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CAMC Cancer Center

The Cancer Center is for adult medical oncology and hematology care. A DNV (Det Norske Veritas) 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 April 2017. CAMC received an accreditation status for three years without contingency.

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.

The Cancer Center:
• Provides infusion for an average of 60–70 patients daily.
• Teays Valley office offers hematology/oncology services and infusion for patients in that area.
• Features a majority of nurses certified in oncology.
• Nurses continue to participate with the state Oncology Nursing Society chapter.
• Has two board certified oncology 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.
• 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.
COPING WITH CANCER can be incredibly stressful. Patients may face many challenges, including completing complicated medical and insurance forms, figuring out how to pay the bills if one can’t work while undergoing treatment, arranging for transportation to treatment, and coping with anxiety and stress. Luckily the Comprehensive Assistance with Resources and Education (CARE) Team is here to help. Located on the first floor of the CAMC Cancer Center in the Patient Resource Center, this multi-disciplinary team consisting of nurse navigation, financial navigation, social work, psychology, and nutrition helps patients address stressors and barriers which may interfere with their cancer treatment and care. The Cancer Center provides support services including patient/family support, staff support, crisis intervention, prayer, rituals, sacraments, pastoral counseling, bereavement support and ethical consultations. Patients can also obtain free information on their specific disease in the Patient Resource Center.

Individual and group psychotherapy is offered to cancer patients, survivors, and family members based on the most up-to-date evidence-based treatment. In 2018, psychological services expanded to include Meaning-Centered Psychotherapy (MCP) for Patients with Advanced Cancer. Developed at Memorial Sloan Kettering by Dr. William Breitbart and his team, MCP is an intervention which helps those living with chronic illness to decrease feelings of sadness and increase hope by focusing on creating, experiencing, and keeping a sense of meaning in life. MCP typically runs from 7 to 8 sessions, and includes discussion and teaching tips on historical, attitudinal, creative, and experiential sources of meaning.

Support services include free exercise programs. Healthy Steps is a medically based exercise program with positive effects for cancer survivors, especially individuals who have or are at risk for lymphedema.

Preventing cancer and identifying cancer in the early stages encompass goals for the CARE Team. In 2018, CAMC Cancer Center held a Cancer Prevention and Screening Day. Discount lab work was offered as well as education and screenings. Approximately 100 community members participated in screenings, including colon, skin, lung, breast and prostate cancer screenings.

In addition to providing support services for adults, the CAMC Cancer Center offers help for children as well. Gigi’s Place is an area dedicated to the emotional and psychological well-being of children who have a loved one undergoing treatment or who have lost a parent to cancer. Counseling services are provided to children by a licensed child psychologist. Gigi’s Place was created in honor of a young mother who lost her battle with cancer.

Referrals to the CARE Team are multi-faceted. An initial visit with the oncologist also includes a visit with a CARE team member who completes an assessment of any potential barriers or stressors which may impede care, and aids the patient in accessing resources. Patients also complete the Distress Thermometer, a screener to assess for distress related to various domains including practical and financial, emotional, spiritual and physical concerns. High distress scores trigger a consultation with the appropriate CARE team member. Patients can also call or stop in at the Patient Resource Center and speak with someone.

To talk with someone from our CARE Team, please stop by the Patient Resource Center, call (304) 388-8612.

For more information about Gigi’s Place, call (304) 388-9690 or visit camc.org/CancerCenter.
CAMC Cancer Center Walk-In Clinic Now Open!

- Quick, convenient access for non-emergency care
- For existing patients in active treatment
- Staffed by medical providers who specialize in cancer care
- Walk-ins welcome – no appointment or referral required

Hours: Monday through Friday, 8 a.m. to 3 p.m.

For more information, ask our friendly staff!

(304) 388-8380

3415 MacCorkle Ave. SE, Second floor | Charleston, WV 25304
Cancer Survivorship

LIFE AFTER CANCER, also called survivorship, may bring its own set of challenges. CAMC Cancer Center is here to help patients from diagnosis through survival and beyond, and the survivorship program ensures that survivors do not feel lost during this transition.

All cancer patients who have received treatment with a curative intent are offered a survivorship visit. This visit provides a way for cancer survivors to discuss their health, well-being, diagnosis, treatment and follow-up care with a health professional to ease anxiety and increase their knowledge about next steps. A survivorship care plan is provided to patients and their primary care providers.

A survivorship care plan details your:
Diagnosis
Treatment plan
Follow-up Care
Possible long-term side effects
Health Promotion Suggestions

In addition to programs for patients, CAMC Cancer Center held a conference entitled “Cancer Survivorship: What the Primary Care Provider Needs to Know.” Approximately 60 professionals attended the conference to gain CEUs and learn tips to help care for our cancer survivors.

For more information please stop by the Patient Resource Center or call (304) 388-8612.

Breast Cancer Survivorship Weekly Group Topics:

Session 1: Finding a New Normal – Coping after treatment, Support members’ reactions, things people say about cancer
Session 2: Tasks of Survivorship – survivorship care plans, how to find information you can trust, information online, Fact-seeking
Session 3: Dealing with Uncertainty/Fear of Recurrence
Session 4: Health Habits/Nutrition/Exercise
Session 5: Coping with Fatigue and Getting Good Sleep (problem-solving for long-term side effects)
Session 6: Body Image
Session 7: Sex after treatment
Session 8: Achieving a New Normal – Goals for going Forward

The cancer survivorship program at CAMC expanded in 2018 with the Lung Bridge Program. Lung cancer patients who have completed treatment with a curative intent meet with a multi-disciplinary team to assess their physical and emotional health as well as practical concerns. The team includes visits with a nurse practitioner, nurse navigator, psychologist, social worker, physical and occupational therapist and dietician. The providers collaborate with each other and patients to provide the best care possible.

Once patients complete treatment for their cancer, mixed emotions can follow: excitement that treatment is over, guilt for surviving when others have not, and fear of recurrence. Discussing these concerns with others who have had similar experience is beneficial. To meet this need, the Cancer Center offers survivorship groups led by a psychologist, survivalship coordinator and nurse navigator. These eight-week intensive survivorship groups are planned to help any cancer survivor achieve their “new normal” as they adjust to life post-treatment.
DESPITE A DRAMATIC INCREASE IN INNOVATION, treatments and best practices to improve cancer care, cancer disparities are increasing. More than 90% of 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.

Nowhere is this problem more evident than in rural America. For all five leading causes of death in the United States — heart disease, stroke, cancer, unintentional injury and chronic lower respiratory disease — rural areas have higher mortality rates than cities and suburbs.

The mortality gap in cancer is especially stark — people in nonmetropolitan counties are more likely to die from cancer than their urban and suburban counterparts even though they have lower rates of diagnosis, the Centers for Disease Control and Prevention recently reported. And that gap is widening.

Project ECHO links expert specialist teams at an academic hub with primary care clinicians in local communities. Primary care clinicians, the spokes in our model, become part of a learning community, where they receive mentoring and feedback from specialists. 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 ECHO model can amplify the work of organizations to share best practices and increase provider satisfaction, self-efficacy, and capacity to decrease cancer disparities globally.

“Expert teams are at the heart of the ECHO model™. The experts use multi-point videoconferencing to conduct virtual clinics with community providers. In this way, primary care doctors, nurses, and other clinicians learn to provide excellent specialty care to patients in their own communities.”

— DR. STEVEN JUBELIRER

The CAMC Cancer Center has conducted three 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. Didactics have been presented by Dr. Steven Jubelirer, a CAMC Cancer Center medical oncologist, and Margaret Loftis, a CAMC Cancer Center dietitian.

Future Project Echo sessions are being scheduled. Please Josh Kent, CAMC continuing education, at (304) 388-9963 or by email Josh.Kent@camc.org for more information.
Patients and survivors show off

TREATMENT FOR CANCER CAN CAUSE TEMPORARY OR LASTING CHANGES including hair loss, scarring, and bodily changes which can all affect how one dresses, looks, and feels. But with the right fashion and accessories, patients can help regain control and sense of self during and after treatment.

The second annual CAMC Cancer Center Fashion Show was held Friday, Oct. 26, 2018. With all of the doctor appointments, treatments, and well-wishes from friends and family, cancer becomes the main focus in one’s life.

Changes due to treatments and surgeries can make one’s private illness extremely public. The fashion show provided tips to attendees on how to dress to accommodate changes and provided education on where to find garments specifically designed to cope with changes to increase self-esteem and body image.

This event was made possible by funding from many generous gifts to the CAMC Foundation.

Cancer Center puts hair loss on ice

ONE OF THE MOST NOTICEABLE SIDE EFFECTS of chemotherapy is hair loss.

Some patients use cold caps to keep their hair while undergoing chemo.

Cold caps and scalp cooling systems work by narrowing the blood vessels beneath the skin of the scalp, reducing the amount of chemotherapy medicine that reaches the hair follicles. With less chemotherapy medicine in the follicles, the hair may be less likely to fall out. The cold also decreases the activity of the hair follicles, which slows down cell division and makes the follicles less affected by the chemotherapy medicine.

The challenge is the caps have to be used at -22°F. Some patients use dry ice since normal freezers do not reach a temperature that low, making the cooling process more difficult.

The CAMC Foundation contacted the Rapunzel Project, which donated a bio-medical freezer to keep cold caps at the proper temperature. A generous donor covered the shipping cost.

The CAMC Cancer Center is the first facility in West Virginia with a freezer capable of keeping the caps cold enough to be effective.

The Rapunzel Project was founded by two breast cancer survivors. Their own experiences with cancer inspired them to help make the journey easier for future patients. Anticipating hair loss during treatment, one patient learned about cold cap therapy, or scalp cooling. She did not lose her hair during chemotherapy and started fundraising to offer patients like her this option.
Groundbreaking study reveals good news for breast cancer patients

MANY WOMEN WITH EARLY-STAGE BREAST CANCER who would receive chemotherapy under traditional standards do not actually need it, according to a major international study released in June.

As soon as the results were made public, not only did patients of Dr. Ahmed Khalid, an oncologist at the CAMC Cancer Center, start asking questions, but he and his colleagues changed the way they care for patients who meet the new criteria.

“It’s a big step forward for the treatment of women with early stage breast cancer,” Khalid said. “It means a lot. It means that you’re still getting state-of-the-art cancer care with less toxicity.”

Chemotherapy has side effects, such as hair loss and nausea, to more serious risks that could endanger a patient’s health.

“Not having to go through chemotherapy and still getting effective treatment is a wonderful thing,” Khalid said.

Doctors at the CAMC Cancer Center evaluate tumors by examining genes from a patient’s breast cancer biopsy. The test gives scores from zero to 100. Scores 10 and under do not call for chemotherapy, and scores over 25 do. But most women who are eligible for the test have scores from 11 to 25, which are considered intermediate.

The study found that, over time, patients receiving either endocrine therapy alone or endocrine therapy plus chemo fared equally well. Chemo had no advantage.

“It determined that, in some cases, doing less is actually better,” Khalid said.

CAMC and several local breast cancer patients participated in the research that began in 2006.

“So many changes have occurred in cancer treatment, and understanding the biology of cancer has improved tremendously in the past five or six years. The treatments also have become more precise,” Khalid said.

The personalized treatment of cancer, based on mutation analysis, is becoming the way of the future, as demonstrated by this study. Physicians at the CAMC Cancer Center are using this information to individualize care when possible.

“We at the cancer center are trying to be more precise in determining what treatment is best for our patients depending on their tumor characteristics, which is where the future is,” Khalid said.

Day of hope

FIGHTING CANCER IS HARD; fighting childhood cancer is even harder! Imagine, as a parent, grandparent or family member hearing the news that your child or loved one, who can barely tie their own shoes, has been diagnosed with this life altering disease.

That’s why the CAMC Foundation hosted a Day of Hope, Sept. 15, at Laidley Field in Charleston featuring two events:

- The Walk for Hope, a mile long walk where registrants and teams raised funds and awareness for pediatric cancer and the children being treated.
- The Celebration of Hope, a unique experience to encourage the current pediatric cancer patient, celebrate the survivors and honor the patients that have lost the battle to this terrible disease. Patients and families participate in a live butterfly release to commemorate their journey

Funds raised support the CAMC Children’s Cancer Center.
Patient support and community outreach

PATIENT SUPPORT INVOLVES A TEAM APPROACH to improving the quality of life of patients and their families as they face the distress associated with a life-threatening illness. Services are offered through a variety of CAMC departments including education, palliative care, pastoral care and the cancer patient support program. Other resources including community agencies such as the American Cancer Society, hospice, WVDHHR and local, state and national patient and family support services also are utilized to meet psychological, social and economic challenges. Community outreach efforts are coordinated by all cancer services and include prevention and awareness education as well as early detection and screening programs.

Run For Your Life

More than 350 people participated in the 2018 Run For Your Life, June 16. The event, sponsored by the CAMC Foundation, raised $75,000 to support colorectal cancer screening and awareness in our community.

HealthFest

Nearly 2,000 community members participated in HealthFest (a one day health fair event with multiple free and low cost health screenings and educational activities). Nearly 300 people participated in cancer care and prevention activities at HealthFest. Activities included: PSA, skin care analysis, palliative care information, tobacco prevention, cessation class sign ups, carbon monoxide testing and clinical trial information and various cancer materials and resources were distributed by oncology clinical staff members.

Health information

Thousands of people visit the CAMC Health Information Center website – healthinfo.camc.org – annually. The site contains a variety of topics including cancer prevention, treatment and living with cancer are available in video and printed materials for easy access.
Look good…feel better

The program is a free, community-based, hands-on, group workshop dedicated to helping female cancer patients cope with and combat the appearance-related side effects of chemotherapy and radiation treatment.

A volunteer, licensed esthetician, leads the program that includes a 12-step skin care and makeup program to help restore a positive self-image. Each participant receives a free kit of full size name-brand cosmetics for use during and after the workshop. This program is a partnership between the American Cancer Society, the Personal Care Products Council Foundation and the National Cosmetology Association.

The boutique at the CAMC Cancer Center offers free haircuts and wigs to patients (who qualify) receiving chemotherapy. Caregivers and the general public can also receive haircuts (prices vary depending on service) if appointment times are available.

Additionally, the boutique has a variety of new items in stock for patients including, but not limited to, wig care products, pre-tied scarves, turbans, cloche/sleep caps, fashion hats and skin and hair care products.

Community education

The CAMC Health Education and Research Institute (CAMC Institute) education division leads the oncology team in providing opportunities in professional education and research activities, patient and family health education and community information programs. Various forums are available for community to access information and education: Online resources, formal lectures, workshops health fairs and screenings were provided in 2018.

Patient and family education

The multidisciplinary patient and family education council promotes a process for providing patient education standards of care across the continuum. Patient and family education resources are identified, developed and reviewed by oncology experts and then processed via the council to promote consistency in education to all cancer patients and their families. The pediatric patient handbook and adult patient and family instructional handbooks were developed in-house to promote ownership and individualize facility information. Additional customized patient education resources are available within the EHR and online at: healthinfo.camc.org

Educational videos are available for patients and families during their inpatient stay at CAMC. Oncology “on demand” educational video topics include hospice, nutrition and cancer, pediatric video (Why Charlie Brown? Why?), stress and relaxation techniques, tobacco cessation and Palliative Care topics. In addition, serenity videos run 24/7, 365 days a year to provide guided imagery, music and relaxation images to enhance healing and relaxation.
Inpatient Oncology Unit

THE INPATIENT ONCOLOGY UNIT has 29 private rooms and baths. A family resource room on the unit is stocked with the latest health information.

The unit has a dedicated, highly skilled and efficient team of professionals available to meet the needs of our patients. More than 20 percent of the nurses have oncology certification that provides them advanced knowledge and a great resource for their peers.

An art and music therapy program allows patients to focus on something positive as well as giving them an outlet for creativity.


All of these projects have become part of Linda Andresen’s daily routine on 5 South at CAMC Memorial Hospital as part of the creative arts program. Now in its second year, this program offers a welcomed and artistic break for oncology inpatients and their families.

The creative arts program has been a vision of the CAMC volunteer services team for quite some time. Also known as Arts in Medicine or Arts in Healthcare, the creative arts concept started at Duke in 1978 and has since grown in popularity.

Jennifer Ferrell, 5 South nurse manager, was familiar with a similar program in Columbus and wanted to explore the possibility of adopting it at CAMC. She worked with Kristy Fidler, director of volunteer services, and Andresen, a volunteer on 5 South, to kick off the CAMC creative arts program.

From the beginning, it was evident that the definition of art meant many things to many people.

“Art doesn’t just mean visual art,” Andresen said. “It can mean music. It can mean dance. It can mean writing. It’s a way for volunteers and staff on 5 South to engage patients in something other than just worrying about what they are currently going through.”

From Christmas-specific projects to traditional puzzle books and paintings, Andresen keeps supplies stocked and available for whenever patients are ready to participate. If a patient requests something that hasn’t been done before, Andresen will research it, and more-than-likely, supply it for the patient the next time she volunteers.

The program also provides patients an outlet for many of their thoughts and emotions during their hospital stay. Because of this, it’s important for volunteers involved to be adequately trained in patient contact.

“All of the creative arts volunteers get the VIP (Volunteers Interacting with Patients) training so they feel more comfortable approaching different situations in patient rooms,” Fidler said.

“You just don’t know what a person needs until you go in there and find out,” Andresen said.

Though not its overarching goal, supporters of the program agree that creative arts projects serve as a type of therapeutic intervention for the patients.

“Research shows that when people are engaged in artistic activities, both their blood pressure and anxiety go down,” Andresen said.

Currently, the creative arts program is only provided on 5 South due to the length of stay for the patients; however, volunteer services would like to expand it.

“We would like to expand into more music and other creative expressions,” Fidler said. “That’s what is neat about the program – we have ideas and visions, so we can seek out the talents of others and let them create.”

For Andresen, this program has helped her fill a personal desire: the desire to give back.

“The program met some of the strengths that I have in that I like to talk to people, I like to be with people, and I like to help people. But more than that, it has enriched my life. I honestly feel it’s a privilege to be able to do this.”
Children’s Cancer Center

THE CAMC CHILDREN’S CANCER CENTER is accredited by the Children’s Oncology Group (COG). Comprehensive care is provided by a multidisciplinary team from CAMC and WVU Physicians of Charleston, which includes a pediatric hematology/oncology physician and nurse practitioner, an infusion center nurse, psychologist, chaplain, child life specialist, dietitian, social worker, physical therapist and pharmacists.

The CAMC Children’s Cancer Center is a member institution of COG, a worldwide cooperative children’s cancer research organization.

The Center provides infusions of chemotherapy and other drugs to hematology/oncology patients, as well infusion services for patients with other illnesses. These include blood or genetic disorders, gastrointestinal, immune and endocrine disorders.

There are two pediatric oncologists working in the Children’s Cancer Center. Ashley E. Meyer, DO, completed a pediatric residency at Upstate Golisano Children’s Hospital and a pediatric hematology/oncology fellowship at Riley Children’s Hospital. Dr. Meyer is certified by the American Board of Pediatrics.

Mohamad H. Badawi, MD, 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.

Typically pediatric visits average between 100 and 120 per month.

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.

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 is equipped with comfortable recliners and offers games, televisions, DVDs and a play room, as well as snacks and drinks. All of the patient rooms are private which allows for added safety and comfort for those who are sick or are immune compromised.
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.

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

The Breast Center’s services include:

- NEW 3-D mammography (known as digital tomosynthesis)
- Digital 2D mammography
- Breast ultrasound
- Minimally-invasive breast biopsies
- Rapid diagnostic program and rapid consultation program
- Breast cancer risk assessment
- Genetic counseling and testing
- Multidisciplinary care from breast specialists, surgeons, medical and radiation oncologists
- Nurse navigators to provide care coordination
- Bone density screenings
- Pelvic ultrasounds

The Breast Center is located on the third floor of the CAMC Cancer Center in Kanawha City 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 counselor and your patient 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, call (304) 388-2872.

**Genetic Risk Clinic**

Led by Elizabeth S. Monast, MS, The Breast Center is the only center in the region to provide a Cancer Genetic Risk Clinic.

Patients are identified by their referring physicians, or by a screening tool completed upon entry through our Breast Center. This instrument draws a patient profile which is analyzed at the Breast Center by specially trained nurses.

The comprehensive cancer genetic risk assessment performed by Monast includes counseling and testing of patients with multiple conditions besides those with breast cancer risk, such as colorectal, gynecological, pancreatic, renal and most other possible cancer risk-related situations in adults.

Once the results of testing become available, the genetic counselor reviews the findings with the patient and discusses appropriate cancer screening and risk-reducing recommendations.

Monast also facilitates referrals as needed. This effort links this service with those offered by the Cancer Center and in this manner it creates a seamless process which clearly improves the quality of patient’s services. These improvements have already facilitated the decision-making of the multi-disciplinary group that convenes weekly to determine the best options of treatment for patients diagnosed with breast cancer.

**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 an adult and pediatric hematologist, nurse, social worker and physical therapist. Collaboration between 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. Clinics are held at CAMC Memorial Hospital.

A 340B factor program is offered to patient who require factor at home.

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.

**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.

**Pathology**

CAMC Department of Pathology Laboratory Medicine is accredited by the College of American Pathologists. The department’s 12 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, immunopathology, neuropathology, cytopathology and transfusion medicine. Several pathologists have particular areas of expertise and interest in fine needle aspiration, gynecologic oncology, renal pathology and bone and soft tissue tumors.

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, neuroscience rounds, orthopedic conference and soon to come gastrointestinal tumor board and thoracic tumor board.

Radiation Oncology Services

Radiation therapy has been used for more than a century to treat cancer. The treatment is performed as an outpatient procedure, with little to no recovery time. Radiation therapy 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 radiation therapy, 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.

Radiation Oncology Services at Charleston Area Medical Center, a department of CAMC in partnership with Alliance Oncology, the nationwide leader in radiation oncology and radiosurgery programs, offers current, advanced radiation therapy treatments, provided by a team of experienced and caring radiation oncology physicians and team members. Radiation therapy and stereotactic radiosurgery, a precise and accurate method of delivering radiation to a tumor target, is delivered safely, painlessly and does not involve cutting or surgery.

The team at Radiation Oncology Services at CAMC treat early-stage, recurring and advanced cancer using several forms of radiation therapy technologies, including two new high-tech linear accelerators called the TrueBeam® Radiotherapy Systems, one of the most advanced cancer treatment options available. The TrueBeam System with RapidArc® Radiosurgery and Real Time Patient Tracking delivers radiation therapy and radiosurgery treatment to cancerous and noncancerous tumors in the brain and body.

The radiation oncology department team consists of board-certified radiation oncologists and medical physicists, dosimetrists, radiation therapists, radiation oncology nurses, support staff and a site administrator.

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.

Radiology

The Department of Radiology provides diagnostic and interventional imaging services for the clinical and research programs at CAMC. Imaging Services are provided at seven convenient locations; Memorial, General, Women and Children’s and Teays Valley Hospitals and outpatient imaging centers in Kanawha City and Southridge in addition to the Breast Center. All locations are staffed with registered and licensed technologists and nurses.

The department of diagnostic imaging offers a full complement of screening, diagnostic and non-vascular interventional radiological technologies. Modalities offered include X-ray, fluoroscopy, ultrasound, fetal ultrasound, digital mammography, bone density (DEXA), computed
tomography (CT), magnetic resonance imaging (MRI) including diagnostic and interventional breast care and MR spectroscopy, nuclear imaging, positron emission tomography (PET) and image-guided biopsy services.

Some of our highlights are our state-of-the-art:

- MRI scanners including 3T magnet
- Large diameter bore MRI for claustrophobic and larger patient accommodation
- Functional MRI (fMRI) examines the anatomy of the brain, helps to determine critical functions of the parts of the brain (brain mapping) and helps neurosurgeons plan for procedures.
- Latest technology increased quality of ultrasound images
- Upgraded PET/CT imaging services with a new scanner
- Low-dose radiation capability.
- Radiation dose tracking software which allows for the CT protocols to be inputted into the software server and analyzed.
- Breast Tomography, 3D Mammography

All of these enhancements better serve patients by allowing physicians to make informed decisions regarding their patients’ care.

In The Breast Center, CAMC offers all digital mammography and the MammoPad for softer imaging. All images are acquired in digital format, interpreted on electronic workstations, filed and stored electronically, and distributed to clinicians by an in-house network and the worldwide web. The Breast Center works with the Cancer program in a multidisciplinary approach to treating breast disease and patient care is coordinated with a patient navigator.

CAMC is privileged to have its own hospital-based nuclear pharmacy. This allows for CAMC to maintain USP 797 certification for compounding and supply of Radiopharmaceuticals to CAMC Health System and the local Charleston Area Nuclear Medicine providers. The Nuclear Pharmacy is operated by one of the few Board Certified Nuclear Pharmacists in the state. During national drug shortages the last few years, CAMC has maintained production to allow for Nuclear Medicine procedures for our patients and community providers.

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.

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 two fellowship-trained urologic oncologists who work closely with medical oncology and radiation oncology to provide state of the art medical care.

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**
- Transperineal Prostate Needle Biopsy – a technique that virtually eliminates infection from prostate biopsy and improves prostate cancer detection
- 3 Tesla MRI of Prostate – most advanced imaging modality for localized prostate cancer detection
- MRI/US Fusion 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 available
- Stereotactic radiation is available which decrease the number of visits necessary to receive radiation treatment
- Space Oar, a new gel developed to protect the intestine near the prostate for the patient receiving radiation therapy for their prostate cancer
- Genetic testing (Decipher, Prolaris, etc) for improved management of prostate cancer

**Bladder Cancer**
- Cysview Bladder Cancer tool for diagnosis and treatment – technique using fluorescent technology to improve bladder cancer detection and reduce recurrence
- 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 a new 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

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. Cysview Blue Light Cystoscopy Registry – enrolling patients with bladder cancer who receive this technology into a database for further research to help improve outcomes
2. CONQUER Trial – Multicenter, randomized, controlled trial enrolling newly diagnosed bladder cancer patients for a new drug (Apaziquone) vs placebo to improve bladder cancer outcomes
3. Intravenous Lidocaine versus Placebo study in patients undergoing radical cystectomy to improve pain after the surgery
4. Mannitol versus Placebo study in patients undergoing partial nephrectomy to improve renal function after surgery
5. National Cancer Database retrospective study reviewing the value of lymph node dissection during radical prostatectomy
6. SAM study – addressing the new guidelines in management of small adrenal incidental masses
7. Multiple other retrospective studies current and upcoming
CAMC Health Education and Research Institute’s 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 protocol list that covers a broad range of malignancies. We have National Cancer Institute sponsored protocols available for most common types of malignancies in WV, Breast, Lung, Colon and Prostate as well as Melanoma, Multiple Myeloma, Ovarian, Pancreatic and Head and Neck. We can research and facilitate referrals to larger institutions when there is no protocol available for patients locally with rare or locally untreatable malignancies. We network with institutions such as the National Institute of Health/NCI, Johns Hopkins, Cleveland Clinic, Duke and Sloan Kettering Cancer Centers.

We also manage numerous investigator initiated projects for our CAMC providers. Current projects are ongoing in urology, surgery, Quality of life, lung cancer survivorship and cancer literacy. New projects are in the works evaluating the compound *Nigella Sativa* as Potential Anti-Tumor Therapy and Electronic Symptom monitoring systems for patients on chemotherapy, giving realtime access to healthcare professionals for patients on treatment for lung cancer.

Clinical trials have the potential of changing the treatment paradigm for cancer patients. This past summer the results of the Trial Assigning Individualized Options for Treatment Rx, (TAILORRx) study became available. CAMC enrolled 27 women on this protocol. This NCI sponsored study compared chemotherapy + hormone therapy versus hormone therapy alone after surgery, in women with early stage hormone receptor positive breast cancer. The trial demonstrated that adding chemotherapy showed no benefit in 70 percent of the women. This new data, released at the American Society of Clinical Oncology (ASCO) annual meeting in Chicago, will help patients and physicians make treatment decisions for women with early-stage breast cancer.

We are currently working with CAMC Clinical Trials Center to activate several projects here, studies that involve blood and tissue collection for the development of new diagnostic assays for cancer patients. We have a project with Marshall University utilizing a new tissue assay to determine treatment for recurrent brain tumors and ovarian cancers.

With the Clinical Trials Center and Nancy DuVall RN, our relationship with the WVCTSI (West Virginia Clinical and Translational Science Institute) is now offering medical research community members access to a statewide bio-specimen repository. This repository acquires and processes accurately timed and high quality tissue samples to facilitate clinical and translational research across West Virginia. Services available include assistance with protocol design of sample times, establishment of handling procedures, sample acquisition, as well as specimen stabilization, processing, storage and shipping.

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.
Cancer Registries have existed since 1913 as a means 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 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 2017, CAMC accessioned 2,206 new cancer patients into the registry. CAMC has a total of 54,957 cancer cases in the cancer registry database. Of this total population 24,007 patients have been diagnosed and/or treated since January 1, 2005.
- CAMC’s follow-up rate of all patients in the registry is currently 86.59%, 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 90.53%, just above the required 90% rate.
- The annual Call for Data for the NCDB was performed on May 1, 2018, and resulted in zero quality problems and zero cases being rejected on the first submission. This awards CAMC a commendation from the CoC.
- CAMC underwent our 3 year accreditation survey on April 3, 2017 and passed with 3 year with contingency. The next survey will take place April 2020.
- Registrars attend the West Virginia State Cancer Registrar’s Meeting annually. 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 on January 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 on January 1, 2015. Four staff members have completed training and are now credentialed. One is currently in training and will be sitting for the certification test in 2019. Staff members include:

- Jennifer Butcher, CTR
- Marsha Crowder, CTR
- Melissa Roebuck, CTR
- Susan Thompson, CTR
- Susan Vessels, RHIT
# 2017 CAMC Top Cancer Diagnoses by Gender

<table>
<thead>
<tr>
<th>Primary Site</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>21.2%</td>
</tr>
<tr>
<td>Prostate</td>
<td>19.6%</td>
</tr>
<tr>
<td>Colon and Rectum</td>
<td>9.6%</td>
</tr>
<tr>
<td>Bladder</td>
<td>7.6%</td>
</tr>
<tr>
<td>Kidney and Renal Pelvis</td>
<td>6%</td>
</tr>
<tr>
<td>Head and Neck</td>
<td>5.3%</td>
</tr>
<tr>
<td>Melanoma</td>
<td>3.4%</td>
</tr>
<tr>
<td>Leukemia</td>
<td>3.3%</td>
</tr>
<tr>
<td>Pancreas</td>
<td>3.1%</td>
</tr>
<tr>
<td>Non-Hodgkin’s Lymphoma</td>
<td>2.8%</td>
</tr>
<tr>
<td>Liver</td>
<td>1.9%</td>
</tr>
<tr>
<td>Stomach</td>
<td>1.7%</td>
</tr>
<tr>
<td>All other sites</td>
<td>16%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Primary Site</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>26.3%</td>
</tr>
<tr>
<td>Lung</td>
<td>15.9%</td>
</tr>
<tr>
<td>Corpus Uteri</td>
<td>9%</td>
</tr>
<tr>
<td>Colon and Rectum</td>
<td>8%</td>
</tr>
<tr>
<td>Thyroid</td>
<td>4%</td>
</tr>
<tr>
<td>Kidney and Renal Pelvis</td>
<td>4%</td>
</tr>
<tr>
<td>Ovary</td>
<td>3.3%</td>
</tr>
<tr>
<td>Non-Hodgkin’s Lymphoma</td>
<td>3%</td>
</tr>
<tr>
<td>Pancreas</td>
<td>2.8%</td>
</tr>
<tr>
<td>Melanoma</td>
<td>2.7%</td>
</tr>
<tr>
<td>Cervix Uteri</td>
<td>2.4%</td>
</tr>
<tr>
<td>Head and Neck</td>
<td>1.8%</td>
</tr>
<tr>
<td>All other sites</td>
<td>13.4%</td>
</tr>
</tbody>
</table>
Looking at the top male cancer sites over the past five years, prostate cancer was ranked the top cancer site treated at CAMC, followed by lung cancer. In 2017 lung cancer moved into top position, dropping prostate into second. Colon cancer has been ranked third by volume since 2013 when it rose from fifth rank.

Kidney cancer ranked third 2012, dropping to fourth in 2013, and moving to fifth in 2014, having been outranked by urinary bladder cancers. Non-Hodgkin lymphoma, urinary bladder, kidney and colon/rectum have remained in the same position since 2014.
Breast cancer is consistently ranked the top cancer site in females at CAMC, followed by lung cancer. Colon and corpus uteri primary cancers remained third and fourth, consecutively, since 2014 when colon cancer outranked corpus uteri. In 2017 they again switched rank making corpus uteri third and colon fourth. Kidney cancer dropped down to seventh place and Non-Hodgkin lymphoma dropped to eighth. Thyroid was ranked sixth in 2017.
Reviewing the top cancer sites, regardless of gender, over the past eight 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. Prostate and colon cancer have remained in the third and fourth rankings until 2013, when colon volume increased. Colon and Prostate have consistently switched places since. For 2017 Colon moved down to fourth and prostate up to third.

Kidney has remained in fifth rank since it took over uterine in 2011. Uterine cancer has continued to fluctuate between fifth and eighth place, resting at seventh in 2015, then moving up to sixth in 2017.
Cancer Cases Accessioned by Year of Diagnosis
The Rapid Quality Reporting System (RQRS) 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 RQRS 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 RQRS monthly to identify and alert providers to patients who are at risk for not receiving timely medical treatment.

Each of the current RQRS measure are displayed in graph format, comparing CAMC’s performance to West Virginia (WV) facilities, facilities in the Southeast Region and to all facilities who are accredited by the Commission on Cancer (CoC).

ACT is the NCDB’s designation for one of the colon quality measures. The definition states, “Adjuvant chemotherapy is considered or administered within four months (120 days) of diagnosis for patients under the age of 80 with AJCC Stage III (lymph node positive) colon cancer.”
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. The difficulty with this measure is multifactorial. Looking at the graph, CAMC has always led the state in performance on this measure. However, during 2009 through 2012 CAMC fell behind both the Southeast region and all other CoC-accredited facilities. Since 2013, CAMC has improved on this measure and exceeded performance in comparison to WV, the Southeast region and all other CoC-accredited facilities.
BCS 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.”

CAMC remains in pace with the state performance on this quality measure, with the exception of 2010 and 2013. Review of the data for this measure shows that CAMC had a few cases where the patients chose alternate forms of treatment, deviating from standard care. This measure will continue to be monitored for improvement.
HT is the designation by the NCDB for the breast measure for hormone therapy. This measure is defined as, “Tamoxifen or third generation aromatase inhibitor is considered or administered within one year (365 days) of diagnosis for women with AJCC T1cN0M0, or stage IB-III hormone receptor positive breast cancer.

As noted in the graph for this breast cancer measure, CAMC has lead performance when compared to facilities in WV, the Southeastern United States and all CoC-accredited facilities in the nation with the exception of 2012. This result is an example of CAMC’s continued journey toward excellence in cancer treatment.
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.”

For this quality measure, CAMC has met or exceeded state, Southeastern region and all CoC-accredited facility performance with the exceptions of 2016 and 2017. This is a multifactorial issue, including cases which treatment was delayed due to significant co-morbidities or complications that impacted performance rates.
Oncology Services

2017 Incidence of New Cancer Cases

- **Primary Service Area**
  - (75% of discharges)
- **Secondary Service Area**
  - (additional 15% of discharges)

**Hospital**

- Accredited by the American College of Surgeon’s Commission on Cancer

# Number of patients

### Out of State Total

<table>
<thead>
<tr>
<th>State</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kentucky</td>
<td>6</td>
</tr>
<tr>
<td>Ohio</td>
<td>1</td>
</tr>
<tr>
<td>Other States</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: CAMC Cancer Registry, American College of Surgeon’s website; CAMC Planning Department 10/1/18