months postoperatively, or it is recommended for surgically resected cases with pathologic, lymph node-positive (pN1) and (pN2) NSCLC. to new definition: Systemic chemotherapy, immunotherapy or targeted therapy is administered or recommended within three months preoperatively or three months postoperatively for surgically resected cases with pathologic T2 greater than 4cm or T greater than or equal to 3, or N greater than or equal to 1 NSCLC.

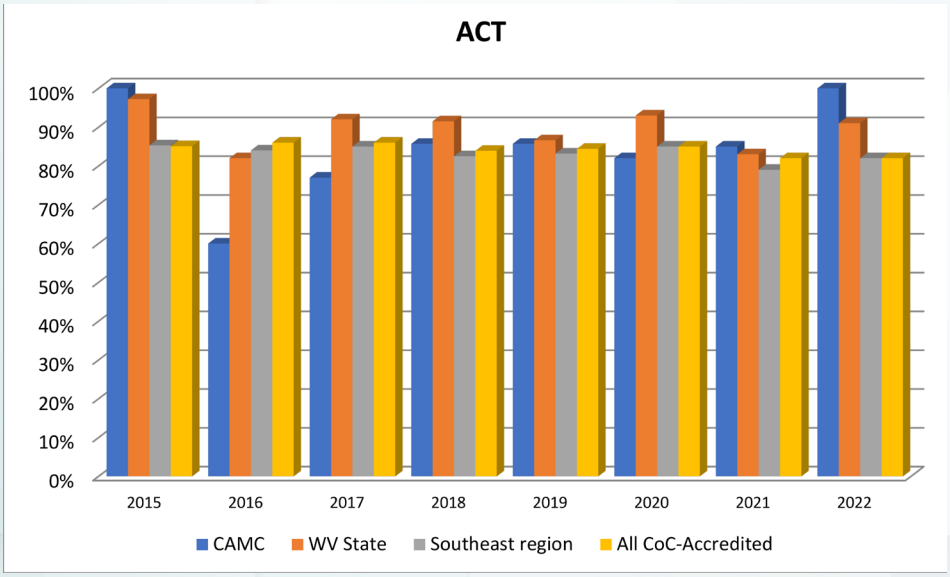
Result: Programs will see differences in the EPRs and denominator counts due to the major change in clinical requirements.

The Rapid Cancer Reporting System (RCRS) is a voluntary program of the National Cancer Data Base (NCDB) that allows facilities to review and track performance on a more concurrent basis. Charleston Area Medical Center (CAMC) chose to participate at the inception of RCRS because the Cancer Committee realized the potential value in being able to identify patients who may be nearing deadlines for evidence-based guidelines. The Cancer Registry submits data and monitors RCRS monthly to identify and alert providers to patients who are at risk for not receiving timely medical treatment.



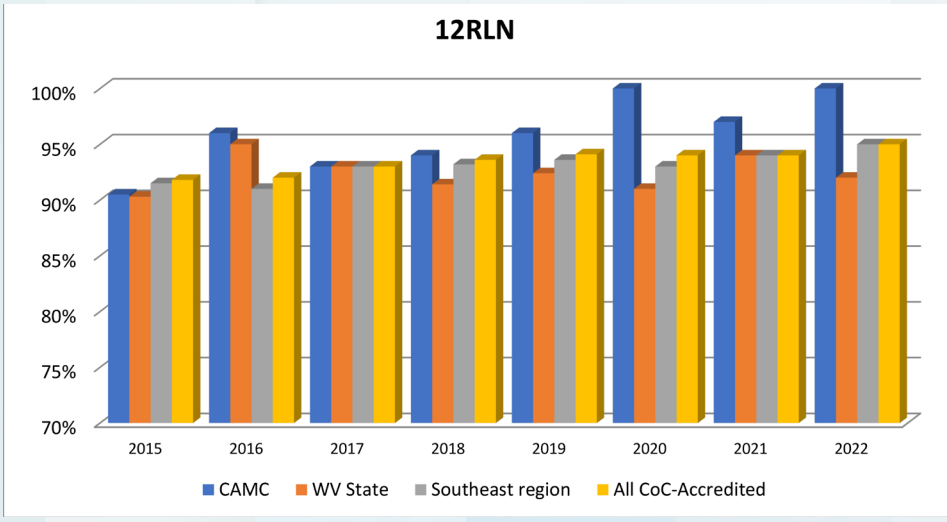
ACT is the NCDB's designation for one of the colon quality measures. The definition states, "Adjuvant chemotherapy is considered or administered within four-month (120 days) of diagnosis for patients under the age of 80 with AJCC Stage III (lymph node positive) colon cancer."

This result is an example of CAMC's continued journey toward excellence in cancer treatment.



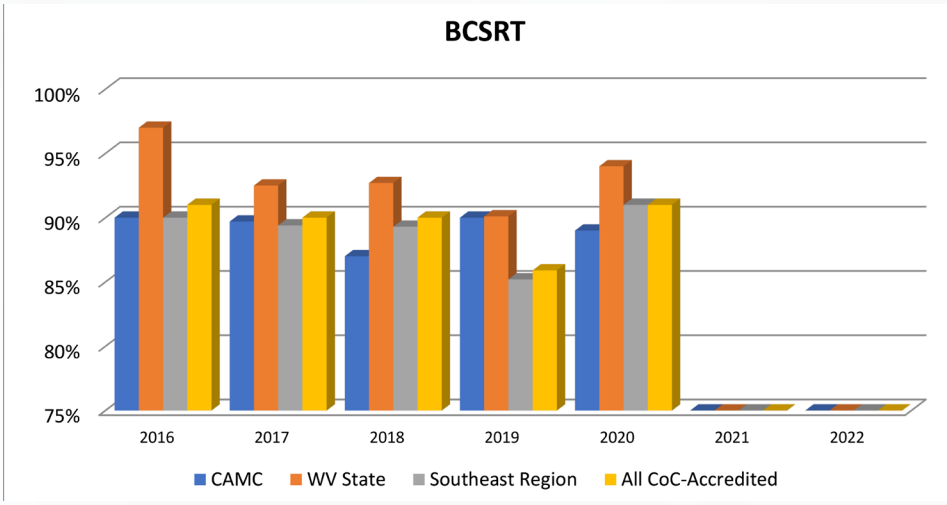
12RLN is the NCDB's designation for lymph node removal for colon cancers. This measure is defined as, "At least 12 regional lymph nodes are removed and pathologically examined for resected colon cancer."

This is a measure that CAMC continues to improve upon. Looking at the graph, CAMC has always led the state in performance on this measure. In 2022, CAMC continues to exceed performance in comparison to WV, the Southeast region and all other CoC-accredited facilities.



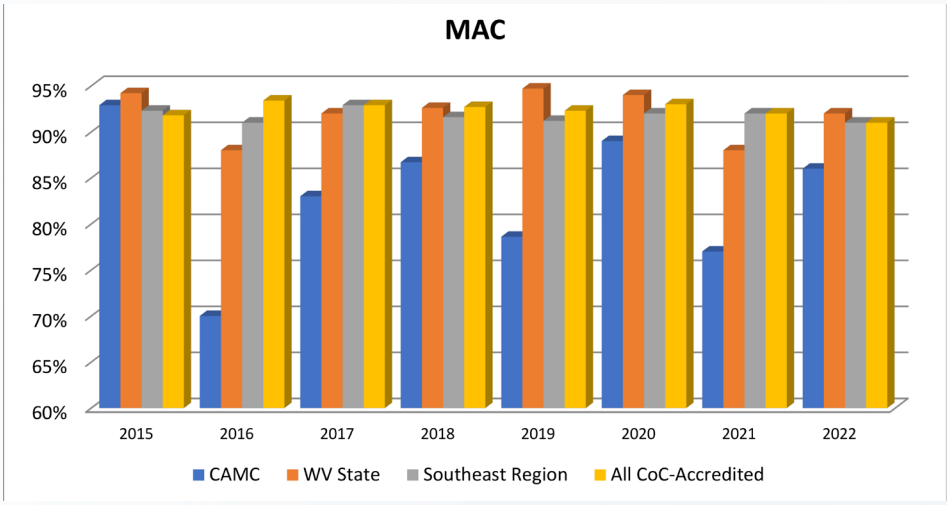
BCSRT is the NCDB's designation for radiation therapy in breast cancer. The definition states, "Radiation therapy is administered within one year (365 days) of diagnosis for women under age 70 receiving breast conserving surgery for breast cancer."

July 2023 – Definition changed to radiation therapy, when administered, is initiated less than or equal of 60 days of definitive surgery for patients receiving breast conserving surgery for Stage I-III breast cancer who do not undergo adjuvant chemo or immuno-therapy.



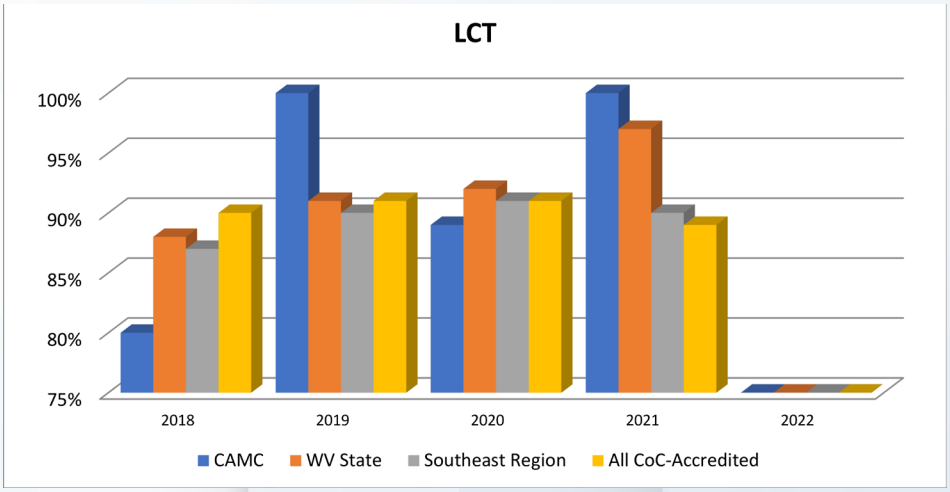
MAC is the NCDB designation for chemotherapy in breast cancer. The definition states, "Combination chemotherapy is considered or administered within four months (120 days) of diagnosis for women under 70 with AJCC T1cN0M0, or stage IB – III hormone receptor negative breast cancer."

This is a multifactorial issue, including cases which treatment was delayed due to significant co-morbidities or complications that impacted performance rates. CAMC continues to monitor for improvement.



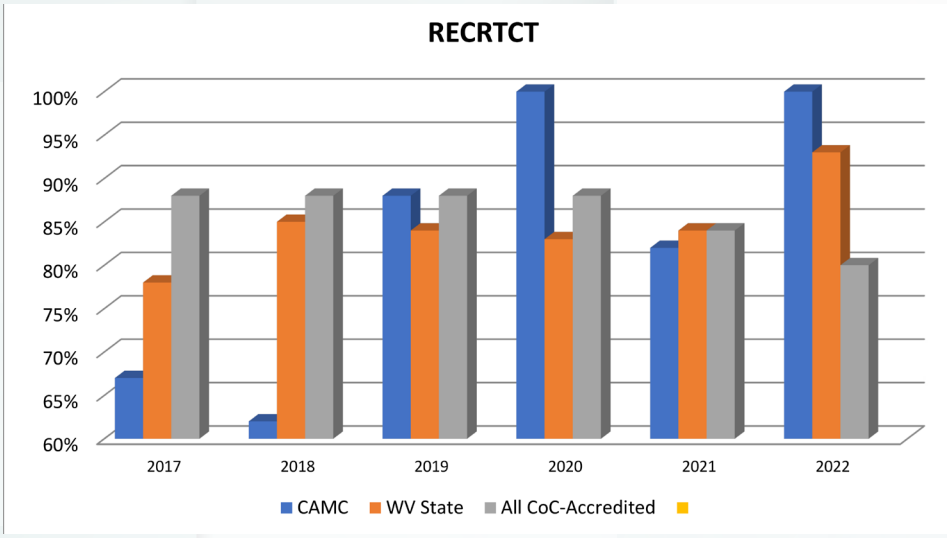
LCT - Systemic chemotherapy is administered within four months to day preoperatively or day of surgery to six months postoperatively, or it is recommended for surgically resected cases with pathologic, lymph node-positive (pN1) and (pN2) NSCLC.

July 2023 - LCT Clinical definition of the lung LCT measure selection criteria changed from: Systemic chemotherapy is administered within four months to day preoperatively or day of surgery to six months postoperatively, or it is recommended for surgically resected cases with pathologic, lymph node-positive (pN1) and (pN2) NSCLC to new definition: Systemic chemotherapy, immunotherapy or targeted therapy is administered or recommended within three months preoperatively or three months postoperatively for surgically resected cases with pathologic T2 greater than 4cm or T greater than or equal to 3, or N greater than or equal to 1 NSCLC.

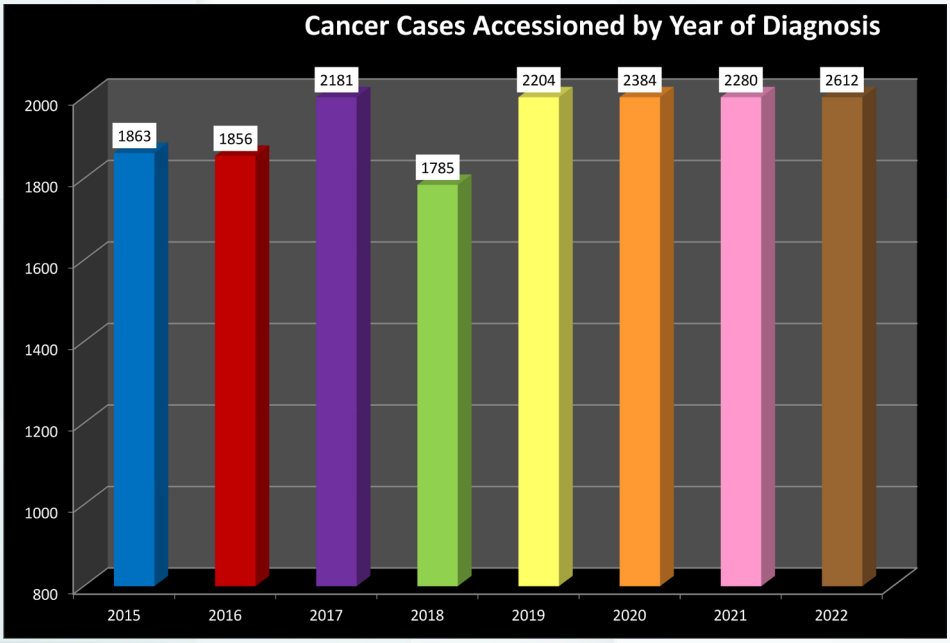


RECRTCT - Preoperative chemo and radiation are administered for clinical AJCC T3N0, T4N0 or Stage III; or Postoperative chemo and radiation are administered within 180 days of diagnosis for clinical AJCC T1-2N0 with pathologic AJCC T3N0, T4N0 or Stage III; or treatment is recommended; for patients under the age of 80 receiving resection for rectal cancer.

This result is an example of CAMC's continued journey toward excellence in cancer treatment.



Cancer Cases Accessioned by Year of Diagnosis



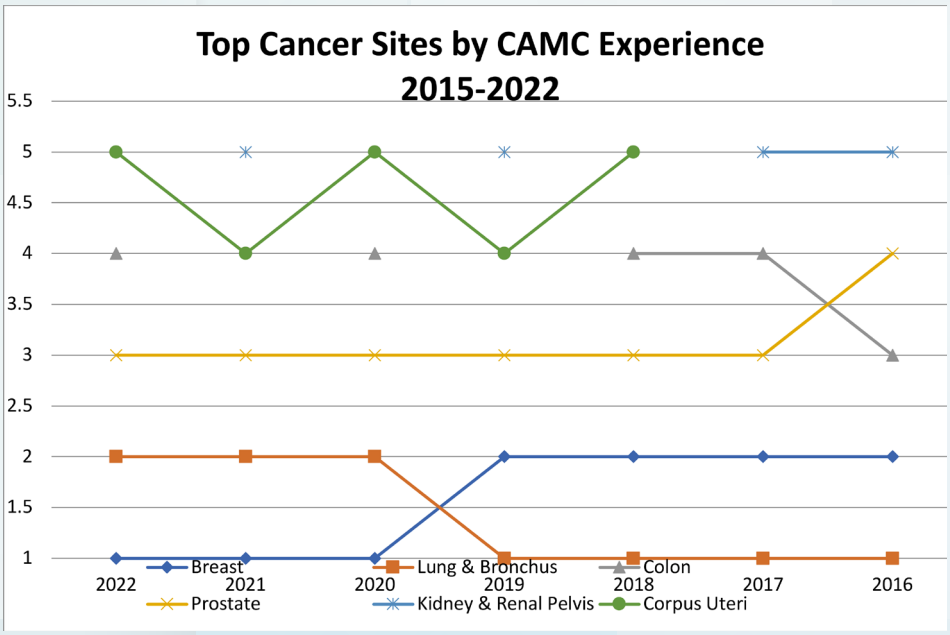
Reviewing the top cancer sites, regardless of gender, over the past seven years, definite patterns emerge.

Breast cancer had consistently remained the top cancer site at CAMC based on volume since 2008, with lung cancer ranking second; until 2016 when they switched places.

Lung being No. 1 and breast No. 2. Lung remained in the No. 1 position through 2019.

In 2020 breast once again became the top cancer site at CAMC and remained there for 2021 and 2022.

Prostate has remained in the third position since 2017.

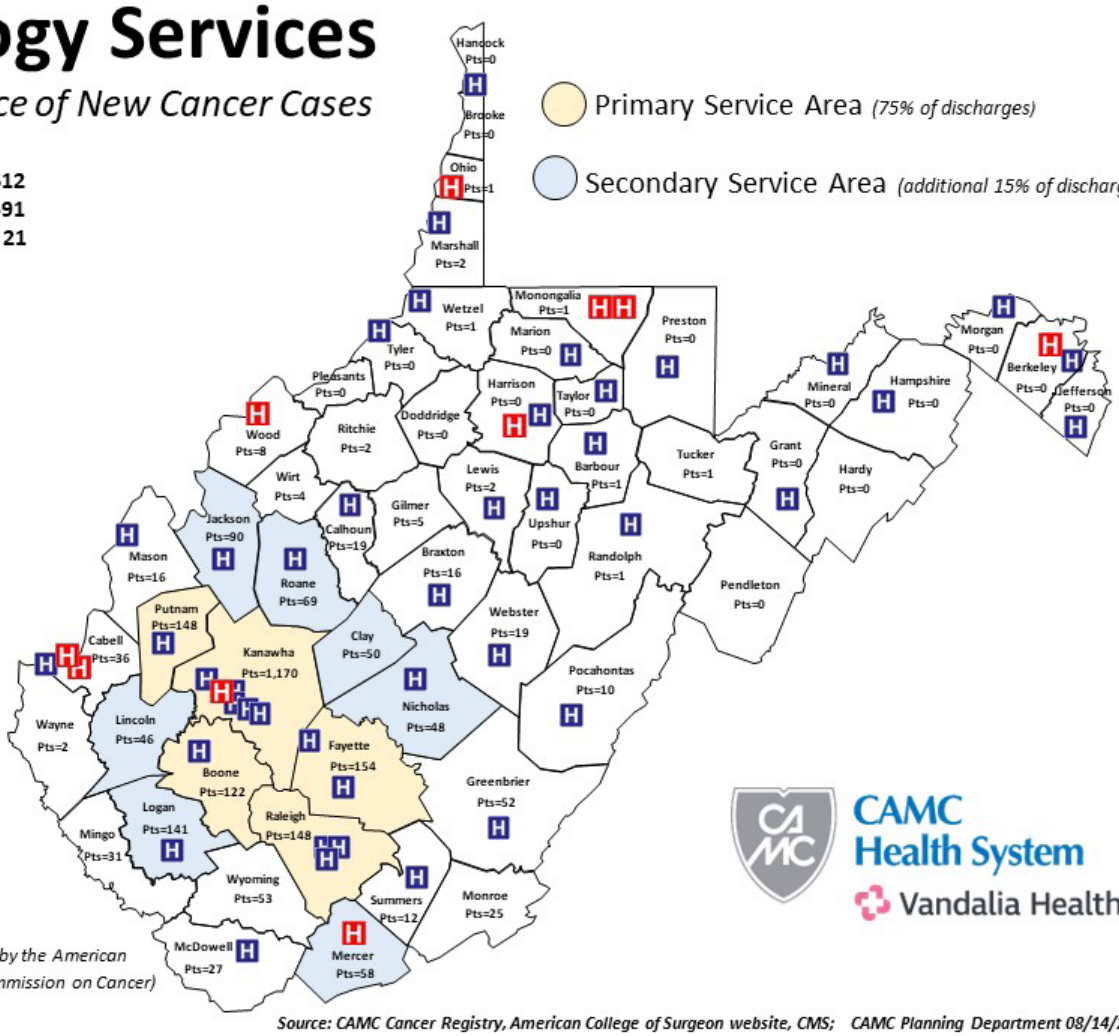


Oncology Services

2022 Incidence of New Cancer Cases

Total Cases: 2,612
WV Cases: 2,591
Out of State Cases: 21

Virginia	**7**
Bland	1
Charlottesville	1
Covington	1
Tazwell	3
Wythe	1
Kentucky	**4**
Boyd	1
Carter	1
Johnson	2
Florida	**2**
Brevard	1
Escambia	1
Ohio	**6**
Franklin	1
Gallia	3
Meigs	2
Idaho	**1**
Owyhee	1
North Carolina	**1**
Unknown	1



Source: CAMC Cancer Registry, American College of Surgeon website, CMS; CAMC Planning Department 08/14/23

CAMC Cancer Services and Oncology Physicians

GASTROENTEROLOGY
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Nadeem Anwar, MD
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Emily Battle, MD
Harleen Chela, MD
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Sara Iqbal, MD
Kamran Zahid, MD

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Michael V. Korona, Jr., MD, FACR

MEDICAL ONCOLOGY
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Anahat Kaur, MD

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Lana Christiano, MD

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Michael Elmore, MD

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COMPLEX GENERAL SURGICAL ONCOLOGY

Breast
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Jade Gallimore, DO
Shane Monnett, DO

Surgical endocrinology
Bryan Richmond, MD

PALLIATIVE CARE
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James Mears, MD

PATHOLOGY
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Derrick Green, MD
Zachary Grimes, DO
Darlene Gruetter, MD
Tzongwen Huang, MD
Tomislav Jelic, MD
William Mangano, MD
Nadia Naumaova, MD
Andrew Plata, MD
Milton Plata, MD
Jeremy Powers, MD
Stephanie Wright, MD

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J. David Hayes, MD
Justin L. McKinney, DO
William A. Stewart, MD

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Steven Mandish, MD
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