



2017 Message from the Medical Director

Virtua is a multi-hospital healthcare system with facilities in Mt. Holly, Marlton, Voorhees, Berlin, Washington Township and Moorestown. Virtua serves Burlington, Camden and Gloucester counties and their surrounding communities in central and southern New Jersey.

Virtua's Cancer Program is accredited by both the American College of Surgeons Commission on Cancer and by the National Accreditation Program for Breast Centers and the American College of Radiology for our Radiation Oncology Program. Accreditation by all of these organizations reflects Virtua's commitment to high-quality, multidisciplinary, comprehensive cancer care. Patients have access to a full range of prevention, screening, diagnostic, treatment and supportive services including community-based resources. To maintain accreditation, facilities must undergo a rigorous evaluation and review of its performance and compliance with standards of care established by each of these organizations.

Virtua offers a wide array of surgical oncology expertise for patients with colorectal, breast, urologic, gynecologic, thoracic, otolaryngotic, neurologic and spinal cancers. Radiation oncology facilities, interventional radiology medical oncology and additional surgical oncology practices are available throughout our service areas.

Highlights of our key accomplishments for 2017 are as follows:

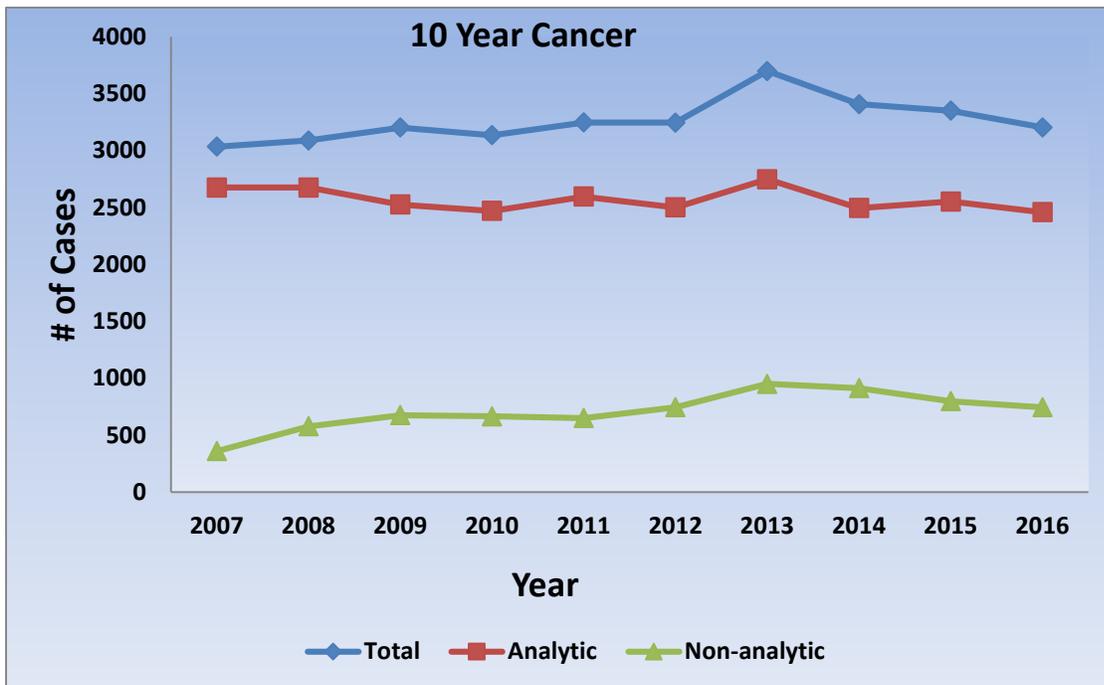
- Virtua and Penn Medicine have continued to strengthen their partnership alliance. This partnership provides Virtua's cancer specialists an opportunity to collaborate with Penn Medicine's physicians to provide best practice in cancer care and treatment close to home. Our patients have access to the latest in advanced treatments and clinical trials, as well as quick and easy access to second opinions from Penn Medicine.
- In 2017 the Penn alliance has been expanded to include:
 - Penn Medicine plastic surgeons performing microvascular breast and other body site reconstruction procedures at both Virtua Memorial and Virtua Voorhees.
 - Nipple tattoo options for breast reconstruction patients.
 - Inpatient medical surgical oncology unit at Virtua Voorhees.
 - Gynecologic oncology services
 - Expanded offerings in clinical research trials.
- Implemented HDR skin brachytherapy technology at Memorial Radiation Oncology. This technology is effective for non-melanoma skin lesions with great cosmetic results, optimal sparing of normal tissue and shorter treatment time.
- Continued to work closely with Samaritan Healthcare and Hospice to expand supportive services survivorship, and palliative care services strengthening our support services for those patients with advanced cancer.

- Continue to expand the implementation of survivorship care plans and psychosocial distress screening tool providing comprehensive, personalized care utilizing standardized guidelines and benchmark-driven care plans for our cancer patients utilizing Carevive Systems.
- Expanded community outreach efforts to reach underserved populations providing cancer screening and prevention programs in Spanish and English. New this year, we introduced a mobile digital mammography unit with translation services at multiple locations throughout Burlington County.
- Our community outreach program was one of 10 recipients in New Jersey to be awarded grant funds from the New Jersey Department of Health. The activities supported by this grant are critical to implementing New Jersey's Comprehensive Cancer Control Program at the county level.
- Finalized the design of a building project plan for a new Memorial Cancer Center to be located in Moorestown, the targeted completion date is 4th quarter 2018.
- Several new surgeons and a Penn Medicine Virtua radiation oncologist joined our oncology team including: two thoracic surgeons, Matthew Puc, MD and Walter Boris, MD; two new breast surgeons, James Crawford, MD and Lori Timmerman, DO and Emily Gleimer, DO , Gynecology Oncology and radiation oncologist, Alexis Harvey.
- Our oncology social workers received the prestigious 2017 Association of Community Cancer Centers Innovator Award for partnering with Masters in Social Work students to expand supportive services to our oncology patients.

Dr. Berk along with the entire Virtua Cancer Program physicians and staff look forward to 2018, as we continue to strengthen our oncology program working with our partners of Penn Medicine in Philadelphia, Samaritan Healthcare and Hospice and the American Cancer Society.

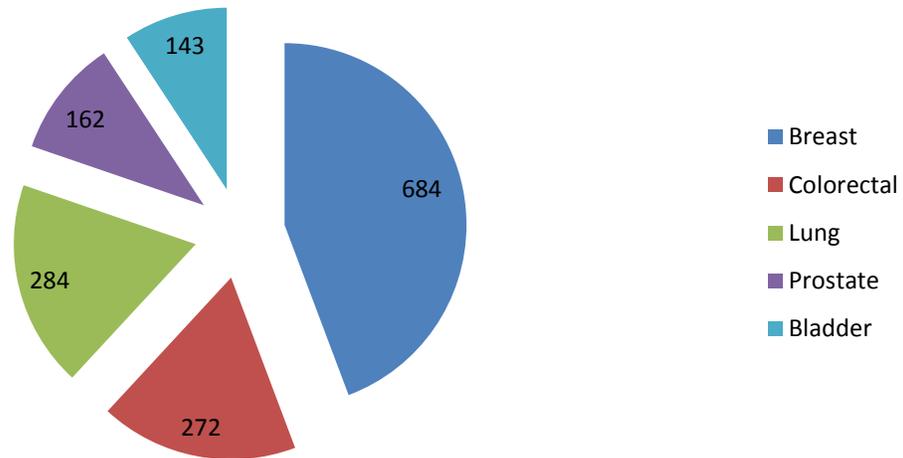
Cancer Registry

The Cancer Registry is responsible for the accurate, timely collection of cancer patient data which is used for the evaluation of patient outcomes. The Cancer Registry coordinates many of the Penn Medicine Virtua Cancer Program activities related to our participation in the American College of Surgeon's (ACoS) Commission on Cancer (CoC) Accreditation Program and the National Accreditation Program for Breast Centers (NAPBC). The CoC establishes standards to ensure high quality, multi-disciplinary and comprehensive cancer care delivery in hospitals throughout the United States granting accreditation to only those facilities that have voluntarily committed to provide the best in cancer diagnosis and treatment and are able to comply with rigorous standards.



During 2016, the Cancer Registry collected data on 2,459 analytic and 745 non-analytic cases. Breast, prostate, lung, colorectal, and bladder are the most frequently seen sites at Virtua comprising 63% of the analytic cases accessioned into our database. The individual breakdowns are as follows: 28% breast, 12% lung, 11% colorectal, 7% prostate, and 6% bladder.

Top 5 Cancer Sites



The Cancer Registry responds to hundreds of data requests annually, supporting physicians, hospital administration, clinical research, the nurse navigation program and the Cancer Genetics program.

The Cancer Registry is a primary source of data included in the Virtua Oncology Dash Board which benchmarks Virtua's clinical outcomes against national standards. This year Virtua's Oncology Quality Dashboard included clinical quality measures endorsed by the National Quality Forum (NQF), American College of Surgeons (ACoS) and the National Cancer Comprehensive Network (NCCN); the National Accreditation Program for Breast Centers (NAPBC) and the Oncology Roundtable.

Performance Measures

The Virtua Cancer Program's accreditation with the Commission on Cancer (CoC) American College of Surgeons requires our cancer program to submit data annually. This data is analyzed and then utilized to identify potential gaps in cancer care in an effort to improve quality of care. Results of our performance measures for 2016 are as follows:

At least 12 regional lymph nodes are removed and pathologically examined for resected colon cancer.

Virtua Results: 91% CoC Benchmark: 85%

Tamoxifen or third generation aromatase inhibitor is considered or administered within 1 year or 365 days of diagnosis with AJCC T1c or Stage IB-III hormone receptor positive breast cancer.

Virtua Results: 92% CoC Benchmark: 90%

Radiation is administered within 1 year (365 days) of diagnosis for women under the age of 70 receiving breast conservation surgery for breast cancer.

Virtua Results: 93% CoC Benchmark: 90%

Image or palpation-guided needle biopsy (core or FNA) to the primary site is used to establish diagnosis of breast cancer.

Virtua Results: 99% CoC Benchmark: 80%

Systemic chemotherapy is administered within 4 months to day preoperatively or day of surgery to 6 months postoperatively, or it is considered for surgically resected cases with pathologic, lymph node-positive (pN1) and (pN2) NSCLC

Virtua Results: 86% CoC Benchmark: 85%

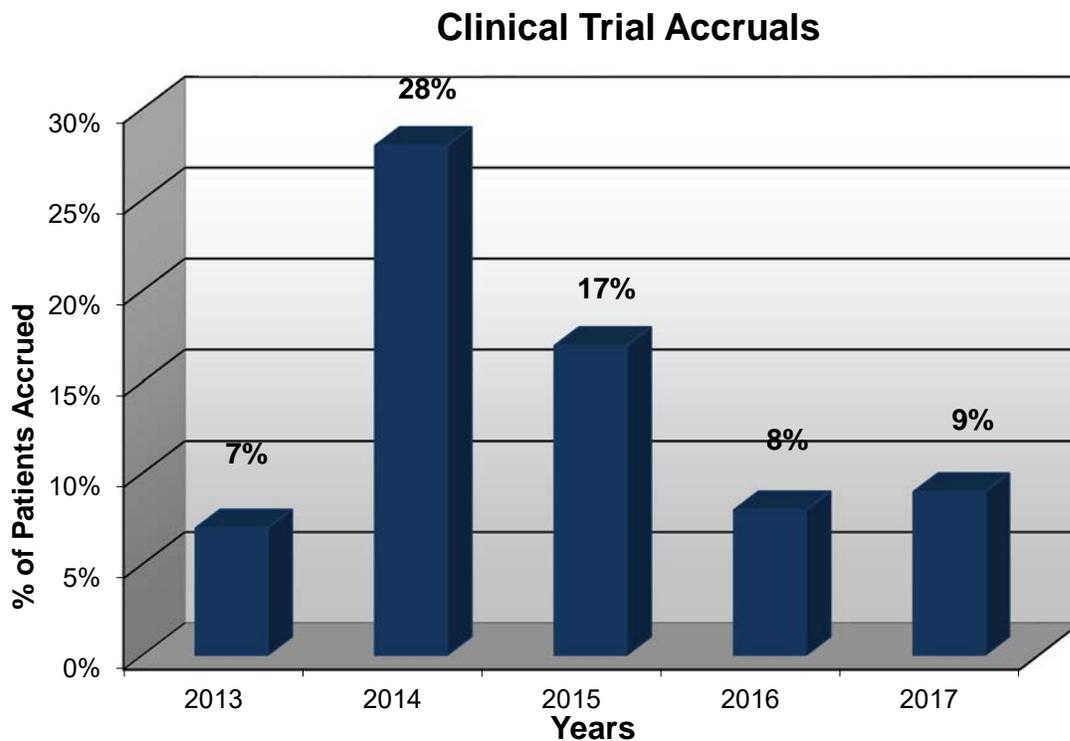
Surgery is not the first course of treatment for cN2, M0 lung cases

Virtua Results: 100% CoC Benchmark: 85%

Clinical Research

The Virtua Cancer Program is one of a select group of community-based hospitals in New Jersey and Pennsylvania whose cancer programs are affiliated with Penn Medicine in Philadelphia. This affiliation allows Virtua patients to have access to cutting edge clinical research offered at Virtua Voorhees and Memorial Hospitals that is sponsored by the National Cancer Institute. The Virtua Cancer Program is staffed by a Clinical Research Nurse and Coordinators who work closely with our physician clinical investigators to ensure new clinical trials with the latest treatment options are available for our patients. A Scientific Review Committee comprised of our principal investigators meets monthly to discuss and recommend new trials to the Institutional Review Board (IRB) for approval. The IRB provides oversight for the rights and welfare of all patients who voluntarily participate in clinical research.

Currently, there are 33 oncology clinical trials open through Penn Medicine and Virtua Cancer Services.



* 2017 represents data through 12/1/17

◆ Penn Medicine and Virtua Cancer Program participate in multiple national cooperative groups including: Eastern Cooperative Oncology Group (ECOG), NRG Oncology, SWOG Cooperative Oncology Group.

◆ The Virtua Cancer Program is participating in two research studies that are assessing the basic biology of tumors, a registry study assessing patterns of care and pharmaceutical industry-sponsored trials.

Oncology Support Services

Virtua Breast Program



The Breast Care Program is designed to meet the needs of patients through the entire continuum of breast care. The program was established to support our growing Women's Health Program at Virtua, for patients seeking breast care at our institutions, and to provide greater access and enhanced services to patients in our community. We offer a full range of comprehensive clinical services from prevention and screening, through cancer diagnosis, multi-modality therapy, and supportive services. Virtua's Breast Care Program strives to provide innovative, integrated, high quality oncology care. Virtua strongly believes in a multidisciplinary team approach to breast cancer care that includes the patient and their family, physicians, nurse navigators, genetic counselors, Licensed Clinical Social Worker's, and support from health care professionals who specialize in all aspects of breast care. Virtua's Breast Care Program was re-accredited from the National Accreditation Program for Breast Centers, passing on all 27 standards in September 2015. The Breast Program Leadership Steering Committee, under the guidance of Dr. William Holaday, monitors program quality, measures outcomes, sets standards of care system-wide and addresses all aspects of breast care. This multidisciplinary committee meets 6 times a year.

The Virtua Cancer Program provides care to approximately 650 newly diagnosed patients with breast cancer annually. Breast care is provided at three of our facilities: Virtua Washington Township, Virtua Voorhees and Virtua Memorial. All sites offer state of the art radiation oncology services along with support services. In collaboration Penn Medicine Plastic Surgeons, microvascular breast reconstructive surgical services are provided at Virtua Memorial and Voorhees Hospitals. We also offer nipple and areola tattooing for patients who have undergone breast reconstruction.

The goals of the breast navigation program are to support physicians in providing the highest quality, evidenced-based care, enhance communication between the various disciplines and referring physicians, improve patient satisfaction and facilitate patients' opportunity to achieve optimal clinical outcomes. Navigation allows for more efficient use of physician time spent with patients and ensures timely and efficient delivery of services.

The breast nurse navigators are oncology nurses with additional training in breast health and breast cancer care. Nurse navigators are available to newly diagnosed patients to assist with education, support and access to resources. Patient education and community outreach are important components of the Breast Care program. Many breast cancer educational programs, including lymphedema education and screening are provided at no additional cost to our patients.

Other Oncology Nurse Navigation Services

Virtua's Nurse Navigation program has been recognized as best practice from Association of Community Cancer Centers. Nurse navigators also offer support for thoracic, prostate, colorectal, gynecological, head and neck cancer patients as well as those who are high risk for lung cancer due to an incidental lung nodule or smoking history. Nurse navigators are available to newly diagnosed patients to assist with education, support and access to resources. To date, all the navigation services have patient satisfaction scores of 100%.

Oncology Social Work

The Penn Medicine Virtua Cancer Program provides a full range of clinical oncology social work services to meet the psychosocial needs of cancer patients and their families. We provide psychosocial counseling and emotional support to patients and their families through individual, family, and couples counseling. Clinical oncology social workers also support patients' psychosocial needs by providing appropriate referrals to numerous community resources including outpatient therapists who specialize in ongoing treatment of chronic illnesses and grief and loss. Additional services include psychosocial distress screening which is used to identify and examine psychological, behavioral and social problems which may interfere with a patient's ability to participate in their health care. This evaluation is utilized to provide patients with resources and/or referrals to address their psychosocial needs. The social work team facilitates several oncology support groups. Cancer survivorship needs are addressed through supportive individual counseling, a cancer survivors support group and appropriate referrals to a wide array of both Virtua and community resources. Virtua Oncology Social Workers also host Master's in Social Work students who provide support to patients under the supervision of licensed social workers. The Oncology Social Work student program was recognized by the Association of Community Cancer Centers in 2018 with the prestigious Innovator Award.

Palliative Care and Survivorship Services

Virtua offers palliative care services through its LifeCare program. Partnering with Samaritan Healthcare and Hospice, Dr. Stephen Goldfine and his team provide these services that are available to Virtua patients. These clinics are offered at both Memorial and Voorhees. The LifeCare Program can help restore quality of life complementing a patient's medical treatment plan through providing pain management, symptom management, and guidance with complex treatment choices.

Survivorship programs include: Look Good Feel Better sponsored by the American Cancer Society, massage therapy, Virtua Physical Therapy and Rehabilitative Services as well as cancer fitness classes. Virtua Centers for Health Fitness and researchers at the University of Pennsylvania teamed up to bring *Strength after Breast Cancer* to breast cancer survivors and Next Steps Cancer Fitness for all patients. Registered Dietitians are available to provide oncology nutrition counseling. Our Chaplain is available to provide spiritual support and encouragement. We also offer a pop up boutique in or Voorhees location where women are able to have fittings for surgical camisoles, breast forms and prosthesis and specialized bras.

Community Outreach and Education

Virtua’s Community Outreach Program works closely with cancer advocacy organizations and community partners to improve and enhance cancer education, prevention and supportive services throughout the region. The cancer program continually reviews cancer incidence and prevalence within the region and develops resources and services to augment existing programs while identifying the future direction for cancer education and prevention efforts. Resources and services are designed across the continuum of care, from prevention to risk reduction and support. This report will detail all of the community and education activities held throughout this year.

Oncology Lectures given in the community

Many of our oncology physicians, nurses, therapists, educators and executives are active members of the Virtua Speakers Bureau. These experts travel throughout our surrounding counties speaking on cancer related topics for lay and professional audiences. Lectures are given free of charge as a community service.

Our oncology experts have been interviewed and featured in many Virtua publications and local newspapers, magazines and television programs discussing many aspects of oncology care from prevention to survivorship. The Penn Medicine Virtua Cancer Program has been featured in 3 issues of Healthy Events and 1 issue of LifeLines.

Outreach Health and Wellness Events

Participation in health fairs provide an opportunity to reach out to people and in the community about their health and well-being. By bringing health professionals and lay people together, a health fair educates people about health, behavior modification, prevention and available resources. Our participation in health fairs includes exhibits, mini-workshops, demonstrations and screenings.

| Display and Health Fairs | Encounters |
|---------------------------------|-------------------|
| 34 | 4,000 |

**Encounters are the total number of people that the employee comes in contact with at a health fair/event*

Grant Funded Programs

The New Jersey Cancer Education and Early Detection Program (NJCEED) is sponsored by the New Jersey Department of Health and Senior Services. NJCEED provides grants to facilitate comprehensive screening services for breast, cervical, prostate and colorectal cancer for uninsured or underserved populations. The NJCEED grant provides monies for outreach, educational and cancer screening services with case management for breast, cervical, prostate and colorectal cancer. Services are provided by Virtua affiliated physicians to residents of Camden and Burlington Counties. This year’s NJ CEED grant totaled \$ 425,505 and was awarded to Virtua as a regional grant for both Camden and Burlington County.

| Camden County screenings | Totals Screened |
|-------------------------------------|------------------------|
| Women | 309 |
| Men | 5 |
| Burlington County screenings | |
| Women | 578 |
| Men | 10 |

**Screenings through 11/30/17*

This year, our community outreach program was one of 10 recipients in New Jersey to be awarded grant funds from the New Jersey Department of Health. The activities supported by this grant are critical to implementing New Jersey's Comprehensive Cancer Control Program at the county level.

Susan G Komen for the Cure Central & South Jersey Affiliate funded the Breast Care Program \$44,980 to provide bilingual outreach to increase screening compliance among NJCEED patients in addition, to providing breast education in Gloucester County.

Advocacy and Community Events

Penn Medicine and Virtua Cancer Program employees actively participate in community awareness and cancer advocacy fund raising events independent of their employee responsibilities. This year, teams of employees, physician and patients walked, raced, rowed and raised funds to support cancer research and cancer care in our community.

Virtua Cancer Service Teams participated in the following events in 2017:

- Susan G. Komen Breast Cancer Foundation's *Race for the Cure* in NJ.
- American Cancer Society's *Making Strides Against Breast Cancer* walk
- American Cancer Society's *"Relay for Life"* events
- Annual Cancer Survivor's Day Celebration at the Marlton *"Relay for Life"* event

Camp Oasis:

The Penn Medicine Virtua Cancer Program hosts Camp Oasis, a day-long camping trip for children and teens who have a parent diagnosed with cancer. Camp Oasis provides over 50 kids with a stress-free day of fun and an opportunity to share the day with other children who face similar problems and fears. The camp was offered twice this year providing a variety of activities, including swimming, face-painting, crafts, games, a barbecue lunch of hot dogs and hamburgers, plus free transportation to the camp in a limo or limo bus from multiple pick up locations. There is no cost to participate. Volunteers include nurses, social workers, and multiple health care employees.

Additional programs and activities of distinction for oncology patients:

- **Collaborative Efforts:** Penn Medicine and Virtua Cancer Program collaborates with many organizations in our community while trying to meet the needs of all community members. We actively participate in cancer-related coalitions on many levels to help meet some of these needs. Examples include: American Cancer Society, the Susan G Komen Breast Cancer Foundation Central & South Jersey Affiliate, Burlington County Department of Health, Camden County Department of Health, South Jersey Cancer Coalition, South Jersey Breast Cancer Coalition, ACS Nutrition Task Team, Camden and Burlington Counties Chronic Disease Coalition, NJ State CEED Coalition, New Jersey Cancer Control Task Force, and the Camden and Burlington County CAT Coalition.

Cancer Genetics Program

Virtua's Cancer Genetic Program began in 2003 with a focus on hereditary breast and ovarian cancer syndromes and in 2009 expanded to include gastrointestinal and other adult cancer genetic syndromes. The volume of patients seeking genetic counseling continues to grow and we expect to continue to expand our program with the clinical resources and clinical education provided through Penn Medicine.

Breast and Ovarian Cancer

Genetic tests are available for hereditary breast and ovarian cancer. Among them are the most common hereditary breast cancer syndromes involving the BRCA1 and BRCA2 genes. When genetic testing is completed and an alteration is found in one of the identified genes, an individual's risk for developing certain types of cancer is significantly increased. In the case of a BRCA alteration, there is an increased risk for developing breast, ovarian, and pancreatic cancer for women. Men also have an increased risk for developing breast, pancreatic, and prostate cancer. Both men and women who have been diagnosed with these cancers are at increased risk for developing a second cancer.

Colorectal Cancer

Genetic tests are available for hereditary colon cancer. Common hereditary cancer syndromes include Familial Adenomatous Polyposis (FAP) and Lynch Syndrome. FAP is an inherited condition that may cause an individual to have hundreds of colon polyps and significantly increases the risk for colon cancer. Lynch Syndrome increases the risks for various cancers including colon, uterine, gastric, and ovarian cancer. At Virtua, all colorectal and uterine cancers are screened for Lynch Syndrome with IHC. The aim of tumor screening is to identify patients who are at risk for having Lynch Syndrome to reduce the morbidity and mortality due to Lynch-related cancers in our patients and their family members. As part of this universal screening, Virtua also automatically reflexes to MLH1 promoter hypermethylation on all colorectal and uterine cancers found to have absence of MLH1 by IHC. This helps to target those patients who are at risk for Lynch syndrome and offer appropriate referral to the Cancer Genetics Program.

The Team Approach

The Cancer Genetics Program at Virtua is unique in that it consists of a multidisciplinary team of oncology and genetics experts including medical oncologists, board-certified licensed genetic counselors, and master's prepared licensed social worker. The team discusses genetics cases and reviews current literature during monthly team meetings and the cancer genetics staff participates in weekly cancer case conferences at Virtua. The Virtua genetics team has the opportunity to collaborate with physicians, scientists and genetic counselors from Penn Medicine's Basser Center for BRCA, the first comprehensive center for the research, treatment, and prevention of BRCA-related cancers.

Experts at the Virtua Cancer Genetics Program help guide patients through the cancer risk counseling process to identify their risk for cancer. This involves obtaining a thorough medical and family history and constructing at least a three-generational pedigree which is used to assess the patient's risk for a hereditary cancer syndrome. Other benefits of the program include:

- Receiving individualized and comprehensive counseling from cancer genetics experts including medical oncologists trained in cancer genetics, board-certified licensed genetic counselors and social workers
- Discovering an individual's increased risk for cancer
- Learning about the benefits, risks and limitations of genetic testing as well as the inheritance pattern and impact on family members
- Undergoing genetic testing, if appropriate

- Learning ways to decrease risk for developing cancer and early detection strategies for high risk individuals (screening or medical and surgical approaches)

Clinical Trials

Patients, who have a personal or family history certain cancers, may be eligible for research studies. The Virtua Cancer Genetics Program participates in Penn Medicine's genetic research registry entitled *Identification and Analysis of Families with Genetic Susceptibility to Cancer* and recruits eligible patients with the help of the Oncology Clinical Research team. Participation in a clinical trial may help provide insight into hereditary factors, or genes, that influence cancer risk.

Community Outreach

Our cancer genetics staff is committed to community education of healthcare providers and the lay community. Our experts travel throughout our surrounding communities fulfilling many speaking engagements. This year, one of our genetic counselors presented a lecture about genetics and genomics at the annual cancer registrars of New Jersey meeting. Another genetic counselor was a vendor at Virtua's annual women's conference. We also organized an event with the Alice Paul Institute to host young women teens at Virtua and learn about healthcare careers in the oncology field. We provide updates to physicians and healthcare providers regarding the latest NCCN recommendations at case conferences and at departmental staff meetings and we work as a team to provide cancer awareness by hosting tables within all three hospitals for breast, colon, lung and skin cancer awareness months. We also recently started a screening survey for all mammography patients at Virtua Memorial's Radiology department to help identify patients who are at risk for a hereditary cancer syndrome.

The Cancer Genetics Program has been interviewed and featured in many Virtua publications and local newspapers, magazines and television programs discussing the identification and management of high risk individuals. The Cancer Genetics Program is an established clinical site for the graduate students enrolled in the Genetic Counseling Master's program at Arcadia University and at Thomas Jefferson University. Our program hosted two graduate students in 2017. Two of the genetic counselors are adjunct faculty at Thomas Jefferson University and are teaching a course for their genetic counseling Master's program.

Radiation Oncology

The Penn Medicine Virtua Radiation Oncology Program has treatment centers in three counties across South Jersey: Memorial Hospital in Burlington County, Virtua Voorhees in Camden County, and at Virtua's Health & Wellness Center in Gloucester County. The Radiation Oncology program is accredited through the American College of Radiology who accredits and recognizes programs for delivering high quality care. The core value to patient care in the radiation oncology program is utilizing a collaborative, team approach; in the fight against cancer. Each department across the system participates in weekly chart rounds with Penn Medicine, to evaluate the best treatment options for each patient. The departments' also hold multidisciplinary *New Patient Rounds*, used to identify and address any barriers to treatment the patient may be facing. Our New Patient Rounds are attended by:

Radiation Oncology

Supportive Services

- *Radiation Oncologists*
- *Physicists*
- *Dosimetrists*
- *Radiation Therapists*
- *Oncology Nurses*

- *Social Work*
- *Nurse Navigators*
- *Genetic Counselors*
- *Research Coordinators*
- *Registered Dietician*

Each site is equipped with advanced treatment technologies that allow for the precise targeting of cancer cells, and limits unnecessary dose to nearby healthy tissue and organs. Tumor localization is achieved using the latest in Image Guidance (IG) capabilities, including 4DCT. Treatment modalities available across the system are as follows:

Memorial Hospital-Mount Holly, NJ

- Intensity Modulated Radiation Therapy (IMRT)
- Three Dimensional Conformal Radiation Therapy (3D)
- High Dose Rate (HDR) Brachytherapy for gynecological cancers and non-melanoma skin cancer
- 4-D CT Simulation capabilities
- Stereotactic Body Radiation Therapy (SBRT)
- Stereotactic Radiosurgery (SRS)
- Xofigo-used in the treatment of castration-resistant prostate cancer
- Prone Breast Technique

Virtua Voorhees- Voorhees, NJ

- Intensity Modulated Radiation Therapy (IMRT)
- Three Dimensional Conformal Radiation Therapy (3D)
- High Dose Rate (HDR) Brachytherapy for Gynecological Cancers
- 4-D CT Simulation
- Stereotactic Body Radiation Therapy (SBRT)
- Xofigo-used in the treatment of castration-resistant prostate cancer
- Prone Breast Technique

Health & Wellness Center- Washington Township, NJ

- Intensity Modulated Radiation Therapy (IMRT)
- Three Dimensional Conformal Radiation Therapy (3D)
- 4-D CT Simulation
- Stereotactic Body Radiation Therapy (SBRT)
- Stereotactic Radiosurgery (SRS)
- Prone Breast Technique