

# Prevail

FOX CHASE CANCER CENTER \ ANNUAL REPORT

# 20

BEHIND THE SCENES

 **FOX CHASE**  
CANCER CENTER  
TEMPLE HEALTH

BEHIND THE SCENES

“OUR WORK IS DRIVEN BY OUR COMPASSION  
FOR OTHERS AND A SENSE OF DEDICATION  
TO THE PATIENTS AND FAMILIES WHO TURN  
TO US FOR CANCER CARE. IT SHOWS IN  
ALL THAT WE DO, OFTEN TAKING PLACE  
QUIETLY BEHIND THE SCENES.”

— RICHARD I. FISHER, MD



## LITTLE THINGS, LARGE IMPACT

The people of Fox Chase Cancer Center have long embodied a spirit of curiosity and innovation, achievement and progress. Our work is driven by our compassion for others and a sense of dedication to the patients and families who turn to us for cancer care. It shows in all that we do, often taking place quietly behind the scenes.

As we embark on a new era—one in which we integrate more fully as an entity of Temple University Health System—we reflect on the idea of little things and the relationship they have with our broader world.

This is a pivotal time in many regards. There are many issues and problems that surround us: the COVID-19 pandemic, racial injustice, political division, and economic concerns. Amidst this backdrop, we continue our pursuit of advancing cancer research and treatment. We are welcoming new and deeper collaborations as we renew our partnership with Temple. Still, we hold close our values of respect, service, and quality. To move forward now is a challenge that presents itself as both exciting and overwhelming.

Despite this challenge, there is a path to be forged. Whether in the clinical realm or the research lab, through our administrative offices and our hallways, or in our relation-

ships with donors, colleagues, and friends, we have so often shaped our future by focusing on little things that have large impact.

In any endeavor, and particularly in medicine, to delve deeper is to explore the details. To experience the nuances of our connections and collaborations. To accomplish all that our potential holds because we take care to recognize things that may not be obvious to everyone, to address things that only some bother to pursue, and to learn from these observations and interactions for the betterment of our patients and each other.

Taken in total, our experiences inform who we are as individuals and as an institution. These lessons are evident in how we approach our work and the people we serve. All of the little things we do and study and remember have a purpose. They illuminate our opportunities, advance our mission, and propel us to a greater time to come.

As you read about the progress and accomplishments of the last year at Fox Chase, of the many selfless acts of our staff during these challenging times, I invite you to think about how little things in your own life can have the potential to effect change in our larger world. Each of us has this responsibility. The question we must ask ourselves is this: do I accept?



**Richard I. Fisher, MD**  
President and CEO at Fox Chase



INSTITUTIONAL

“I’M VERY HUMBLLED TO BE HONORED  
WITH THIS AWARD IN MEMORY OF  
JAMIE LIEBERMAN AND THE IMPORTANT  
STRUGGLE SHE FOUGHT FOR.”

— RICHARD J. BLEICHER, MD, FACS





Richard J. Bleicher, MD, FACS, was awarded the 2020 Jamie Brooke Lieberman Remembrance Award from Susan G. Komen Philadelphia.

## FACULTY TEAM UP TO DEVELOP COVID-19 TEST

As COVID-19 began to spread across the country, Fox Chase Cancer Center clinical and administrative departments teamed up to begin developing in-house COVID-19 testing, which began on April 9.

“What became clear to us very quickly was that it was going to be more than just a lab effort. It really took pieces from all over the institution,” said Donald Baldwin, PhD, associate professor in the Department of Pathology. Baldwin took on some of the technical aspects of getting COVID-19 testing off the ground, while Mariusz Wasik, MD, procured resources and institutional support as the chair of pathology.

The main overall project was led by Judy Bachman, MSN, RN, CNAA, chief operating officer. Christine Bloom, MHA, RDMS, RT, director of radiation oncology, and Barbara Ebersole, BFA, MA, CCC-SLP, assistant research professor in the Division of Head & Neck Surgery, were co-leads. Marie Riehl, RN, clinical manager of the outpatient department, set up the testing. Numerous staff members contributed to the effort as well.

“We did all this with very little reduction in our normal oncology



testing, so our lab was faced with launching COVID-19 service in addition to the usual demand of genomics and molecular biology tests for cancer patients,” said Baldwin. “Whoever we called on was willing to help however they could, so it’s been a real pleasure to pull up an entire team to develop a brand new test in record time.”

## STAFFERS PITCH IN TO PROCESS COVID TESTS

After Fox Chase researchers developed a test for detecting COVID-19, dozens of other staffers, lab techs and nurses among them, pitched in to see the testing process through to the end.

“It started with a canopy, staff in coats and using umbrellas on a rainy day, with eight tests done on the first day. It grew into two tents and more than 90 tests per day,” said Anne Loser, a medical technologist who was involved in several steps of the process.

She worked closely with Raquel Dennis, clinical lab supervisor, and Quynh Lam, lab manager for the Molecular Diagnostics Laboratory. Lam developed

the workflow for sample receiving and tracking, quality control and assurance protocols, and training and scheduling of techs and data coordinators.

As they continued working, the process became more efficient. Testing volume tripled since they began, and new equipment allowed them to process 96 samples at once. In addition, they used to manually enter test results, but software automated that part of the process.

“This was Fox Chase at its finest, it was a total group effort,” Loser said. “No request was too small. If we met an obstacle, someone found a way to overcome it.”

## EVEN MASKED, CHAPLAIN CONVEYS COMPASSION

As a staff chaplain at Fox Chase Cancer Center, one of the main tools at the disposal of Barbara Klimowicz are her words. In this time of COVID-19, even though a mask covers her face, patients, their loved ones, and staff can still hear her voice. And they can see the steadfast support, love, compas-

WHEN TESTING BEGAN ON APRIL 9, FOX CHASE TESTED 8 PEOPLE; AT THE HEIGHT OF THE PANDEMIC, MORE THAN 90 PEOPLE A DAY WERE BEING TESTED.



Henry Chi Hang Fung, MD, FACP, FRCPE, is chair of the Department of Bone Marrow Transplant and Cellular Therapies at Fox Chase.



Namrata "Neena" Vijayvergia, MD, was named to The Pennsylvania Medical Society's Top Physicians Under 40 list.

sion, and hope in her eyes.

Although the pandemic prevents family from being with patients at bedside, or in infusion and radiation areas, Klimowicz steps in to lend support wherever and whenever loved ones can't. Staff are also included in her rounds. She provides "Hope Huddles" throughout the center to provide emotional and spiritual support as needed during these difficult times.

"I travel around the world every day as people take me with them on their journeys of life," Klimowicz said.

### STAFF MEMBERS TRACK DOWN RESPIRATORS

In mid-March, as it became clear that COVID-19 could reach pandemic levels, feared shortages of medical supplies had not yet become an issue at Fox Chase Cancer Center. But that didn't stop employees from preparing for possible shortages with longer shifts and increased efforts to obtain necessary equipment.

Two such staff members are Tracey Hunter, supervisor of respiratory care, and Paul Maher, a respiratory therapist. The two made numerous calls to obtain more ventilators for patients. Despite a national shortage of ventilators due to the emerging pandemic, Hunter and Maher were eventually able to obtain additional ventilators.

"When we were short staffed, people were volunteering, staying longer, and doing whatever was necessary to meet the needs of the patient," said Hunter.

### EMBODYING 'FOX CHASENESS'

Fox Chase Cancer Center prides itself on care and service that goes above

that offered at other cancer centers, a characteristic that has become known as "Fox Chaseness." Even in uncertain times, Fox Chase employees continued to provide a uniquely caring environment for patients.

One shining example of this is Lucille Williams, reception supervisor in the Department of Radiation Oncology. Williams noticed a patient was still waiting for a ride two hours after his appointment had ended. She became concerned and called the patient's daughter, only to find out she had been in a car accident and was running late.

Williams told the patient what had happened. After learning that he had not eaten all day, she took him to the cafeteria to buy him lunch and kept him company.

STAFF IN DIAGNOSTIC IMAGING  
HAVE A MEDIAN OF WELL OVER  
**20 YEARS**  
OF SERVICE TO FOX CHASE.

### WORKING OVERTIME TO KEEP EVERYONE SAFE

Fox Chase relies on the work of environmental services (EVS) to keep the center clean and sterile, and their help was even more critical during the COVID-19 pandemic. EVS staff worked tirelessly to meet the needs of patients and staff, and helped ensure the hospital's safety with increased cleaning measures.



Jonathan Wright, EVS director, said he was never more proud of his staff than when they continued to step up to the plate. “The EVS management team has been extraordinary,” he said.

EVS staff, many of whom are individuals over 60 at higher risk of contracting COVID-19, cancelled previously scheduled time off to come to work every day to improve the hospital’s safety, Wright said.

They also put patients at ease, said Kathy Rich, supervisor of house-keeping. “The thing about Fox Chase is that EVS staff is close with the patients. ... It’s pretty impressive.”

### SERVICE TO PATIENTS, SERVICE TO THE COMMUNITY

Caralyn Briscella, BSN, RN, OCN, has been an infusion room nurse at Fox Chase for 8 years. When she’s not serving her patients, she’s working to serve the larger community.

One of the infusion room’s long-term patients is a nurse at Friends Hospital. She told Briscella about how patients are often transferred to Friends in a hospital gown or with just the clothes on their back, which is especially a problem in the winter.

“I knew I had to help. I reached out to my coworkers and others



in ambulatory care and started a clothing drive,” Briscella said. It was “very successful,” with about 30 bags of clothing collected in a few months. Although temporarily put on hold due to the COVID-19 pandemic, the drive is scheduled to start back up.

### MAINTAINING SERVICE TO PATIENTS AND CAREGIVERS

Dave Miller, a maintenance mechanic, has worked at Fox Chase for 20 years and has gone out of his way for patients and their families a number of times. But his biggest accomplishment in that area may be helping a patient’s family by taking apart a sofa.

A family called maintenance at Temple University Health System, asking if they could buy a sofa from a Fox Chase waiting room because they believed a family member had lost a wedding ring in it during an appointment.

A man was with his wife, who had come in for surgery, but she didn’t know she couldn’t have any jewelry with her. So she gave the ring to her husband, who put it in his pants pocket. It fell out as he was waiting for her on the sofa.

But in the end, his wife didn’t have her surgery because she was found to have an elevated heart rate during her preoperative screening. After trying to

find the ring on their own, they had to go home, a three-hour drive to the Lake Wallenpaupac area of the Poconos.

Miller happened to be there when the call came in to Fox Chase and volunteered to try to find the ring. “I thought, ‘Hey, let’s take a look. Maybe I can find it.’” He took the couch down to the maintenance area and after a half hour, he was able to retrieve the ring.

### THE IMAGE OF DEDICATION

Long before the COVID-19 pandemic erupted, radiology technologists in the Department of Diagnostic Imaging were on the front lines providing X-rays, Cat Scans, or other forms of imaging that patients required. And when the pandemic blew up, they continued doing what they had always done. “We are one of the first ones to come in contact with patients on a daily basis,” said Christine Doolley, a diagnostic radiology supervisor.

Joan Keiper, administrative director of diagnostic imaging, said the group is highly dedicated and experienced, with a median of well over 20 years of service to Fox Chase. “They are professional and have jumped to the call when needed in rough times. Be it a snow storm or pandemic, they are always there and ready to lend a hand.”

FOX CHASE CANCER CENTER—  
BUCKINGHAM MARKED ITS  
**10<sup>TH</sup>**  
ANNIVERSARY.



Kathy Rich (left) and Jonathan Wright (right) worked hard to keep the hospital clean during the COVID-19 pandemic.

# RADIATION



Reception supervisor Lucille Williams went out of her way to help a patient and even bought him lunch.



A DEDICATED GROUP OF  
**401**  
VOLUNTEERS DONATED  
**69,583**  
HOURS OF SERVICE.

### **BLEICHER RECEIVES BREAST CANCER AWARD**

Richard J. Bleicher, MD, FACS, a professor in the Department of Surgical Oncology at Fox Chase, was awarded the 2020 Jamie Brooke Lieberman Remembrance Award from Susan G. Komen Philadelphia for his work in the breast cancer community.

The award's namesake, Jamie Brooke Lieberman, lost her battle with inflammatory breast cancer in 2012 at the age of 35. She fought for understanding and awareness of her disease and was active in raising funds for research and community outreach, early detection, and treatment programs.

"Although I never got to meet Jamie, I'm very humbled to be honored with this award in memory of Jamie Lieberman and the important struggle she fought for," Bleicher said.

### **BONE MARROW TRANSPLANT PROGRAM BECOMES A DEPARTMENT**

The Fox Chase-Temple University Hospital Bone Marrow Transplant (BMT) Program is now the newest department at Fox Chase. The Department of Bone Marrow Transplant and Cellular Therapies is chaired by Henry Chi Hang Fung, MD, FACP, FRCPE, who was director of the BMT Program and is also vice chair of the Department of Hematology/Oncology.

"With the emerging development of cellular therapy and the importance of its role in oncology, we felt it warranted a separate department," said Richard I. Fisher, MD, president and CEO of Fox Chase.

In a review performed by the Center

for International Blood & Marrow Transplant Research, of the 180 transplant centers in the United States, only 12 adult and five pediatric centers were rated as performing above expectations in 2019. Fox Chase was the only adult center in the tristate area and one of only two in Pennsylvania to achieve this distinction.

In addition to serving as department chair, Fung, a professor of medical oncology, has also served as chief of the Section of Hematologic Malignancies and has been recognized as a top doctor three years in a row by *Philadelphia* magazine.

### **TWO NAMED 'TOP PHYSICIANS UNDER 40' IN PENNSYLVANIA**

Two Fox Chase Cancer Center doctors were honored by The Pennsylvania Medical Society (PAMED) by being named to their list of this year's Top Physicians Under 40. The two were Sanjay S. Reddy, MD, FACS,

associate professor in the Department of Surgical Oncology, and Namrata "Neena" Vijayvergia, MD, assistant chief of gastrointestinal medical oncology in the Department of Hematology/Oncology. Reddy specializes in pancreatic cancer and neuroendocrine tumors, and Vijayvergia specializes in neuroendocrine tumors and colorectal cancer.

Honorees were nominated by colleagues and selected by a committee of PAMED members. To appear on the list, physicians must practice in Pennsylvania and be under the age of 40 on December 31, 2020. The 45 physicians on the 2020 list represent 19 different medical specialties. According to PAMED, this select group has demonstrated a significant amount of success early in their medical careers.





### FOX CHASE OUTPERFORMS PEERS, ACCORDING TO SURVEYS

Fox Chase consistently outperforms peer institutions in patient satisfaction surveys, according to Press Ganey data, the most recent of which was released for the period of October through December 2019. Overall scores and percentile rankings for the center are up across most surveys.

Press Ganey measures performance against Fox Chase’s peers, comparing the center’s performance to other

National Cancer Institute-designated cancer centers, to Magnet hospitals, and to American Hospital Association Region 2 hospitals, which cover New Jersey, New York, and Pennsylvania.

These highly competitive groups include many institutions that regularly score higher than peers in the general Press Ganey database, making it particularly impressive to outperform them.

### NURSING RESIDENCY PROGRAM EARNS ACCREDITATION

Fox Chase Cancer Center has announced that its Nurse Residency Program achieved Practice Transition Accreditation from the American Nurses Credentialing Center (ANCC). They were awarded Accreditation with Distinction, the highest recognition awarded.

“This accreditation validates our program for being evidence-based, current, and relative to nursing

practice,” said Deborah Baldassarre, MSN, RN, OCN, NPD-BC, Nursing Residency Program Coordinator. “It was a great experience for all of us here, to look at our program, evaluate it, and make it better.”

The ANCC Practice Transition Accreditation Program validates hospital residency or fellowship programs that transition registered nurses and advanced practice registered nurses into new practice settings that meet rigorous, evidence-based standards for quality and excellence.

Nurses in accredited transition programs such as Fox Chase’s Nurse Residency Program experience curricula that promote the acquisition of knowledge, skills, and professional behaviors necessary to deliver safe, high-quality care.

### EMPLOYEE CANCER SCREENING INITIATIVE LAUNCHES

In October 2019, Fox Chase kicked off its Employee Cancer Screening Initiative. The program focuses on providing education and screening for a variety of cancers, including breast, lung, colorectal, and head and neck cancer, to all eligible staff members.

“While cancer education and screening are mainstays of our community-based efforts, we also recognize the importance of focusing our attention right here within our institution,” said Richard I. Fisher, MD, president and CEO of Fox Chase. “As we provide cancer prevention, early detection, and treatment to our patients, it is equally important that we maintain good health and engage in preventive care ourselves.”

FOX CHASE REGISTERED  
**119,836**  
 OUTPATIENT VISITS AND  
**6,738**  
 NEW PATIENTS.



Staff chaplain Barbara Klimowicz began holding "Hope Huddles" to boost morale during the COVID-19 pandemic.

CLINICAL

“THE EXACTVU SYSTEM NOT ONLY ALLOWS  
THE UROLOGIST TO EVALUATE FOR NEW LESIONS  
OF CONCERN, BUT ALSO TRACKS PREVIOUSLY  
OBSERVED LESIONS OVER TIME SO WE CAN  
BETTER GAUGE IF THE CANCER IS CHANGING.”

— ANDRES F. CORREA, MD



Andres F. Correa, MD, has spearheaded the use of a new imaging technology for the diagnosis of prostate cancer.

### NEW MICRO-ULTRASOUND IMAGING TECHNOLOGY

Fox Chase has purchased a new micro-ultrasound system that physicians say could change the way prostate cancer is diagnosed and treated. The ExactVu Micro-Ultrasound System builds upon the standard transrectal ultrasound, typically used for prostate procedures, by featuring a 300% improvement in resolution, allowing physicians to identify prostate cancer tumors with accuracy comparable to MRI.

The ExactVu system is an exciting addition to Fox Chase and the Philadelphia region, as it provides one of the most cutting-edge imaging technologies available for the diagnosis and treatment of prostate cancer, said Andres F. Correa, MD, assistant professor in the Department of Surgical Oncology.

“The ExactVu system not only allows the urologist to evaluate for new

lesions of concern, but also tracks previously observed lesions over time so we can better gauge if the cancer is changing,” Correa said. He added that Rosalia Viterbo, MD, FACS, an associate professor in the Department of Surgical Oncology, was “instrumental” in securing the funds to purchase the technology, which was raised from patients and other donors.

### MINT REFRESHES CANCER IMAGING AND ASSESSMENT

Determining how to treat patients diagnosed with cancer can be challenging, but there are other hurdles to overcome once treatment begins. One is assessing how well patients are progressing by tracking the size of tumors and other responses.

To do this more effectively, Fox Chase recently launched the Diagnostic Imaging Research Protocol Lab, a virtual lab designed to provide accurate and consistent treatment

### THE MOST COMMON TYPES OF CANCER AMONG PATIENTS TREATED AT FOX CHASE WERE

PROSTATE  
(18%),

BREAST  
(15%),

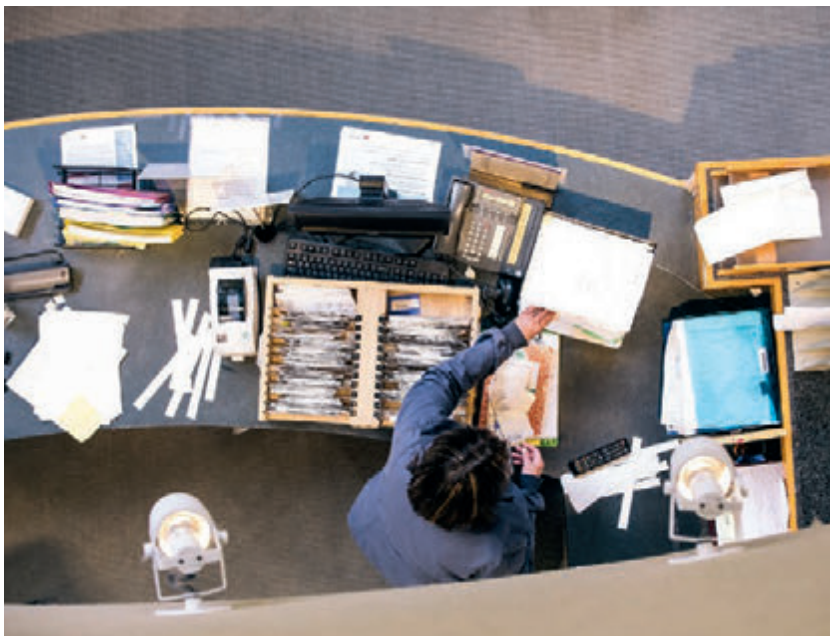
LUNG  
(10%),

AND GYNECOLOGICAL  
(9%).

response assessments for clinical trial patients. The assessments are conducted by radiologists who have expertise in cancer imaging and treatment response criteria.

The lab features MINT Lesion Software from MINT Medical, said Jordan Anaokar, MD, the director of the lab and an associate professor in the Department of Diagnostic Imaging. The software helps provide immediate feedback on how patients are responding to treatment, with graphical representation of tumor response.

After radiologists identify tumors to be tracked on the baseline study, the software automatically finds them on the follow-up studies. The radiologists can then confirm that the tumor is the same one that was measured initially and provide a new measurement, features that streamline the review process and minimize









errors. “That accuracy could make Fox Chase more attractive for clinical trials,” Anaokar said.

Margaret von Mehren, MD, chief of the division of sarcoma medical oncology, championed the purchase of the system, which was funded by money raised by *In Vino Vita*, Fox Chase’s signature fundraising event.

### FURTHER EVIDENCE AND KUDOS FOR ROBOTIC BRONCHOSCOPY

In the first published study since the market release of robot-assisted bronchoscopy, researchers at Fox Chase found the technology to be safe, feasible, and reliable for achieving diagnoses for lung cancer. The diagnostic technology is used to view the inside of the lungs and obtain tissue samples for biopsy.

Fox Chase was one of the first cancer centers in the nation to obtain this technology, marketed as the Monarch Platform. In addition, Fox Chase was honored with the Life Sciences Pennsylvania 2019 Patient Impact Award for pioneering use of the system.

“Compared with traditional bronchoscopy, this new technology provides improved reach and dexterity, affording us the ability to biopsy small nodules safely,” said Christo-

pher J. Manley, MD, an assistant professor and director of Interventional Pulmonology.

Manley has started a prospective clinical trial studying the safety and feasibility of incorporating needle-based confocal laser microscopy with the Monarch Platform. The study is in partnership with the University of Amsterdam and supported by Mauna Kea Technology and Johnson and Johnson. The platform was purchased through funds raised from *In Vino Vita*, Fox Chase’s annual signature fundraising event.

### MULTICENTER PANCREATIC CYST TRIAL LAUNCHES

An eight-year, multicenter study of pancreatic cysts funded by the National Cancer Institute launched in spring 2020. Cysts are commonly identified lesions that can evolve into pancreatic cancer. Fox Chase is the headquarters for the project, although the trial is open to participation at hundreds of sites around the country.

The main focus of the new trial is to compare the clinical effectiveness of two surveillance strategies used to track pancreatic cysts. Researchers will also look at the costs of cyst surveillance, the impact on patients of long-term follow-up, and attempt to identify novel molecular markers and radiology findings that may predict the behavior of these cysts, said David S. Weinberg, MD, MSc, chair of the Department of Medicine at Fox Chase and principal investigator for the trial.

“Nobody’s under any illusion that either surveillance strategy as currently written is good enough. They are the best we have for now, but we are looking for something better,” Weinberg said.

PATIENTS UNDERWENT  
A VARIETY OF TREATMENTS,  
INCLUDING SURGERY  
(4,477),  
RADIATION THERAPY  
(28,002),  
AND CHEMOTHERAPY  
INFUSIONS  
(62,883).



///  
///  
/// Jordan Anaokar, MD, directs a lab that uses diagnostic imaging to provide consistent assessments for clinical trial patients.

RESEARCH

“WE USE MOUSE MODELS TO UNDERSTAND HOW  
SOME OVARIAN CANCERS INITIATE IN THE  
FALLOPIAN TUBE AND SPREAD TO THE OVARY  
AND TO LEARN HOW TO INHIBIT THE  
GROWTH OF THESE TUMORS.”

– DENISE CONNOLLY, PHD



Denise Connolly, PhD, received the Sandy Rollman Ovarian Cancer Foundation's Teal Trailblazer Award.

**INFLUENZA FINDINGS COULD HAVE KEY IMPACT ON CANCER THERAPIES**

A scientist at Fox Chase clarified a fundamental host defense mechanism that detects the presence of influenza virus and rapidly destroys infected cells.

The new findings have exciting implications for a variety of fields, including cancer immunotherapy, said Siddharth Balachandran, PhD, lead author of the study and professor in the Blood Cell Development and Function program.

In previous research, Balachandran and other researchers had identified a protein called ZBP1 that is essential for sensing the presence of influenza virus in lung cells. But they did not know how ZBP1 was being activated. “In other words, what was ZBP1 ‘seeing’ that told it the cell was infected? Now, we know the answer,” Balachandran said.

It turns out that ZBP1 “sees” Z-RNA, a new form of RNA produced by influenza virus. “Folks have been looking for Z-RNA for decades. This particular structure of RNA is what is called a pathogen-associated molecular pattern, and discovering a new such pattern is a major milestone. It also has significant implications for cancer immunotherapies, because drugs that activate ZBP1 have strong potential for combinatorial use with immune checkpoint agents such as nivolumab,” Balachandran said.

**FOX CHASE RESEARCHERS PROVIDE NEW INSIGHTS INTO BRCA-MUTATED CANCERS**

In two studies conducted at Fox Chase, researchers have uncovered processes that may contribute to the development of BRCA-mutated cancers and have also shed light on the response and resistance of cancers to

RESEARCHERS HAD  
**644**  
SCIENTIFIC ARTICLES  
PUBLISHED.

certain chemotherapies.

Mutations in the BRCA1 and BRCA2 tumor suppressor genes are the strongest known genetic risk factor for breast and epithelial ovarian cancer. In addition, inherited mutations in BRCA genes are now understood to contribute to other cancer types, including colon and prostate. Although BRCA genes increase cancer risk, tumors with such mutations are particularly sensitive to some forms of cancer therapy.

“The findings have implications for cancer therapy because drugs known as PARP inhibitors successfully treat BRCA1-mutant breast and ovarian cancers,” Neil Johnson, an associate professor in the Molecular Therapeutics Program at Fox Chase, said of one of the studies. “Our work suggests different mutations may disable DNA repair by different mechanisms and could impact response and resistance to PARP inhibitors.”

In the other study, Johnson and colleagues identified the protein RNF168 as a key component of the BRCA DNA repair pathway. In individuals without mutated BRCA1 and BRCA2 mutations, the proteins produced by these genes play a major role in repair of DNA, protecting it from mutations. This function is lost when the BRCA genes are mutated.

Johnson and colleagues showed that when BRCA1 is absent, excessive



RNF168 expression increases DNA damage when cells replicate and contributes to the high level of mutation seen in BRCA1-mutated cancers. His laboratory is seeking to understand how cells regulate levels of RNF168 expression, what additional functions RNF168 performs, and how this pathway can be targeted for the development of new cancer drugs.

### CONNOLLY WINS AWARD FOR OVARIAN CANCER RESEARCH

Denise Connolly, PhD, an associate professor in the Molecular Therapeutics Program at Fox Chase, received the Sandy Rollman Ovarian Cancer Foundation's Teal Trailblazer Award. Connolly is currently researching a subtype of ovarian cancer — high-grade serous carcinoma — in mouse models to understand why not all ovarian cancer arises in the ovaries.

“Some ovarian cancer arises outside of the ovary and travels to the ovary,” she said. “When the patient is diagnosed, it looks like the ovaries are the main site of involvement. We use mouse models to understand how some ovarian cancers initiate in the fallopian tube and spread to the ovary and to learn how to inhibit the growth of these tumors.”

### FOX CHASE RESEARCHERS HONORED AS AMERICAN CANCER SOCIETY GRANTEEES

In November 2019, three Fox Chase researchers were honored as new grantees by the American Cancer Society at its Philadelphia office.

Stephen M. Sykes, PhD, assistant professor in the Blood Cell Development and Function Program,



received a Research Scholar Grant for \$792,000 to support research on the elucidation and exploitation of molecular pathways that support leukemia.

John Kraiss, PhD, a postdoctoral researcher in the lab of Neil Johnson, PhD, received a grant for \$107,500 to improve understanding of DNA repair pathways in BRCA1-mutant cells.

His research specifically focuses on a protein called RNF168 that recruits multiple proteins involved in the DNA damage response.

Jaye Gardiner, PhD, a postdoctoral researcher in the lab of Edna Cukierman, PhD, received a \$163,500 grant to support her research into the role of the tumor stroma, or the tumor microenvironment, in pancreatic cancer.

## FIVE UP-AND-COMING FACULTY ON THE CUTTING EDGE

Fox Chase Cancer Center is known for innovation in cancer treatment, quality patient care, and cutting-edge research. The following are some up-and-coming researchers at Fox Chase and Temple Health who are doing work that could lead to the latest breakthroughs in cancer prevention, diagnosis, and treatment.

### \ 1 \

**Ross Wang, PhD**, is an assistant professor in the Molecular Therapeutics Research Program at Fox Chase and an assistant professor for the College of Science and Technology in the Department of Chemistry at Temple University. His lab develops chemical probes to dissect posttranslational modification-related proteins that are key to tumor cell metastasis. Wang and the molecular therapeutics team work to improve cancer therapy by targeting tumor cells through new clinical trial strategies.

### \ 2 \

**Israel Cañadas, PhD**, is an assistant professor in the Blood Cell Development and Function program at Fox Chase. Cañadas studies tumor immunity and the tumor microenvironment in lung cancer, with the goal of breaking therapy resistance. He is developing novel platforms that will allow him to identify and characterize new mechanisms of response and resistance to immunotherapy.

### \ 3 \

**Shannon Lynch, PhD, MPH**, is an assistant professor in the Cancer Prevention and Control Research Program. Her work focuses on identifying multilevel gene and environmental factors that can work together to influence cancer risk, prognosis, and cancer-related health disparities. Specifically, she applies machine learning and geospatial methods to discover patterns in multilevel risk factor data that can be used to identify patients and communities disproportionately impacted by cancer and who are in need of cancer intervention and outreach efforts.

### \ 4 \

**Bojana Gligorijevic, PhD**, is an associate professor in the Cancer Biology Research Program at Fox Chase as well as an associate professor of Bioengineering and director of light microscopy in the College of Engineering at Temple University. Her lab uses real-time, intravital microscopy

THREE RESEARCHERS WERE HONORED BY THE AMERICAN CANCER SOCIETY WITH NEW GRANTS WORTH A TOTAL OF \$1,063,000.

to study how tumor microenvironments control the metastasis of tumor cells. She is currently investigating motile tumor cells in primary tumors with the goal of building a predictive model of tumor cell entry into blood vessels.

### \ 5 \

**J. Nicholas Bodor, MD, PhD, MPH**, is a physician and researcher in the Department of Hematology/Oncology in the Thoracic Oncology program. He is currently working with Margie L. Clapper, PhD, deputy scientific director, to better understand the causative factors for non-small cell lung cancer in individuals who have never smoked.

A TOTAL OF 260 RESEARCH PROJECTS WITH \$54 MILLION IN TOTAL COSTS RECEIVED FUNDING.





\1\

\2\

\3\

\4\

\5\

PHILANTHROPY

“I’M SO PROUD OF ALL WE’VE DONE TOGETHER  
AS TRACI’S TRIBE. I THINK WE HAVE WORKED  
SO HARD, AND TRACI WOULD BE SO PROUD  
OF EVERYTHING WE’VE ACCOMPLISHED.”

– CAROLINE “CASEY” STONE



Casey Stone is a member of Traci's Tribe, which raises money for Fox Chase.

## FUNDRAISING GOES VIRTUAL

The healthcare landscape looks quite different today than it did when 2020 began. Fox Chase has focused not only on responding to the pandemic, but also on caring for its vulnerable patients, something that has changed the face of fundraising.

Although in-person events, long a vital part of philanthropic efforts, have been a casualty of the COVID-19 pandemic, Fox Chase fundraising is going strong in a virtual environment. Fox Chase has seamlessly adapted and continues to raise funds, honor its supporters, and strengthen its donor community.

Some events have moved online or are being rescheduled, including Fox Chase's largest fundraiser, *In Vino Vita*, and Paws for the Cause. For the first time, the Laurel Society President's Reception and Annual Donation Meeting for the Board of Associates were held online. In addition, more than 1,000 people sent messages of support to patients struggling without family or friends to accompany them during treatments due to COVID-19 restrictions.

It is a true testament to the dedication of Fox Chase donors that even



through event postponements and pandemic conditions, they have contributed \$17 million this year, exceeding the year's fundraising goal by \$1 million.

## WEST PHARMACEUTICAL SERVICES MARKS TWO DECADES OF GIVING

By packaging and designing delivery systems for many cancer drugs, West Pharmaceutical Services Inc. literally ensures the safety of a vital aspect of cancer care. But their role in Fox Chase Cancer Center's mission doesn't end there. For the last two decades, the international company, based in Exton, Pa., has been one of Fox Chase's most loyal philanthropic partners.

West's charitable arm, the Herman O. West Foundation, established an endowed chair at Fox Chase in 2005. Each year, its employees run a West Without Borders campaign to benefit specific initiatives in research and care at a variety of institutions. West has also served as a title sponsor of the Fox Chase Paws for the Cause

dog walk the past two years. The walk raised \$150,000 in October 2019, the highest amount in the event's 20-year history.

As if all those good works weren't enough, two former West CEOs are Fox Chase board members and past chairs of *In Vino Vita*, the center's signature fundraiser. Recognizing this powerful alliance between the for-profit and nonprofit worlds, the *Philadelphia Business Journal* awarded West its Faces of Philanthropy award in 2018. And in 2020, West Pharmaceutical Services accepted the inaugural Fox Chase corporate service award.

## FOX CHASE STAFF RECEIVE FOOD, OTHER DONATIONS DURING COVID-19 FIGHT

As COVID-19 began to put a strain on hospitals in mid-March of 2020, numerous restaurants, companies, and individuals stepped up to donate food and other items to healthcare workers on the frontlines of the pandemic.

Fox Chase received multiple do-

THE SINGLE LARGEST GIFT  
IN 2020 WAS  
**\$2.6**  
MILLION  
FOR MELANOMA RESEARCH  
FROM A GRATEFUL PATIENT.

nations of food, personal protective equipment, and personal care items from the community as staff continued to go above and beyond in caring for patients.

“We are overwhelmed by the tremendous support our faculty and staff have received from so many in our community during this time of crisis,” said Richard I. Fisher, MD, president and CEO of Fox Chase. “In particular, the many food donations and encouraging messages from local businesses have provided a tangible reminder that we are all coping together.”

### A BIG PART OF THE TRIBE

Caroline “Casey” Stone likes to play, particularly golf and field hockey. But when it comes to raising money for Fox Chase Cancer Center, the 14-year-old from Huntington Valley doesn’t play around. As co-chair of Traci’s Tribe, she helped raise over \$52,000, exceeding her initial goal of \$15,000, and shows no signs of stopping.

Traci’s Tribe, a nonprofit, was founded by a group of three women, including Casey’s mother Kim, who is a nurse at Fox Chase, and their children, with the help of another

TRACI’S TRIBE RAISED  
**\$52,000**  
FOR FOX CHASE, EXCEEDING  
THEIR INITIAL GOAL OF  
**\$15,000.**

20 women. It was formed in memory of Traci DiStefano, who died in 2019 at age 49 after facing a rare form of ovarian cancer for eight years.

Throughout her struggles, DiStefano inspired all around her with a positive attitude and her hope that things would get better. She also boasted about her support system, her “tribe.” After DiStefano’s passing,



Stone wanted to keep her memory alive by starting an inaugural fundraising event.

“I’m so proud of all we’ve done together as Traci’s Tribe,” Stone said. “I think we have worked so hard, and Traci would be so proud of everything we’ve accomplished.”

### BOARD OF ASSOCIATES WELCOMES NEW LEADERSHIP

The Board of Associates (BOA) of Fox Chase Cancer Center ushered in fiscal year 2021 by welcoming a new executive board led by president Julia Goplerud, a former 27-year Fox Chase employee who, after retiring in 2014, has continued her association and support as a volunteer. Jill Horne, Fox Chase’s manager of internal communications, serves as the new vice president. Patricia White continues as BOA treasurer.

The BOA is a group of dedicated volunteers who fundraise year-round



to support research and patient care at Fox Chase. The organization comprises four member chapters and one affiliate. Since its founding in 1965, the BOA has raised approximately \$26.6 million, and despite the pandemic, closed out fiscal year 2020 with a donation of \$375,362.

The BOA is perhaps best known for its Paws for the Cause Dog Walk held each fall. This year, for the first time, the fundraiser took on a new format due to the COVID-19 crisis. Instead of gathering for the traditional one-day event, participants took part for the entire month of October by raising funds while engaging with their families, friends, and pets from the safety of their own homes and neighborhoods.

### LAUREL SOCIETY STATE OF THE CENTER

Prior to the COVID-19 pandemic, Fox Chase had been in the midst of a strong year. When the outbreak be-

came a global crisis, faculty, staff, and community made it an even stronger year, Richard I. Fisher, MD, president and CEO of Fox Chase, said at the Laurel Society President’s Reception and Annual Donation Meeting for the Board of Associates, which was held online June 18.

“There were many occasions to celebrate, including the addition of 10 new clinical and research faculty and the well-deserved promotions of 21 faculty members,” Fisher said. “In addition, Fox Chase Cancer Center–Buckingham marked its 10th anniversary.”

The pandemic made carrying out the center’s mission more challenging, but with hard work from faculty and staff and an outpouring of community support, Fisher said, Fox Chase continued to deliver world-class cancer care.

“We are working closely with Temple Health to renew our partnership as we move into the future together,” Fisher added. “Despite the challeng-

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OF ASSOCIATES HAS RAISED  
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FISCAL YEAR 2020  
WITH A  
DONATION OF  
**\$375,362.**

es, this has been an exciting time in Fox Chase history and the center will emerge as strong as ever.”

### **SURVIVORS’ VIRTUAL TAILGATE CELEBRATION**

For the past several summers, it has been a beloved Fox Chase tradition to gather at Citizens Bank Park with family and friends, enjoy tailgate food and drink, take in a Phillies game, and celebrate Fox Chase survivors both on the field and in the stands.

This year, unfortunately, this group was not able to gather in person due to the COVID-19 pandemic. But thanks to an engaging online event, the Virtual Tailgate and Survivors’ Celebration, which was held June 27 on Facebook, everyone was together in spirit. The celebration retained all of its usual joy, hope, and inspiration.

The event honored Fox Chase survivors and featured uplifting physician messages, engaging exercise videos, and an inspiring video from former player and current Phillies ambassador Mickey Morandini. Fox Chase survivors and their families were the heart of the event, sharing photos and stories as they recounted their challenges and triumphs.

Fox Chase salutes its survivors and their families. They are all true champions who will hopefully be able to get together at the ballpark next year!

### **VISITING PROFESSORSHIP IN UROLOGIC ONCOLOGY ESTABLISHED**

After being successfully treated for kidney cancer at Fox Chase in 2009, Tom Leidy decided to give back to the center by becoming a donor. In 2015, Leidy and his wife Judy provided funding

that allowed Kerry Campbell, PhD, to bring a clinical urologic oncology fellow into his lab to explore immunotherapy in relation to renal cell carcinoma.

But the Leidy’s didn’t stop there. This year they provided funding to establish a visiting professorship in urologic oncology that will be spearheaded by Alexander Kutikov, MD. The professorship pays for one-day visits to take place over the next 10 years. The first visiting professor was Scott Eggener, MD, of the University of Chicago, and the next will be Toni Choueiri, MD, of the Dana Farber Cancer Institute.

### **GITLIN FAMILY SURGERY WORKROOM OPENS**

In 2019, a new workspace was opened to serve attending physicians, fellows, and residents of Fox Chase. The Gitlin Family Surgery Workroom was funded by philanthropist Harvey Gitlin in response to a need for a collaborative workspace.

The new space, with badge-only access, boasts numerous features, including 34 workstations with dual monitors and an operating-room monitor with live patient-surgeon status. It is located adjacent to the Marian and Emma Brungard Family Surgical Waiting Suite, just one level above the operating suite.

“We’ve found it to be a great place to coordinate patient care and optimize interdepartmental communication,” said Laura McGarry, a resident.

### **UROLOGIC ONCOLOGY CHAIR ESTABLISHED**

In appreciation for care provided by Robert G. Uzzo, MD, MBA, FACS, Roberta and Ernest Scheller Jr. have established the Roberta R. Scheller

**AS OF JULY 31, 2020,  
THE FOLLOWING DONATIONS  
HAD BEEN MADE TO PROTECT  
AND FEED CENTER STAFF:**

**50,000  
MASKS,  
400  
COOKIES,  
250  
HOAGIES,  
300  
PIZZAS,  
60  
CASES OF SNACKS,  
AND  
287  
POUNDS OF  
CHOCOLATE CANDY.**

Chair in Urologic Oncology. The purpose of the chair will be to recruit, retain, and reward superior faculty members in urologic oncology who possess an exemplary record of performance in research, surgery, teaching, and service. Alexander Kutikov, MD, FACS, chief of the Division of Urology and Urologic Oncology, is the inaugural recipient of this newest endowed chair. Kutikov plans to use it to reinforce the clinical and academic excellence he brings to urologic oncology efforts at Fox Chase. An official investiture is being planned.



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The Laurel Society is the signature donor society of Fox Chase Cancer Center, honoring our 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). This list includes gifts in support of *In Vino Vita*, which was delayed due to the pandemic. Corporations, foundations, and community fundraisers become members at the \$5,000+ level.

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# FINANCIALS

## \ 2020 BY THE NUMBERS \

644  
SCIENTIFIC PUBLICATIONS

119,836  
OUTPATIENT VISITS

6,738  
NEW PATIENTS

17  
NEW FACULTY MEMBERS

## \ PHILANTHROPY SNAPSHOT \

\$17,169,272  
TOTAL PHILANTHROPIC SUPPORT

\$700,000  
RAISED AT *IN VIVO VITA*

11,038  
TOTAL DONORS

3,842  
TOTAL NEW DONORS

605  
CURRENT DONORS WHO HAVE  
GIVEN 30+ YEARS

\$375,362  
BOARD OF ASSOCIATES TOTAL GIFTS

## \ VOLUNTEER SNAPSHOT \

401  
VOLUNTEERS

69,583  
TOTAL VOLUNTEER HOURS

\$226,573  
VOLUNTEER DEPARTMENT BUDGET

\$1,769,496  
VALUE OF HOURS\*

\$1,542,923  
NET VALUE ADDED TO FOX CHASE

\*Based upon the independent sector value of \$25.43/hr.

287

ACTIVELY ENROLLING CLINICAL  
RESEARCH STUDIES

87

INVESTIGATOR INITIATED CLINICAL  
RESEARCH STUDIES

\ **CLINICAL SNAPSHOT** \ (In Thousands)

FY20

**REVENUES — CLINICAL ACTIVITY**

PATIENT CARE REVENUE — HOSPITAL	\$400,373
PATIENT CARE REVENUE — PHYSICIANS	\$31,741
PHILANTHROPY, OUTREACH & OTHER	\$17,498
<b>CLINICAL REVENUE</b>	<b>\$449,612</b>

**OPERATING EXPENSES — CLINICAL ACTIVITY**

DIRECT PATIENT CARE	\$341,889
SUPPORT SERVICES	\$19,134
ADMINISTRATIVE & GENERAL	\$67,111
CAPITAL RELATED COSTS	\$7,903
MAINTENANCE & PLANT OPERATIONS	\$12,379
<b>CLINICAL EXPENSES</b>	<b>\$448,416</b>

**KEY PATIENT CARE STATISTICS**

NEW PATIENTS	6,738
HOSPITAL ADMISSIONS	3,384
CHEMOTHERAPY INFUSIONS & RELATED PROCEDURES	62,883
RADIATION THERAPY TREATMENTS	28,002
SURGICAL PROCEDURES	4,477

\ **RESEARCH SNAPSHOT** \

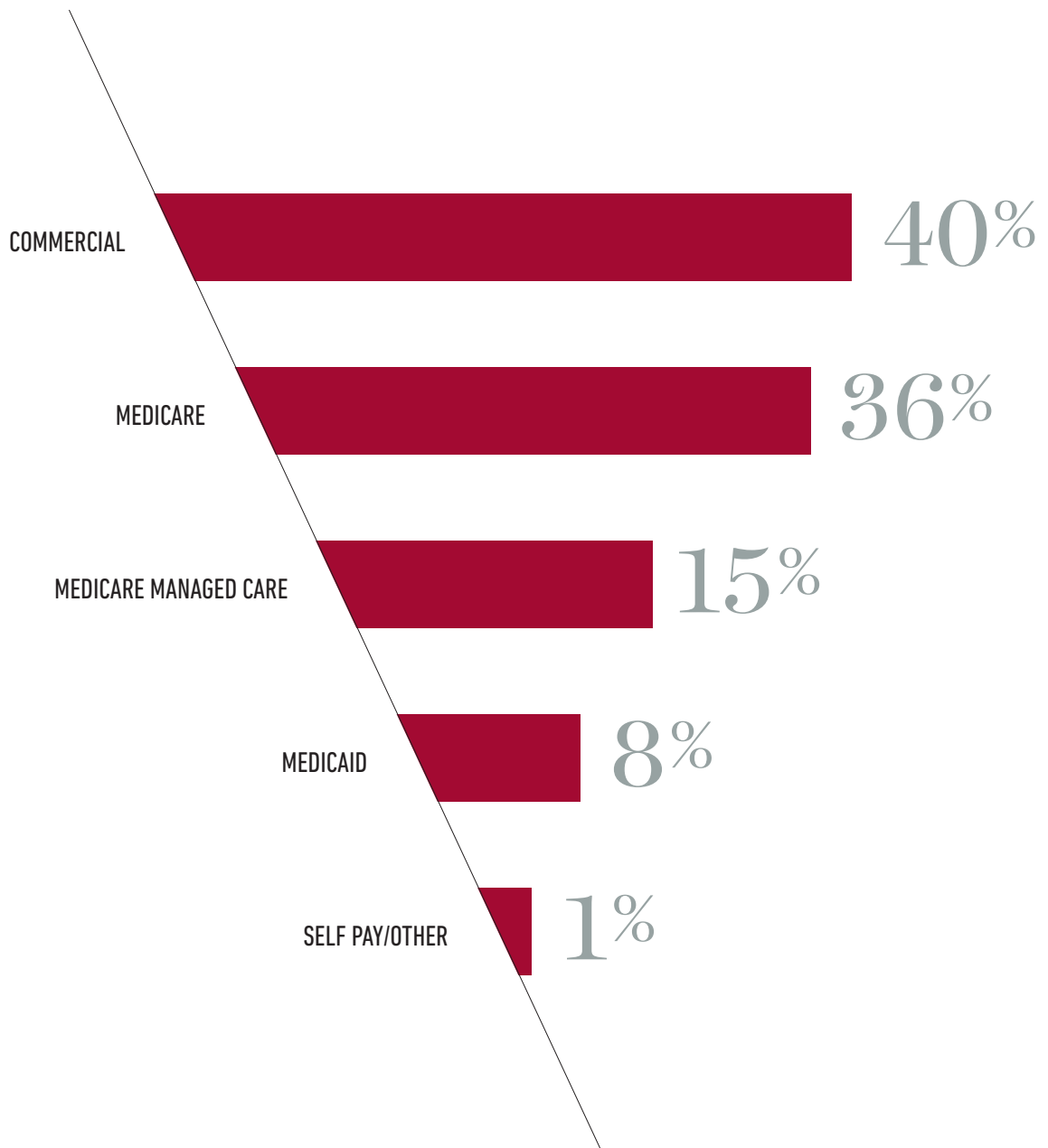
**ACTIVE FUNDED PROJECTS**

FUNDING SOURCE	NUMBER OF PROJECTS	DIRECT COSTS	TOTAL COSTS
PEER-REVIEWED			
NCI	69	\$11,892,538	\$19,826,988
OTHER NIH	56	\$10,890,316	\$16,956,850
OTHER	34	\$4,398,492	\$6,242,080
<b>SUBTOTAL OF PEER-REVIEWED</b>	<b>159</b>	<b>\$27,181,346</b>	<b>\$43,025,918</b>
NON PEER-REVIEWED			
INDUSTRY	58	\$5,386,042	\$7,029,815
OTHER NON PEER-REVIEWED	43	\$3,213,619	\$3,788,246
<b>SUBTOTAL OF NON PEER-REVIEWED</b>	<b>101</b>	<b>\$8,599,661</b>	<b>\$10,818,061</b>
<b>GRAND TOTAL</b>	<b>260</b>	<b>\$35,781,007</b>	<b>\$53,843,979</b>

\ TYPES OF CANCER TREATED \



\ FY20 PAYER MIX \





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