

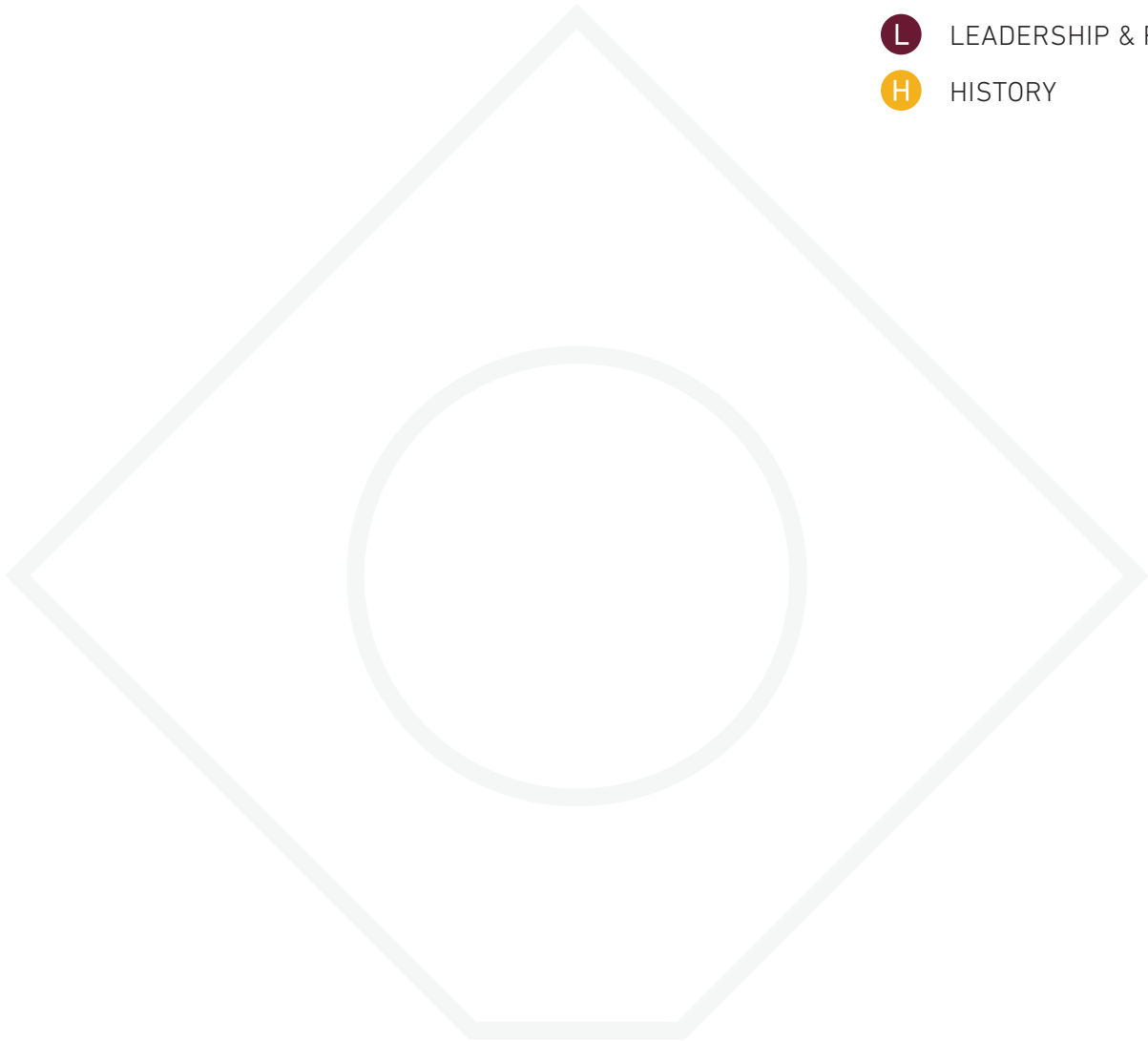
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PREVAIL

FOX CHASE CANCER CENTER | ANNUAL REPORT 2018



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PRESIDENT'S LETTER

How We Prevail

We cannot prevail if we do not reflect. As we drive the progress of cancer care, we acknowledge the events and accomplishments of the last year. The Annual Report gives us the opportunity to formalize our reflections and to share these successes with you.

From the major headlines to clinical advances, research breakthroughs, and fundraising milestones, we recap our work here with highlights of fiscal year 2018 (July 1, 2017 through June 30, 2018). We celebrate our achievements, and in doing so, inspire our supporters—and each other—to build on the progress we have made.

True to our century-long legacy, we distinguished ourselves through proof of performance, expansion of facilities and services, recruitment of new talent, and partnerships with key figures in our community. Consistently, our mission of comprehensive cancer care emphasizes the importance of both the clinic and the laboratory in pursuing the newest treatments and increasing our understanding of cancer.

In the clinical realm, we are seeing exciting results in patients with rare, difficult-to-diagnose neuroendocrine tumors because of a new, personalized treatment that finds and destroys the tumor cells from within. For eligible patients with leukemia and lymphoma, we began using an intensive form of immunotherapy to extract and alter T-cells from a patient's blood, then re-infuse the modified cells into the

patient to target and eliminate cancer cells. Finally, we became one of a select few institutions to perform a more complete removal of early stage bladder cancer using a revolutionary new approach. It significantly reduces the chances of recurrence by treating the cancer with greater accuracy.

Within our research enterprise, we are helping patients for whom the promise of immunotherapy has not worked—with significant support from Stand Up To Cancer. Specifically, this research focuses on whether a particular drug can reverse the resistance of some bladder cancers to treatment because of DNA silencing in the body. In addition, our pancreatic cancer research program is building considerable strength after the receipt of a transformational gift in 2017. We have recruited key members to our research team and earned multiple additional grants to fund important work, including development of a database that will expedite and improve information sharing for multidisciplinary collaborative grants and projects.

Support is critical to funding our efforts. This year marked the continued growth of our signature gala event, during which we received a notable surprise bid from one of our own faculty members; increased interest and involvement by young professionals as a growing subset of our donor base; and a special anniversary for an important circle of friends.

As another year gets underway, we honor this work while looking ahead. What are the discoveries that we will uncover next? What achievements will we realize? I invite you to join us, support us, and encourage us as we pursue what is yet to come.



Richard I. Fisher, MD
PRESIDENT AND CEO AT FOX CHASE



“True to our century-long legacy, we distinguished ourselves through proof of performance, expansion of facilities and services, recruitment of new talent, and partnerships with key figures in our community.”

— Richard I. Fisher, MD, president and CEO

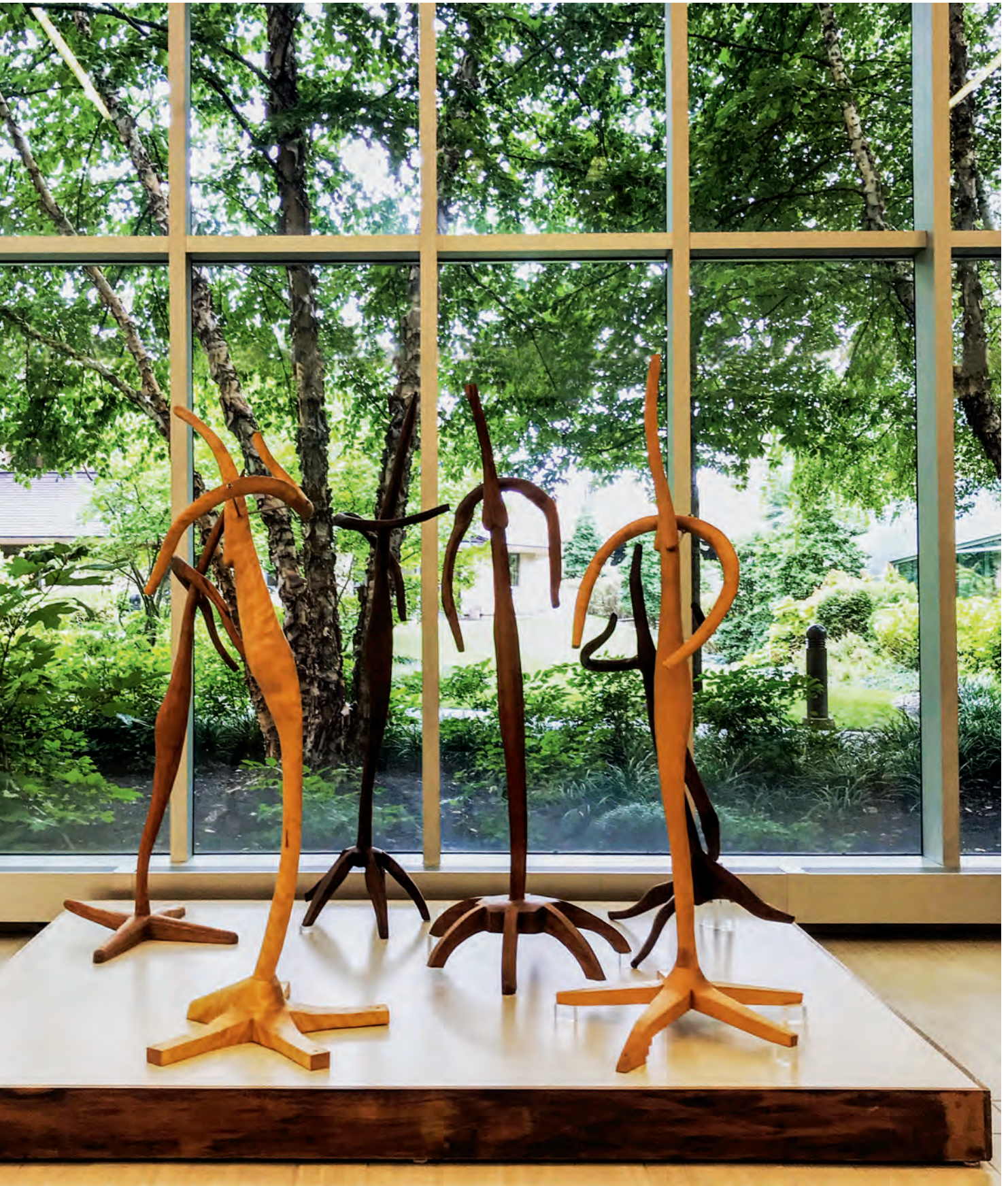




COMMUNITY

- OPENING OF EAST NORRITON CAMPUS
- LOCAL LEADERS SUPPORT FOX CHASE
- UNITE FOR HER
- PATIENT-TO-PATIENT NETWORK
- NURSING DEPARTMENT EARNS MAGNET DESIGNATION





Opening of East Norriton Campus

On May 8, Fox Chase Cancer Center opened a new outpatient facility in East Norriton, Pennsylvania. Located on the campus of Suburban Community Hospital, Fox Chase Cancer Center East Norriton – Hospital Outpatient Center offers access to Fox Chase’s specialized team of providers in a suburban setting, allowing patients to be treated closer to home.

The location features two full floors of clinical space, which includes a linear accelerator for radiation treatments, flexible clinic space with seven exam rooms, an infusion center with seven infusion chairs, and a healing garden.

From the beginning, Fox Chase East Norriton offered hematology and

medical oncology services, including chemotherapy and immunotherapy, for most types of cancer and benign blood conditions, radiation oncology, and surgical consultations. It has since expanded to offer genetic counseling and testing, as well as plastic and reconstructive surgical consultations to address physical changes that can result from cancer treatment. Through genetic counseling and testing, patients can learn about genetic factors that may increase the risk of developing cancer, and get help with long-term plans to reduce their risk.

Patients at Fox Chase East Norriton also have access to nurse navigation services, clinical trials, and other support services offered at the Fox Chase Main Campus. Services will

continue to expand at Fox Chase East Norriton to provide a convenient option in the suburbs.

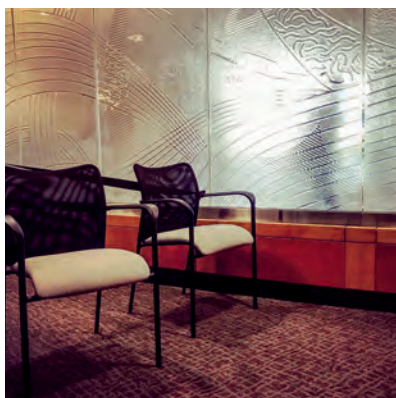
Local Leaders Support Fox Chase

Fox Chase deepened its ongoing relationships with several state and federal leaders in 2018. As a major employer and healthcare provider within Pennsylvania’s 13th Congressional District, Fox Chase has a dramatic impact on this region. Congressman Brendan F. Boyle visited the Center over the summer, and has been a partner in supporting the Center’s clinical, research, and outreach efforts in the community.

In February, State Senator Christine Tartaglione and State Representative Kevin Boyle presented Fox Chase with a check for \$500,000 from the Redevelopment Assistance Capital Program of the Commonwealth of Pennsylvania. This funding will support a planned expansion of the infusion room.

The Office of Community Outreach is Fox Chase’s bridge to the community, reaching more than 13,000 people in the region in 2018. Outreach efforts included multiple health and wellness events. Numerous area leaders hosted or jointly participated, including State Representative Matt Bradford at the Meadowbrook Senior Living Community, State Representative Steve McCarter for the Senior Expo in Elkins Park, and State Representative Christopher Rabb for the Grown Folks Festival in Philadelphia. Fox Chase was one of more than 40 vendors at the Fox Chase National Night Out event hosted by State Representative Boyle at the Fox Chase Elementary School.

Additionally, the Fox Chase Mobile Screening Unit, in partnership with Flyers Charities, provided breast cancer screening for the constituents of Representatives Boyle, Mary Jo Daly, John Sabatina, and Kate Harper.





"Fox Chase East Norriton is a true extension of the main campus, where patients receive the same expertise and quality of care. We work hard to bring what is special about Fox Chase to this new location."

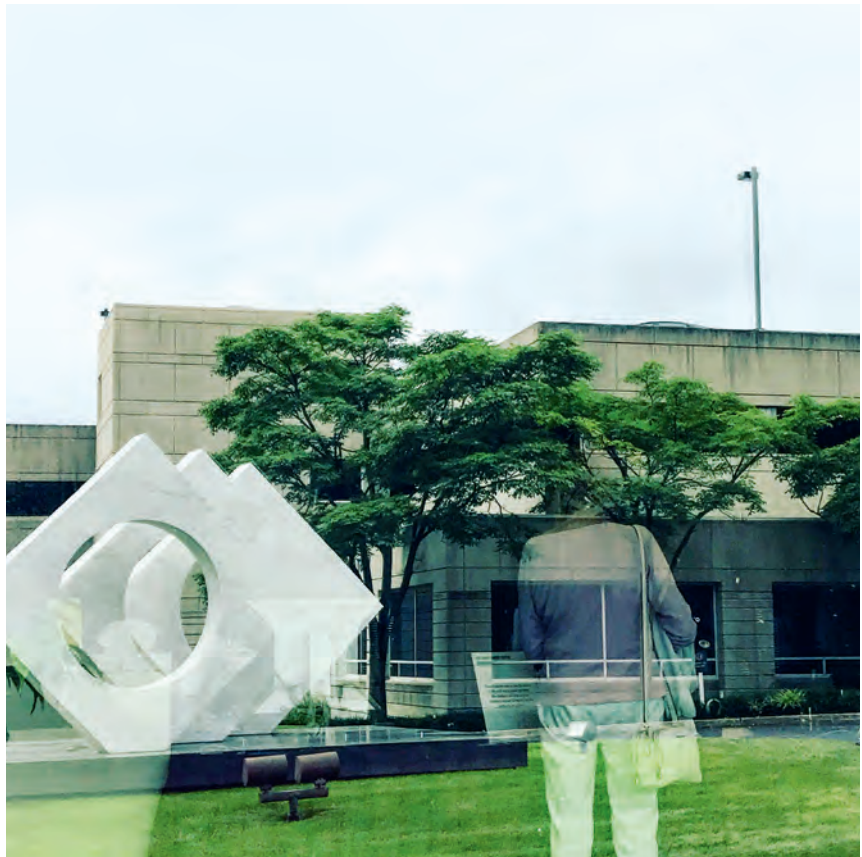
— Christine Gorrell, RN, MSN, OCN, director of the East Norriton Campus of Fox Chase Cancer Center

Unite for Her

The non-profit organization Unite for Her has partnered with Fox Chase to bring a wide range of wellness services to breast cancer patients. They provide nutrition counseling, yoga, meditation, exercise therapy, acupuncture, massage, reiki, and professional counseling all free of charge. Unite for Her held several wellness days at Fox Chase throughout the year, where patients learned more about services that can complement their medical care. Patients were given a passport, allowing them to utilize the services from area vendors and providers throughout the year.

Patient-To-Patient Network

In 2018, Fox Chase launched the Patient-to-Patient Network, a phone-based support program for cancer patients. The program connects patients beginning their cancer journey



TOP: Fox Chase main entrance BOTTOM: Recharging in the Young Pavilion



♥ LEFT: Kathleen Wolf, MBA, BSN, RN, NEA-BC, Magnet program/nursing quality director RIGHT: Anne Jadwin MSN, RN, AOCN, NE-BC, vice president of nursing and chief nursing officer

Nursing Department Earns Magnet Designation

The Department of Nursing successfully achieved its fifth consecutive Magnet® designation for nursing excellence from the American Nurses Credentialing Center. Fox Chase has held Magnet status continuously since 2000, and is one of only nine hospitals globally to earn it five times.

The Magnet Recognition Program is regarded as the nation's

highest form of recognition for excellence in nursing. Applicants are scored on patient satisfaction, nurse satisfaction, adherence to standards for improving the quality of patient care, inter-professional collaboration, leadership of the chief nurse executive in supporting professional practice, and continued competence of nursing personnel. •



“The incredible care the nursing staff provided to me had a profound effect on my daughter. She had been thinking about a career change, and after seeing the impact the nurses at Fox Chase had on their patients, she went back to school and became a nurse.”

— Joan Lautenbacher, lung cancer survivor

with survivors who have had the same cancer, undergone similar treatments, or faced some of the same issues.

Patients have long expressed a desire for this type of one-on-one support, and survivors are often looking for a way to give back. Understanding the benefit of shared experience, Fox Chase responded by creating the Patient-to-Patient Network, and the program began helping people immediately.

“Knowing what to expect from survivors greatly reduced my anxiety about starting treatment and made me more confident in my decision to seek treatment at Fox Chase,” said one recently matched patient.

Newly diagnosed patients are carefully matched with cancer survivors who are specially trained. Patient-to-Patient Network volunteers help address patient concerns, share personal journeys, and provide



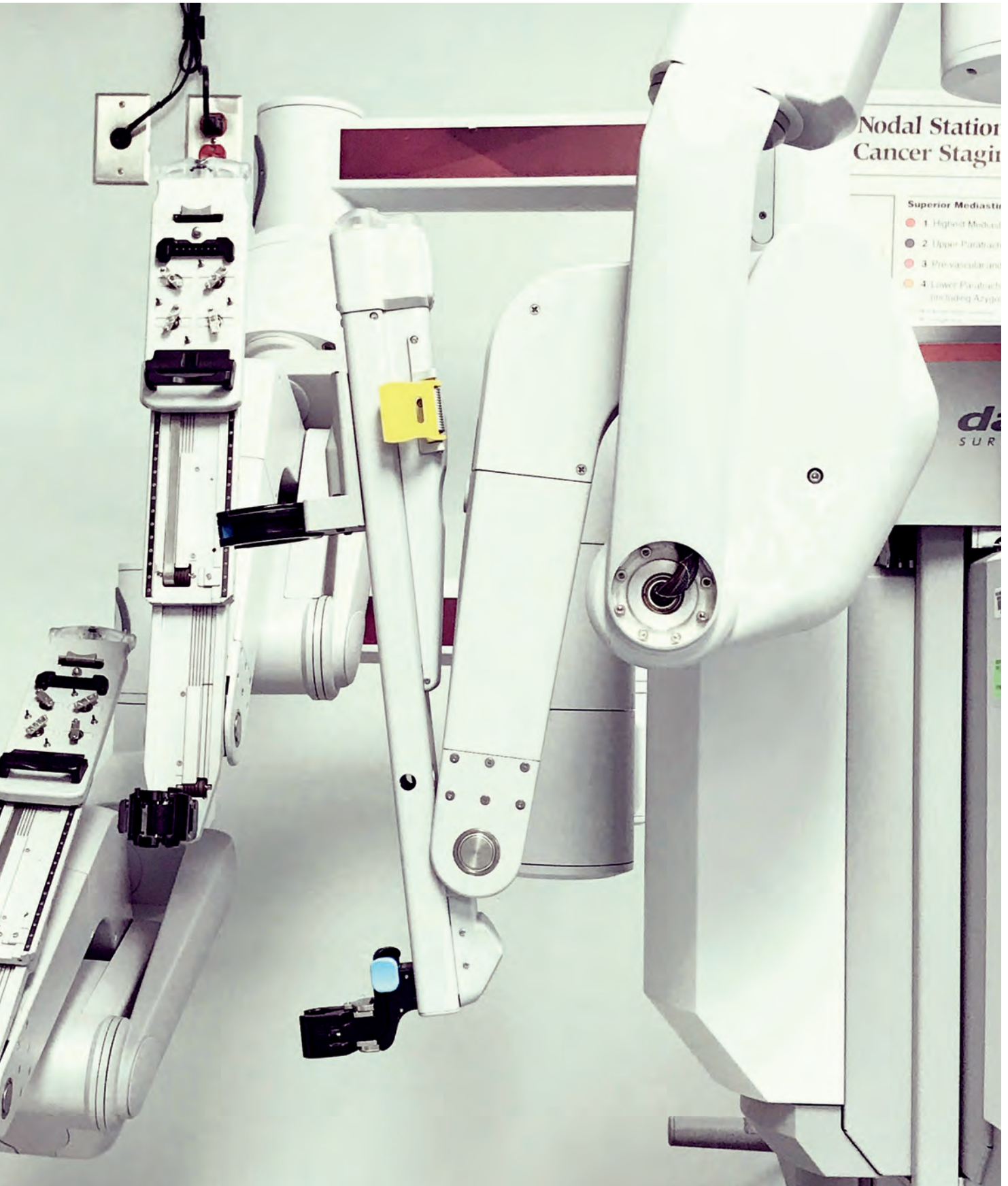
empathetic support and encouragement. To date, the program has more than 100 volunteers representing a wide range of cancers, and is still recruiting. The program is coordinated through the Philip E. and Naomi P. Lippincott Resource and Education Center, a patient and family learning center designed to provide information about cancer risk, prevention, screening, and treatment options such as clinical trials. •



CLINICAL

- CAR T-CELL THERAPY
- REMEMBERING GERALD E. HANKS
- LUTATHERA: A NEW DRUG FOR NEUROENDOCRINE TUMORS
- WELCOMING MARIUSZ A. WASIK
- AMBULATORY HEMATOLOGY/ONCOLOGY OFFICE
- PALLIATIVE CARE FELLOWSHIP
- CYSVIEW
- MASTER CLINICIANS
- SURGICAL ONCOLOGY QUALITY INITIATIVES
- WELCOMING NEW PHYSICIANS



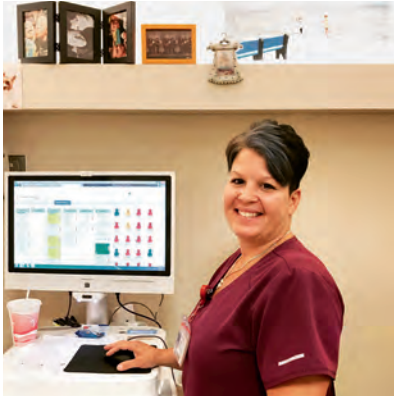


Nodal Station Cancer Staging

Superior Mediastinum

- 1 Highest Mediastinum
- 2 Upper Paratracheal
- 3 Prevascular and Retrovascular
- 4 Lower Paratracheal including Azygos

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CAR T-cell therapy

After passing a rigorous six-month review process, Fox Chase began providing CAR T-cell therapy to eligible leukemia and lymphoma patients. A recently developed intensive form of

immunotherapy, CAR T-cell therapy allows doctors to extract and genetically alter T-cells from a patient's blood, then re-infuse them into the patient. The modified cells are programmed to target and eliminate cancer cells. This

approach has shown great promise in treating certain blood cancers, with success rates up to 90 percent for some types of disease.

Fox Chase now provides both FDA-approved CAR T-cell drugs: Kymriah (tisagenlecleucel) from Novartis and Yescarta (axicabtagene ciloleucel) from Gilead Scientists, Inc. Kymriah is approved for the treatment of relapsed or treatment-resistant B-cell acute lymphoblastic leukemia in children and adolescents, as well as for adults with relapsed or refractory large B-cell lymphoma. Yescarta is the first CAR T therapy approved for the treatment of adults with relapsed or refractory large B-cell lymphoma after two or more lines of systemic therapy, such as chemotherapy.

Henry Fung, MD, FACP, FRCPE, director of the Fox Chase-Temple University Hospital Bone Marrow Transplant Program (BMT), leads the institution's CAR T-cell therapy practice. During the past year, Fung opened four new clinical trials within the BMT for patients with leukemia, Hodgkin's lymphoma, and non-Hodgkin's lymphoma.

Fung is a world-renowned expert in bone marrow and stem cell transplantation, and specializes in treating a range of blood cancers. Under his leadership, the BMT performs more than 100 transplants each year.

Remembering Gerald E. Hanks

Gerald E. Hanks, MD, a giant in the world of radiation oncology and longtime member of the Fox Chase community, died on December 20, 2017 at the age of 83. Hanks served as chair of the Department of Radiation Oncology at Fox Chase for 16 years, retiring in 2001. He is credited with establishing the department's national prominence. After he retired, he was honored by Fox Chase with the



“CAR T therapy has the potential to greatly improve and extend lives. We are proud that Fox Chase is among a select number of hospitals in the United States approved to administer these therapies.”

— Henry Fung, MD, FACP, FRCPE, director of the Fox Chase-Temple University Hospital Bone Marrow Transplant Program

creation of the Gerald E. Hanks Chair in Radiation Oncology, which is held by Eric M. Horwitz, MD, FABS, FASTRO, the current chair of the Department of Radiation Oncology. A symposium honoring Hanks’ life and legacy was held March 22, 2018 at Fox Chase, with several renowned radiation oncologists from across the country delivering tributes.

Lutathera: A New Drug for Neuroendocrine Tumors

Patients with neuroendocrine tumors got a new treatment option at Fox Chase this year in Lutathera. Neuroendocrine tumors are among the most difficult tumors to diagnose. They can develop anywhere in the body, behave differently based on where they grow, and patients with these tumors often exhibit symptoms that are similar to many other diseases.

Lutathera works by carrying a



TOP: Surgical instruments BOTTOM: At work in the operating room



♥ Mariusz A. Wasik, MD, Chair of the Department of Pathology

Welcoming Mariusz A. Wasik

A significant addition to the Center's leadership team, Mariusz A. Wasik, MD, joined Fox Chase as chair of the Department of Pathology as well as Associate Director of the Cancer Center. His research focuses primarily on aberrant cell signaling, the underlying genetic and epigenetic mechanisms in lymphomas, the development of new diagnostic and monitoring tools, and the identification of novel treatment

approaches based on the unique biology of malignant cells. In addition to continuing this research, Wasik will play a prominent role in supporting Temple University Health System's cancer service line and strengthening the portfolio of molecular diagnostics and genomic testing within Fox Chase. He is slated to be installed as the Stanley and Stella Bayster Chair in Molecular Diagnostics. •



“The amazing thing about Fox Chase is the people. It wasn’t just one person, but a whole team of people, who helped save my life and gave me the best care possible.”

— Preston Moyer, mesothelioma survivor



“Everyone at Fox Chase, from the doctors and nurses to the support staff, made me feel comfortable and welcome at a time when I felt most vulnerable. They care about their patients above all else and it truly shows.”

— Barry Taitelman, kidney cancer survivor

radioactive component that binds to somatostatin receptors on the tumors and slowly destroys neuroendocrine tumor cells from within, leaving healthy cells unharmed. Clinical trials at Fox Chase and elsewhere have found that Lutathera is an effective treatment for these elusive tumors. For Pam, a Fox Chase patient who had neuroendocrine tumors surgically removed from her small bowel and breast, Lutathera has led to a 15 to 20 percent reduction in the lesions on her liver and lymph nodes.

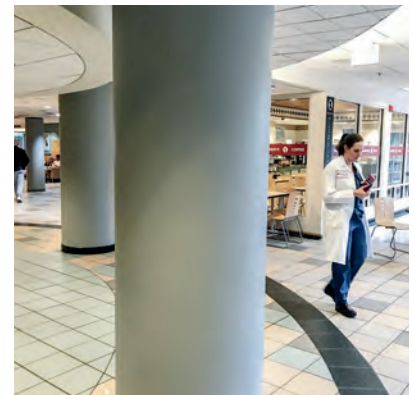
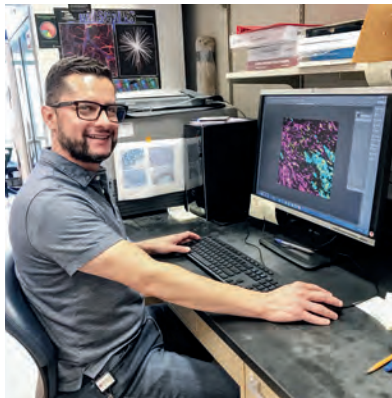
“This is truly a personalized treatment developed specifically for patients who have the somatostatin receptor markers,” said Paul F. Engstrom, MD, FACP, a medical oncologist and national leader in the

treatment of neuroendocrine tumors. “A large percentage of patients with extensive disease and large differentiated tumors may qualify for this new treatment, which has been a huge advancement.”

Fox Chase has long been a leader in the treatment of neuroendocrine tumors. The Center was the first hospital in the greater Philadelphia region to offer the Gallium-68 dotatate PET/CT imaging scan that takes much less time than routine nuclear medicine imaging and exposes the patient to less radiation.

Ambulatory Hematology/Oncology Office

The Fox Chase Cancer Center Ambulatory Hematology/Oncology Office



opened in January in the Physicians' Office Building at Jeanes Hospital. This collaboration provides outpatient cancer care in a convenient space.

The new office specializes in treating patients with benign and malignant blood disorders, such as leukemia, lymphoma, clotting problems, and anemia, as well as solid tumors, such as lung, breast, prostate, and sarcoma. Patients who are treated in this office have the same access to clinical trials and novel treatments as all Fox Chase patients.

Rashmi Khanal, MD, section chief for hematology/oncology at Jeanes Hospital, leads the practice. Vijaykumar Gandhi, MD, an attending physician at Jeanes, helps support this clinic. Several Fox Chase hematologists and oncologists treat and evaluate patients here.

Palliative Care Fellowship

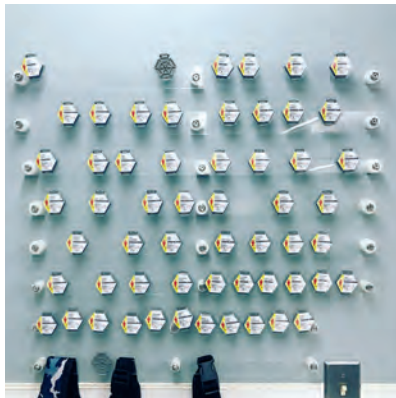
The Pain and Palliative Care Program recruited Stephanie Zankman, DO, to Fox Chase as the first hospice and palliative medicine fellow. The one-year program trains leaders and clinicians in the care of patients with serious illnesses by building skillsets that include expertise in pain and symptom management, communication, complex psychosocial care, and end-of-life care. Molly Collins, MD, director of medical education for the Pain and Palliative Care Program, directs the fellowship. The program supports one fellow each year and includes rotations at Fox Chase, the Hospice of the Visiting Nurse Association of Greater Philadelphia, and Temple University Hospital.

Cysview

This year Fox Chase began offering Blue Light Cystoscopy with Cysview, a revolutionary diagnostic and treatment approach designed to improve detection and removal of early stage bladder cancer with greater accuracy and to reduce recurrence.

When symptoms and blood tests suggest that an individual may have bladder cancer, doctors do a visual inspection of the interior wall of the bladder using a cystoscope — a thin tube with a light and video camera on the end — in a procedure called a cystoscopy.

While larger non-muscle invasive bladder cancer tumors may be visible using white light, smaller cancerous areas may not be easily detected





“After five rounds of radiation, scans showed that not only had the bleeding stopped, but the tumor was completely gone and the other tumors had shrunk in half. In three months, my health had completely changed.”

— Mahmood Saeed,
kidney cancer survivor



because their color can look the same as surrounding healthy tissue.

In the new approach, doctors use a cystoscope equipped with both white and blue light and administer an optical-imaging drug called Cysview that is absorbed by cancer cells. When viewed under the blue light, early stage tumors and lesions glow pink against the healthy tissue, which shows up blue.

Research shows that this approach significantly reduces the chances of recurrence, because it allows surgeons to perform a more complete removal of the cancer. Fox Chase is among a select number of institutions around the country to offer this approach.

Master Clinicians

Richard Greenberg, MD, FACS, professor of urology and urologic surgery, and Elin Sigurdson, MD, PhD, FACS, FRCS (C), professor of general surgery, earned the designation of master clinician this year. The distinction is granted to physicians who have displayed sustained excellence in patient



TOP: Radiation oncology suite BOTTOM: Clinical staff



♥ Robert G. Uzzo, MD, FACS, Chair of the Department of Surgical Oncology

Surgical Oncology Quality Initiatives

Under the leadership of chair Robert G. Uzzo, MD, FACS, the Department of Surgical Oncology launched several initiatives in 2018 aimed at improving the quality and safety of patient care, and the efficiency of the operating rooms. The American College of Surgeons National Surgical Quality Improvement Program designated Fox Chase as a meritoriously performing hospital on its All Cases and High Risks lists.

New initiatives this year include Enhanced Recovery After Surgery, an approach designed to help improve recovery from surgery; an ongoing Perioperative Risk Study that studies methods that aim to further reduce the risk of death and serious complications after major cancer surgery; and Swipe-Sense, a technology that increases hand hygiene awareness among anyone who may have direct contact with patients. •



“Dr. Richard Greenberg performed a radical cystoprostatectomy and urostomy that saved my life. I had many physical changes to cope with, and Dr. Greenberg was in constant contact with my wife and me. He not only preserved my life, but supported me after surgery to adapt to my new lifestyle. He showed a concern not often seen in a surgeon.”
 — Paul Cervone, bladder cancer survivor



care, educational instruction, and cutting-edge research at Fox Chase for more than 15 years. Greenberg and Sigurdson will serve as advisors for their respective department chairs, mentor junior faculty, and promote Fox Chase locally and nationally. Sigurdson will mentor faculty on achieving academic success, including publishing papers and research design, while Greenberg will mentor faculty on how to better promote the Fox Chase brand and engage in philanthropy.

Welcoming New Physicians

This year Fox Chase welcomed 23 new clinicians to the faculty in a variety of roles. The Department of Hematology/



Oncology added Carlyn Tan, MD, who also completed a fellowship at Fox Chase, Rashmi Khanal, MD, who leads the Hematology/Oncology Program at Jeanes Hospital, board-certified oncologist Emmanuel T. Quien, MD,



who treats patients at the Temple Health Northeastern Ambulatory Care campus, board-certified medical oncologist Jason A. Incorvati, MD, who treats patients primarily at Fox Chase East Norriton, Rishi Jain, MD,



MD, who primarily treats patients at the UHS Prostate Treatment Center. The Department of Diagnostic Imaging added board-certified radiologist Laura Levin, MD, Meghan Boros, MD, and Andrea M. Abbott, MD. The Department of Medicine welcomed dermatologist Abishek Aphale, MD, hospitalist Hayley E. Walker, MD, interventional gastroenterologist Jennifer Tome Higa, MD, and Julio Noriega, MD, a pulmonologist. Kristen Whitaker, MD, a specialist in breast cancer genetics and prevention, joined the Department of Clinical Genetics. The Department of Pathology welcomed hematopathologist Reza Nejati, MD, physician-researcher Y. Lynn Wang, MD, PhD, FCAP, and named Mariusz A. Wasik, MD, the new chair of the department and associate director of the cancer center. •

MS, DABOM, and Pooja Ghatalia, MD, who also completed a fellowship at Fox Chase. The Department of Surgical Oncology added physician-researcher Shreyas S. Joshi, MD, who also completed a urologic oncology fellowship

at Fox Chase and the Department of Radiation Oncology welcomed Sameera Kumar, MD, Randi Cohen, MD, MS, who primarily treats patients at Fox Chase Cancer Center East Norriton, and Sangeeta K. Tyerech,



“The level of teamwork and communication amongst the doctors was reassuring. Even though I felt overwhelmed by my multiple surgeries, treatments, and diagnoses, I took immense comfort in the prompt actions taken by my team of physicians.”

— Thomas Myers,
melanoma and prostate
cancer survivor



“The clinical trial I’m in gave me my life back. With everything I had to worry about, I never second-guessed that I was in the place that was giving me the best options to survive. Once I came to Fox Chase, I knew I was where I need to be.”

— Susie Barton,
lung cancer survivor



TOP: A nurse at work BOTTOM: A quiet moment in the infusion room



RESEARCH

- PLIMACK RECEIVES STAND UP TO CANCER GRANT
- THE MARVIN & CONCETTA GREENBERG PANCREATIC CANCER INSTITUTE UPDATE
- PARTNERSHIP WITH UNIVERSITY OF DELAWARE
- WELCOMING PAUL M. CAMPBELL





♡ Elizabeth Plimack, MD, MS, chief, Division of Genitourinary Medical Oncology

Plimack Receives Stand Up To Cancer Grant

Elizabeth Plimack, MD, MS, chief of the Division of Genitourinary Medical Oncology at Fox Chase, was awarded a \$2.9 million Stand Up To Cancer Catalyst Research Grant to investigate whether the drug guadecitabine can reverse the resistance of some bladder cancers to immunotherapy checkpoint inhibitors. Plimack will work with Peter Jones, PhD, chief scientific officer of Van Andel Research Institute.

While immunotherapy has shown great success in some patients, others have not had the same response. Patients whose tumors grow despite immunotherapy may have parts of their DNA silenced, meaning antigens cannot be expressed to start the tumor rejection process. Guadecitabine can potentially remove this silencing, allowing checkpoint inhibitor immunotherapy to work effectively. •

The Marvin & Concetta Greenberg Pancreatic Cancer Institute Update

The Marvin and Concetta Greenberg Pancreatic Cancer Institute, made possible through a transformational gift from Philadelphia philanthropist Concetta Greenberg, has grown impressively since its September 2017 inception. Greenberg's multi-million-dollar commitment – the largest single gift in Fox Chase history – has elevated the Center's work in pancreatic cancer research and treatment.

Under co-leaders Igor Astsaturov, MD, PhD, and Edna Cukierman, PhD, the Institute made great strides in its first full year, earning multiple grants and adding key members to the team. In addition to full time researcher



“I would not be able to do as good a job taking care of my patients if I were not also involved in the science and clinical trials. Similarly, I cannot do the science as well without understanding the needs of my patients.”

— Elizabeth Plimack, MD, MS
chief of the Division of Genitourinary Medical Oncology



TOP: Conical flasks in the lab BOTTOM: Afternoon in the lab

Paul Campbell, PhD, postdoctoral fellow Charline Ogier, PhD, was named the Greenberg Fellow for 2018-19. Kristen Sorice, a project manager who specializes in behavioral science, also joined the Institute to work on the

multi-phase development of a Pancreatic Cancer Research Database. The purpose of this database will be to expedite and improve data sharing for multidisciplinary collaborative grants and projects across the center.



“As an NCI-designated Comprehensive Cancer Center, it is our duty to train the next generation of engaged, science-literate, health care consumers, and encourage individuals to get involved in the enterprise of discovery.”
— Amanda K. Purdy, PhD, director of academic affairs

Partnership with University of Delaware

The University of Delaware has partnered with Fox Chase for the second year in a row to provide UD students with hands-on science and research experience. In line with the educational mission of the Center, the summer program paired Fox Chase research mentors with undergraduate students. The fellows – Deeanne Almeida, Elizabeth Habash, Yasmin Mann, and Carissa Walkosak – received training on how to analyze and present the results of their research and attended a series of talks about careers from guest speakers, including a genetic counselor and a surgeon. To help foster a sense of community, the four students lived together in a house near the Center. The program was supported by the university, Fox Chase, and Thomas Hofmann, a member of the Fox Chase Board of Directors and alumnus of UD. •



♡ Paul M. Campbell, PhD, assistant professor, The Marvin and Concetta Greenberg Pancreatic Cancer Institute

Welcoming Paul M. Campbell

Award-winning pancreatic cancer researcher Paul M. Campbell, PhD, joined Fox Chase's Cancer Biology Program in February. He has earned multiple clinical and translational grants and awards for his work on cancer signaling, progression, and metastasis. Previously he led a lab that studied tumorigenesis driven by the activation of the protooncogene K-Ras. At Fox Chase, Campbell has continued his research

focus in these areas, with the overall objective of discovering and validating new targets for drug development and finding novel biomarkers for earlier detection and therapeutic monitoring.

Campbell is an assistant professor, and a member of The Marvin and Concetta Greenberg Pancreatic Cancer Institute at Fox Chase. He holds multiple patents related to cancer therapeutics. •



PHILANTHROPY

- ALAN HABER - A SURPRISE GIFT
- *IN VINO VITA*
- THE LAUREL SOCIETY
- PILOT FUNDING
- NEW HEIGHTS FOR BOARD OF ASSOCIATES
- THE JOY OF GIVING BACK





IN MEMORY OF
AMY LOWENSTEIN
2017

IN MEMORY OF
J. DECARD
2016

IN MEMORY OF
H. KENNETH BAYLOR
2016

IN MEMORY OF
MARY WELSH
2017

IN MEMORY OF
JOHN CUSH
2017

IN MEMORY OF
ANGELA WOOD THATCHER
2016

IN MEMORY OF
CYNTHIA ZIEGLER
2017

IN MEMORY OF
MICHAEL J. STERN
2016

IN MEMORY OF
LOS SCHALESBERG-COHEN

IN MEMORY OF
ELLEN GITELSON
2016

IN MEMORY OF
SHIRLEY SCLAGNICK
2016

IN MEMORY OF
ELLEN WEAVER JUSTICE
2017

IN MEMORY OF
HOWARD H. SPYER
2016

IN MEMORY OF
ELIZABETH WENDECKER

IN MEMORY OF
FRANCES BOYCHAK
2017

IN MEMORY OF
MARY & FREDERICK ROSENBERG
2016

IN MEMORY OF
BERNADETTE M. MARSHALL
2016

IN MEMORY OF
SERAPIS CARL
2017

IN MEMORY OF
SARAH J. POLEY
2016

IN MEMORY OF
LOHRANE BRIDGMAN
2017



♥ Alan D. Haber, MD, FCCP, chief, Section of Pulmonary, Sleep and Critical Care Medicine

Alan D. Haber - A Surprise Gift

Alan D. Haber, MD, FCCP, chief of pulmonary, sleep, and critical care medicine at Fox Chase, made the Special Pledge at this year's *In Vino Vita* Benefit and Wine Auction especially memorable. Sharing lessons from his father and late mother – both of whom survived the Holocaust and later faced cancer – Haber made a \$125,000 donation in their honor. Haber spoke about his parents' lives, lessons, and the spirit

of generosity they exemplified. When his father learned about the donation, he matched it, bringing the total gift to \$250,000.

Their donation helped make Fox Chase one of the first in the country to offer Auris Health's Monarch™ Platform, a robotic navigational bronchoscopy system that enables earlier diagnosis and treatment of lung cancer. •

In Vino Vita

On April 21, 2018, more than 550 guests gathered for an extraordinary evening in Philadelphia for Fox Chase's fifth annual *In Vino Vita* Benefit and Wine Auction, which has evolved into a premier wine event in the region. Through the overwhelming generosity of donors and sponsors – many of whom are faculty, staff, and board members – Fox Chase raised \$1.7 million. It was an inspirational evening that brought together like-minded individuals who support the institution's mission to prevail over cancer.

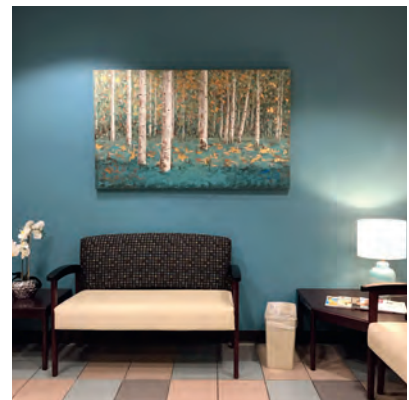
The highlight of the evening was the special pledge, when guests paused to watch a powerful video in which patients and clinicians highlighted the importance of revolutionizing the delivery of cancer care at Fox Chase. Guests then enthusiastically raised their paddles to pledge their support of the appeal.

Bill and Sue Federici served as this year's event chairs and championed the Center's efforts with an offer to match \$250,000 toward the special pledge. Louis and Carol Della Penna served as wine chairs and also offered generous support of the event.



“When you get a second chance at life you make it count, and you pay the gifts you receive in life forward.”

— Alan Haber, MD, FCCP, chief of pulmonary, sleep, and critical care medicine



The Fox Chase community is already looking forward to next year's *In Vino Vita*, which is scheduled for April 6, 2019.

The Laurel Society

The Laurel Society, the premier donor society that honors Fox Chase's most generous supporters, celebrated its 10th anniversary in 2018. Members of the society gathered in the fall

at the Down Town Club in historic Old City Philadelphia for the annual Laurel Society recognition dinner. David Marshall received the Laurel Society Award for his service to Fox Chase, which includes 24 years on the Board of Directors. Fox Chase survivor Karen Cerrato shared her 20-plus year journey with head and neck cancer.



TOP ROW (left to right):

Richard Pomerantz, PhD, associate professor, Medical Genetics and Molecular Biochemistry

Sergei Grivennikov, PhD, assistant professor in the Cancer Prevention and Control Program

Neil Johnson, PhD, assistant professor in the Molecular Therapeutics Program

BOTTOM ROW (left to right):

Vasily M. Studitsky, PhD, co-leader, Cancer Epigenetics

Kuang-Yi Wen, PhD, assistant professor in the Cancer Prevention and Control Program

Pilot Funding

Pilot funding is essential for cancer researchers. It supports cutting-edge projects that offer the potential to extend science in new directions, and does so at a point where it may enable scientists to gather preliminary data needed to secure larger grants. In 2017 Fox Chase began a program to support early-stage researchers with pilot grants. The first five awards were announced in January 2018.

Donors who supported the special pledge at the 2017 *In Vino Vita*, the institution's signature fundraising event, contributed funding to 10 projects over a two-year period.

The internal review committee evaluated 44 submissions. Effective pilot funding focuses on projects that are potentially paradigm-shifting; possess a high likelihood to lead to significant peer-reviewed funding; address the needs of the community Fox Chase serves; and/or translate laboratory findings into new clinical treatments.

The initial five grants provide funding of \$75,000 per year.

Two awards were reserved for junior faculty. The following faculty members earned grants in the first round:

- **Sergei Grivennikov, PhD**, for his proposal, "Tumor adherent microbiota as a driver of tumor elicited inflammation in colorectal cancer"
- **Neil Johnson, PhD**, for his proposal, "Targeting the ubiquitin-regulated DNA damage response in BRCA1 mutant cancers"
- **Richard Pomerantz, PhD**, for his proposal, "Discovery of a Novel Reverse Transcriptase in Human Cells: Polymerase θ "
- **Vasily Studitsky, PhD**, and **Italo Tempera, PhD** for their proposal, "Mechanisms of PARP1 action in transcription"
- **Kuang-Yi Wen, PhD**, for her proposal, "To reduce cancer disparities: Mobile TXT to improve hormone therapy adherence in African American BCa survivors"

A second competition for five additional awards began in the fall of 2018. •



“Funding for projects is highly competitive, and it can be difficult for junior faculty members to get their research off the ground. Private funding from generous donors can make all the difference in getting great ideas heard and helping junior faculty establish themselves.”

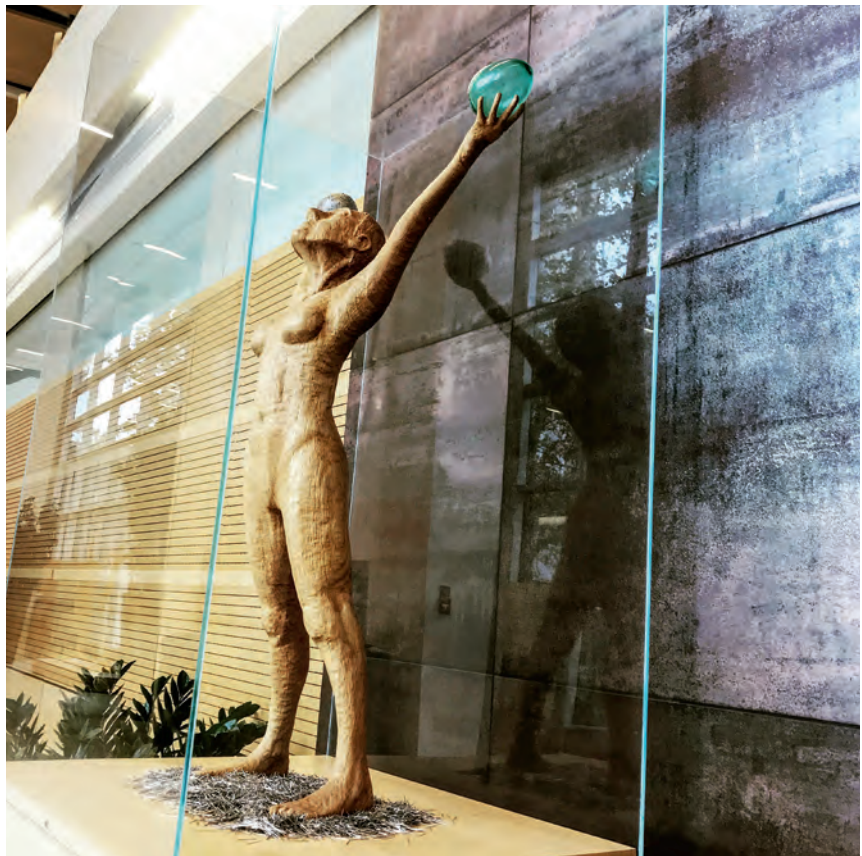
— Jonathan Chernoff, MD, PhD, senior vice president and chief scientific officer

New Heights for Board of Associates

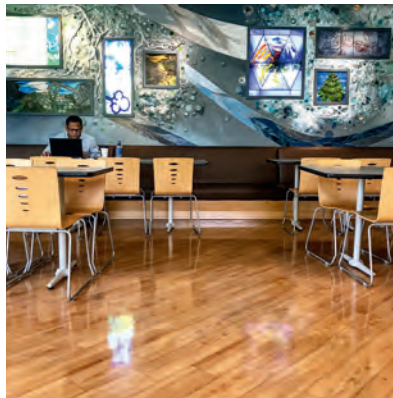
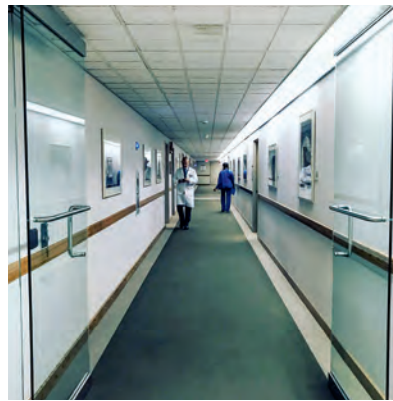
The Board of Associates, a group of dedicated volunteers who raise money year-round through projects and special events in support of research and patient care at Fox Chase, held several events throughout the year.

Founded in 1965, the Board is made up of several member organizations and affiliates, harnessing the passion, creativity, and generosity of more than 500 volunteers who have raised more than \$22 million in support of Fox Chase. In 2018, the Young Professionals Chapter was established to offer individuals the unique opportunity to build relationships with fellow advocates ages 21 to 40 through participation in educational, networking, and philanthropic activities.

The Board also held the 18th Annual Paws for the Cause – a one-mile walk



TOP: Endowment wall BOTTOM: Sculpture in the Young Pavilion



around the Fox Chase campus – on October 22, 2017. FOX29 television anchor Dawn Timmeney and her dog Finley returned for a fifth year to emcee the event, while Richard Greenberg, MD, FACS, who has spent his entire 35-year surgical career at Fox Chase, served as Ambassador along with his dog Cooper. To date, Paws for the Cause has raised more than \$400,000.

The Joy of Giving Back

In the 1960s, Evalind “Evie” Minor was a nurse, but her shifts were irregular. As a young mother facing a divorce, she needed a more consistent schedule to raise her daughter. She successfully transitioned to a corporate job, and in 1981 she founded EMSCO Scientific Enterprises, Inc.

Evie is a three-time cancer survivor.

She was treated for ovarian cancer in 2005, kidney cancer in 2010, and bladder cancer in 2015. Thankfully, each cancer was diagnosed at its earliest, most treatable stage, and she had a good outcome. Many of her doctors trained at Fox Chase Cancer Center, and although she was treated at other hospitals, she appreciates what Fox Chase has meant for her.

In 2015, Evie sold her share of the business to retire and spend time with her daughter, son-in-law, and granddaughter. She decided to support Fox Chase with a cash gift in 2018, and is looking forward to seeing the effect of her giving. She also revised her will to include Fox Chase and other institutions close to her heart, in order to leave a lasting impact. By including Fox Chase in her estate plan, Evie became a member of the Elizabeth Anderson Society – Fox Chase’s planned giving society. Gifts like Evie’s help sustain cancer science and medicine well into the future. •



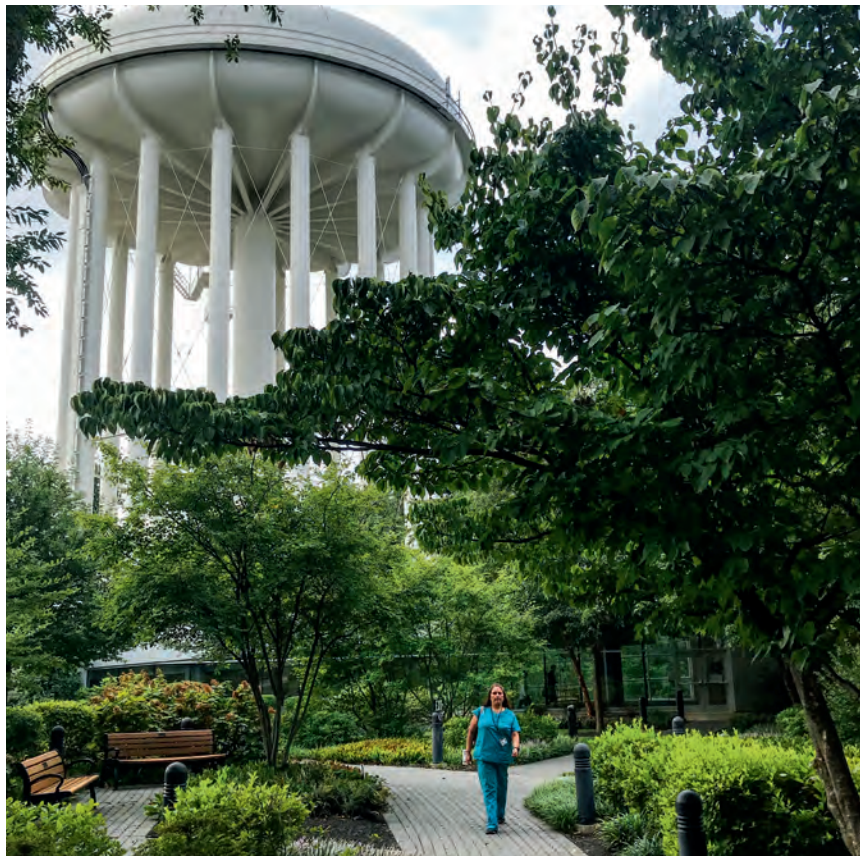
“It really takes a special person to work at Fox Chase. Everyone I met had a smile on their face and was incredibly positive. As a receptionist myself, I know it can be a struggle to stay positive all day long. It’s hard to make cancer a positive experience, but I never left feeling discouraged.”

— Tracy Gatto, breast cancer survivor and Paws for the Cause top fundraiser



“Philanthropy is very personal for me. Having lost family members and a close friend to melanoma, I had to get involved with the cause. I’m proud to support Fox Chase, whose care and commitment to patients is inspiring.”

— Neil F. Hall, melanoma survivor and donor



TOP: The Young Pavilion Donor Wall BOTTOM: A peaceful moment in the courtyard

DONORS

The Laurel Society

The Laurel Society is the signature donor society of Fox Chase Cancer Center, honoring the most generous supporters — individuals, corporations, foundations, community fundraisers, and Fox Chase faculty and staff. Individual members demonstrate their commitment by providing annual support of \$1,000 or more during Fox Chase's fiscal year (July 1 through June 30). Corporations, foundations and community fundraisers become members at the \$5,000+ level.

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**Deceased*

FINANCIALS

2018 BY THE NUMBERS

707
SCIENTIFIC PUBLICATIONS

113,546
OUTPATIENT VISITS

8,652
NEW PATIENTS

23
NEW FACULTY MEMBERS

Numbers represent Fiscal Year 2018

PHILANTHROPY SNAPSHOT

\$14,400,000
TOTAL PHILANTHROPIC SUPPORT

\$1,700,000
RAISED AT *IN VINO VITA*

10,201
TOTAL DONORS

2,978
TOTAL NEW DONORS

612
CURRENT DONORS WHO HAVE GIVEN
30+ YEARS

\$711,217
BOARD OF ASSOCIATES TOTAL GIFTS

VOLUNTEER SNAPSHOT

524
VOLUNTEERS

84,741
TOTAL VOLUNTEER HOURS

\$269,413
VOLUNTEER DEPARTMENT BUDGET

\$2,092,255
VALUE OF HOURS*

\$1,822,842
NET VALUE ADDED TO FOX CHASE

*Based upon the Independent Sector Value of \$24.69/hr.



ACTIVELY ENROLLING CLINICAL
RESEARCH STUDIES



INVESTIGATOR INITIATED CLINICAL
RESEARCH STUDIES

| CLINICAL SNAPSHOT (In Thousands)

FY18

REVENUES | CLINICAL ACTIVITY

Patient Care Revenue Hospital	\$365,219
Patient Care Revenue Physicians	\$35,326
Philanthropy, Outreach & Other	\$11,574
Clinical Revenue	\$412,119

OPERATING EXPENSES | CLINICAL ACTIVITY

Direct Patient Care	\$292,399
Support Services	\$17,929
Administrative & General	\$40,707
Capital Related Costs	\$9,106
Maintenance & Plant Operations	\$11,469
Clinical Expenses	\$371,610

KEY PATIENT CARE STATISTICS

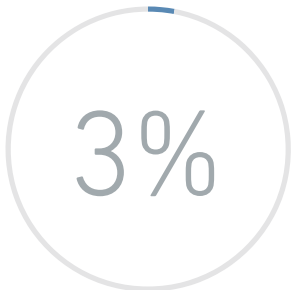
New Patients	8,652
Hospital Admissions	4,304
Chemotherapy Infusions & Related Procedures	63,089
Radiation Therapy Treatments	26,616
Surgical Procedures	4,980

| RESEARCH SNAPSHOT

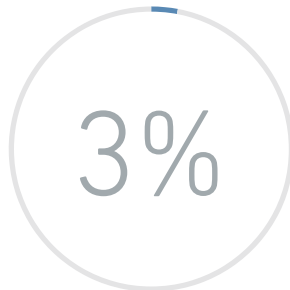
ACTIVE FUNDED PROJECTS

Funding Source	Number of Projects	Direct Costs	Total Costs
PEER-REVIEWED			
NCI	100	\$13,287,213	\$20,906,040
Other NIH	57	\$9,557,749	\$15,353,385
Other	29	\$3,440,101	\$4,753,121
Subtotal of peer-reviewed	186	\$26,285,063	\$41,012,546
NON PEER-REVIEWED			
Industry	77	\$6,434,927	\$8,117,822
Other non peer-reviewed	29	\$1,688,323	\$1,914,418
Subtotal of non peer-reviewed	106	\$8,123,250	\$10,032,240
GRAND TOTAL	292	\$34,408,313	\$51,044,786

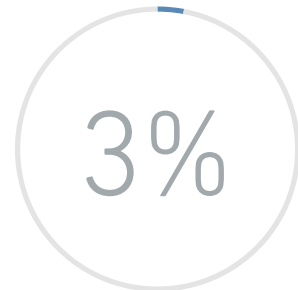
TYPES OF CANCERS TREATED



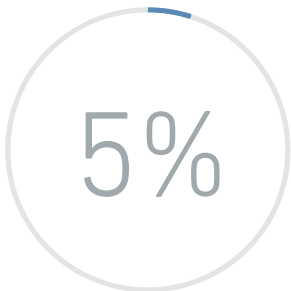
PANCREAS



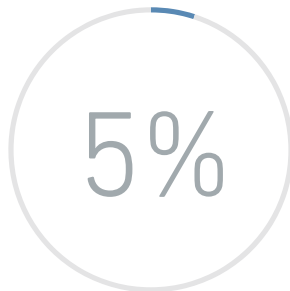
HEAD & NECK



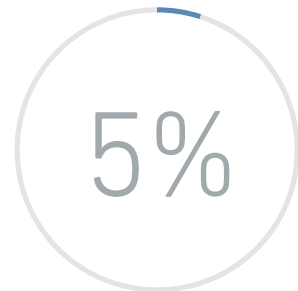
LYMPHOMA



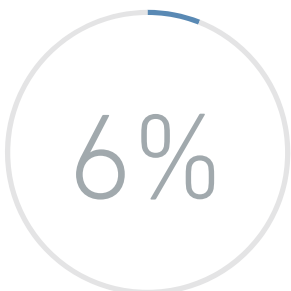
BLADDER



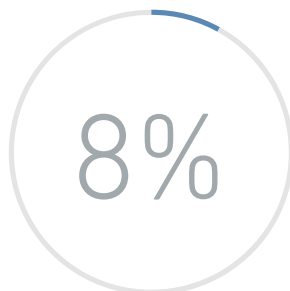
KIDNEY



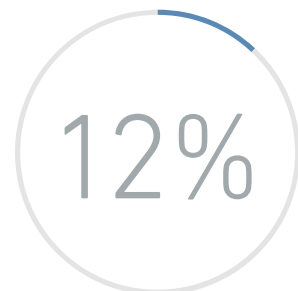
SKIN



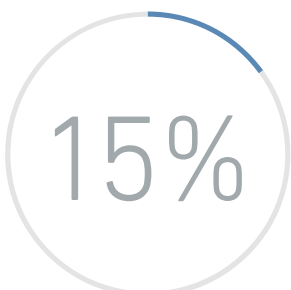
COLORECTAL



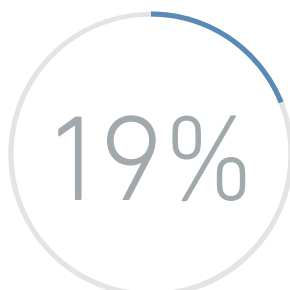
GYNECOLOGICAL



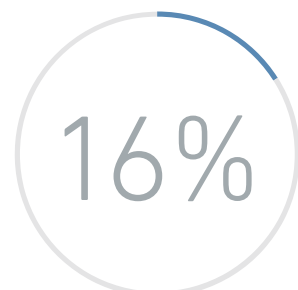
LUNG



PROSTATE



BREAST



OTHER



| FY18 PAYER MIX

● COMMERCIAL	42%
● MEDICARE	36%
● MEDICARE MANAGED CARE	13%
● MEDICAID	8%
● SELF-PAY/OTHER	1%



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¹ Member of the Fox Chase Cancer Center clinical faculty

² Faculty based at Temple University

The Annual Report is produced by the Communications Department of Fox Chase Cancer Center. Contact us at editor@fcc.edu.

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HISTORY

1904

A group of physicians and businessmen signed the charter to establish the **American Oncologic Hospital**. The hospital opened on January 4, 1905, becoming one of the first hospitals in the country devoted exclusively to treating cancer.

1925

Stanley P. Reimann, MD, chief pathologist at Lankenau Hospital, founded the Lankenau Hospital Research Institute. In 1945 it would evolve into the **Institute for Cancer Research**.

1959

David A. Hungerford, a doctoral student at the Institute for Cancer Research, and **Peter C. Nowell, MD**, from the University of Pennsylvania, discovered what would become known as the **Philadelphia Chromosome**. It was the first conclusive evidence that cancer is a genetic disorder of somatic cells.

1967

Baruch S. Blumberg, MD, PhD, made the world-changing discovery of the hepatitis B virus, a major cause of primary liver cancer, the fifth-most common cancer worldwide. Within two years Blumberg and **Irving Millman, PhD**, developed a vaccine to prevent the virus. It was the first vaccine that prevents a form of cancer in humans. Blumberg is credited with preventing millions of cases of liver cancer over the ensuing decades. He received the **Nobel Prize in Medicine** in 1976, and he and Millman were elected to the National Inventors Hall of Fame in 1993.

1974

The **American Oncologic Hospital** and the **Institute for Cancer Research** united to form **Fox Chase Cancer Center**. That same year, Fox Chase became one of the first institutions to earn the National Cancer Institute's elite designation as a Comprehensive Cancer Center.

1995

Fox Chase became a founding member of the **National Comprehensive Cancer Network**, an alliance of the nation's leading academic cancer centers designed to ensure the highest-quality, most cost-effective, cancer care based on state-of-the-art treatment guidelines and outcomes research.

2004

Fox Chase's **Irwin A. Rose, PhD**, and collaborators **Avram Hershko, MD, PhD**, and **Aaron Ciechanover, MD, PhD**, received the **Nobel Prize in Chemistry** in recognition of their work together at Fox Chase from the 1970s through the early 1980s. The group discovered one of the cell's most important cyclical processes: how proteins are broken down and recycled.



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