Is there a Cancer Fighter in your medicine cabinet?

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Dear Readers,

By almost every measure, Dana-Farber is a larger, more diverse, more comprehensive, and more effective cancer center than it was two decades ago. Patient visits, research grants, and clinical trials have more than tripled since the late 1990s. Our faculty and staff have taken our research into new areas like genomics, immunotherapy, and chemical biology, and created world-class programs in palliative care, population science, safety and quality science, and other areas. We’ve grown geographically as well, moving into new lab space in the Longwood Medical Area and the Boston waterfront, opening the Yawkey Center for Cancer Care, and building satellite clinics and forming partnerships with community hospitals and care centers across the region.

One of my priorities as Dana-Farber’s president for the past 17 years has been to maintain a sense of interconnectedness and intimacy, even as we grew larger and more complex. We want to be sure that no matter how large we become, we continue to take care of patients as we would care for our own families, and keep the sense of optimism that we can improve the outlook of future patients through research. When we developed a set of core values for the Institute, we were clear that two values in particular – compassion and respect – apply both to our relationship with patients and their families and also to our relationships with one another as coworkers and colleagues.

When I step down as president at the end of the year, I know the Institute will be in excellent hands. The leadership team we’ve assembled and new President and CEO Laurie H. Glimcher, MD, a distinguished immunologist and successful leader, are excited to be moving forward.

Scientific advances over the past two decades have generated tremendous excitement. The public is, justifiably, anxious to see this progress come to fruition in the form of better cancer therapies, diagnostic tests, and prevention strategies. We have to take advantage of every opportunity science gives us, whether it’s in precision medicine, immunotherapy, or other promising approaches. I know of no institution better positioned to do so than Dana-Farber.

Edward J. Benz Jr., MD
President and CEO, Dana-Farber Cancer Institute

“We have to take advantage of every opportunity science gives us, whether it’s in precision medicine, immunotherapy, or other promising approaches.”
– Edward J. Benz Jr., MD
In February 2016, Dana-Farber’s board of trustees announced that Laurie H. Glimcher, MD, an internationally recognized immunologist, will become the Institute’s next president and CEO. Glimcher is currently the Stephen and Suzanne Weiss Dean of the Medical College at Weill Cornell Medicine in New York City, where she is also professor of medicine and provost for medical affairs at Cornell University. “Dr. Glimcher is in many ways an ideal choice for Dana-Farber,” said Josh Bekenstein, chairman, Dana-Farber Board of Trustees. “She is a distinguished immunologist, widely renowned for her work in one of the most promising areas of cancer research. She has had extraordinary success as the leader of a major academic medical institution. Most importantly, she has a deep understanding of the latest developments in cancer research and care, and a clear vision of how Dana-Farber can most powerfully affect the fight against cancer.”

Glimcher will begin at Dana-Farber in January 2017. She will also be a professor of medicine at Harvard Medical School. Current Dana-Farber President and CEO Edward J. Benz Jr., MD, will remain in that role until her arrival. “It is an enormous honor and privilege to be chosen as the next leader of Dana-Farber Cancer Institute,” Glimcher said. “The opportunity to advance Dana-Farber’s groundbreaking research and to improve the care available to patients with cancer is truly special to me, and I am thrilled to be returning home to Boston. Cancer research and care have reached a transformative moment in science, and I look forward to working with all of Dana-Farber’s clinicians and scientists to find innovative therapies in the coming years.”

Glimcher has strong ties to the Harvard medical community. Prior to joining Weill Cornell Medicine, Glimcher was the Irene Heinz Given Professor of Immunology at the Harvard School of Public Health, and professor of medicine at Harvard Medical School, where she headed one of the top immunology programs in the world. She is widely considered to be one of the world leaders in understanding cellular differentiation pathways in lymphocytes and has made seminal discoveries of key transcription factors that drive lineage commitment and activation in the immune system. Glimcher received her postdoctoral training at Harvard and in the Laboratory of Immunology at the National Institute of Allergy and Infectious Diseases in Bethesda, Md. She earned her bachelor’s degree from Radcliffe College and her medical degree from Harvard Medical School.
Dana-Farber Endorses HPV Vaccination

Responding to low national vaccination rates for the human papillomavirus (HPV), Dana-Farber joined 69 of the nation’s leading cancer centers to call for increased HPV vaccination for the prevention of certain kinds of cancer. In a joint statement, the institutions collectively recognized insufficient vaccination as a public health threat and called upon the nation’s physicians, parents, and young adults to take advantage of this rare opportunity to prevent many types of cancer.

According to the Centers for Disease Control and Prevention, HPV infections are responsible for approximately 27,000 new cancer diagnoses each year in the U.S. Several vaccines are available that can prevent the majority of cervical, anal, oropharyngeal (middle throat), and certain genital cancers. The vaccine is recommended for girls and boys when they reach age 11 or 12. Vaccination is also recommended for females age 13-26 and males age 13-21 who were not vaccinated when they were younger.

Potential New Drug for Triple-Negative Breast Cancer

Dana-Farber scientists this year identified a promising new drug for a form of breast cancer and discovered one way the disease can outmaneuver the drug.

The findings, reported in the journal Nature, may lead to a more farsighted treatment strategy for breast cancers classified as “triple-negative” – one that uses drug combinations to both arrest the disease and prevent it from resisting front-line therapies. The dual approach could significantly extend patient survival times, the authors say.

“We found that a class of agents known as BET bromodomain inhibitors significantly impeded the growth of triple-negative breast cancer cells in laboratory as well as animal-model tests,” says Dana-Farber’s Kornelia Polyak, MD, PhD, the study’s co-senior author.

“On the basis of these results, such inhibitors will be tested in patients with triple-negative breast cancer (TNBC) in a phase 2 study, and they’re also included in ongoing phase 1 trials.”

“Even if these drugs prove successful, we know that cancer often manages to circumvent therapies and resume its growth,” Polyak says. “By understanding the series of steps that allows TNBC cells to become resistant to BET inhibitors, we can devise approaches that use combinations of therapies to slow or prevent resistance.”
ArouND ThE INsTITuTE

Dana-Farber’s Patricia Reid Ponte, DNSc, RN, NEA-BC, is now president of the American Nurses Credentialing Center (ANCC). In her two-year term as ANCC president, which started Jan. 1, 2016, Reid Ponte will serve as chief spokesperson for the organization and lead the ANCC board in setting goals, policy, and long-range plans.

The American Society for Clinical Oncology has chosen Bruce E. Johnson, MD, to lead the large and influential cancer organization as its president in 2017. Johnson, a noted lung cancer physician-scientist and Dana-Farber’s chief clinical research officer, starts as president-elect in June 2016. His one-year term begins in June 2017.

E. Antonio Chiocca, MD, PhD, has been elected president of the Society for Neuro-Oncology, an organization representing North American neuro-oncologists and scientists. The surgical director of the Center for Neuro-Oncology at Dana-Farber/Brigham and Women’s Cancer Center will serve as president of the society for two years.

The vast majority of young women with breast cancer are being tested for mutations in the cancer-susceptibility genes BRCA1 and BRCA2, suggests a study led by Dana-Farber investigators, and many of those women are using the test results to guide treatment.

The study, published in the Journal of the American Medical Association Oncology, provides encouraging evidence that patients are following National Comprehensive Cancer Network guidelines that women diagnosed with breast cancer at age 50 or younger get genetic testing. At the same time, researchers found that many patients who don’t carry BRCA1 or 2 mutations are choosing to have both breasts removed, even though their risk of cancer in the unaffected breast is no higher than average.

“Inheriting a mutation in BRCA1 or 2 significantly increases a woman’s risk of developing breast or ovarian cancer, as well as certain other cancers,” says the paper’s first author, Shoshana Rosenberg, ScD, MPH, of the Susan F. Smith Center for Women’s Cancers at Dana-Farber.

Rosenberg and her colleagues analyzed data from nearly 900 women diagnosed with breast cancer at age 40 or younger. All were participants in a Dana-Farber-led study tracking the treatment, tumor biology, and psychosocial concerns of 1,300 young women diagnosed with breast cancer.

The researchers found a notable increase in testing for BRCA mutations. Among young patients diagnosed in 2006, 77 percent had a BRCA test. By 2013, the figure had risen to 95 percent.

Nearly 30 percent of these patients said that knowing or being concerned about genetic risk influenced their treatment decisions. Among these, 86 percent of those who carried BRCA mutations, and 51 percent of those who don’t, chose to have a bilateral mastectomy, the surgical removal of both breasts.

Researchers say the high percentage of those who opt for BRCA testing may be a result of increased attention on the subject, particularly the decision by actress Angelina Jolie to have a double mastectomy after learning she carried a BRCA mutation.
Genetic Sequencing Can Guide Treatment of Childhood Cancers

Clinical genomic sequencing in pediatric oncology can be used to recommend therapy or pinpoint diagnosis in children with solid tumors, according to a multicenter study led by investigators from Dana-Farber/Boston Children’s Cancer and Blood Disorders Center. The study, published in *JAMA Oncology*, is one of the first of its kind to be conducted in pediatric oncology. Its findings bolster the case for matching children to treatment based on a tumor’s genetic characteristics, representing a significant step in making molecularly targeted, personalized therapy available to young cancer patients.

While many adult cancer patients benefit greatly from a precision-medicine approach founded in clinical genomic sequencing and targeted therapies, these gains are only beginning to reach pediatric patients. Because childhood cancers are rare, there is relatively little data available on the mutations that drive pediatric tumors.

In addition, relatively few targeted drugs are currently available for children. Even when a potentially useful targeted drug exists, it may lack dosing guidelines for children or may not be formulated in ways appropriate for young children.

Researchers say the multicenter trial shows that, given current genomic technologies and genetic knowledge, it is feasible to sequence pediatric tumors in a clinical context and return recommendations based on those results.

“Our study and others show that if we do this kind of sequencing, we might find treatment opportunities for children,” said Katherine Janeway, MD, lead investigator and clinical director, Solid Tumor Center at Dana-Farber/Boston Children’s. “And they provide openings for expanding our knowledge of the childhood cancer genome and helping clinicians and scientists understand which treatments work for a given tumor.”

New Kidney Cancer Drug Shows Strong Promise

A powerful new drug has improved progression-free survival and increased the response rate in patients with advanced kidney cancer, compared with standard treatment in a clinical trial. There are also hints that it may help patients live longer, according to the latest results from the METEOR phase 3 clinical trial, which is comparing the drug cabozantinib with everolimus (Afinitor), currently the standard treatment.

Dana-Farber oncologist Toni Choueiri, MD, is senior author on the latest report of findings from the clinical trial, which shows that cabozantinib shrunk tumors in more patients (75 percent) than everolimus (48 percent). The findings were presented in January at the 2016 Genitourinary Cancers Symposium in San Francisco.

The improvements were seen in previously treated patients, including those who received immunotherapy with checkpoint inhibitor drugs. In the first 375 patients treated in METEOR, cabozantinib lengthened the median period of time before the cancer worsened – 7.4 months versus 3.8 months with everolimus. In addition, early analysis has detected a trend toward improved survival in cabozantinib-treated kidney cancer patients. A total of 658 patients with advanced clear cell kidney cancer were enrolled in the trial.

Katherine Janeway, MD
New Clues to Origins of Prostate Cancer

Dana-Farber scientists have gained a key insight into how prostate tumors start—not by rewriting DNA code in cells, but by reprogramming the master regulator of key genes involved in cell growth. The findings are a step toward understanding how prostate cancer originates and could open opportunities for prevention and treatment, per a study in *Nature Genetics*.

The researchers, led by Dana-Farber’s Matthew Freedman, MD, and Mark Pomerantz, MD, say they have identified the “first mechanistic insights into a key set of events” that prods prostate cells down the road to cancer. It’s been a longstanding question, because few gene mutations have been found in prostate tumors. “This led us to wonder, is there another process going on?” says Freedman, of the Center for Cancer Genome Discovery and Center for Functional Cancer Epigenetics.

The investigators spotted evidence of the cellular reprogramming when they compared normal and cancerous prostate cells from several patients. The process is termed “epigenetic,” because it controls how genes operate, but doesn’t make permanent changes in their DNA.

The androgen receptor is a protein activated by male hormones that turns on or off genes that control prostate cell growth and other functions. The study demonstrated that this epigenetic program is altered during prostate cancer formation.

Because epigenetic reprogramming can potentially be reversed, the authors say it might be possible in the future to use drugs aimed at epigenetic targets to prevent or treat prostate cancer.
N euro-oncologist Andrew Norden, MD, MPH, sees patients in the Center for Neuro-Oncology at Dana-Farber/Brigham and Women’s Cancer Center, but his larger role is that of chief medical officer of Dana-Farber Community Cancer Care and associate chief medical officer of the Dana-Farber network. He oversees the Institute’s growing network of community-based satellite centers and physician practices.

**Why does Dana-Farber need other locations?**

Our Boston campus is limited in size, and our buildings are filling up. Having a network of locations allows us to continue to grow and provide high-quality patient care to more people. It’s also a core part of Dana-Farber’s mission, to reach as many cancer patients as we can, providing them with the high level of expertise and care for which we’re known. Our growth is genuinely based on that mission of serving patients.

**Does this really help patients?**

Absolutely. We know from surveys that many patients strongly prefer to be treated near home. And we have patients for whom simply driving into Boston and parking is stressful. Treating them in the community helps them avoid those challenges. At the same time, if needed, they can still access the really sophisticated resources that may only be available on our main campus.

**How do you find places that are a good fit for Dana-Farber?**

Our goal is to work with the highest quality potential partners in the areas where we want to be. That philosophy was clearly the underpinning if you look at the specific hospitals and physician practices that we work with today in New England. We’ve chosen to partner with really high-quality community hospitals and the best oncology practices in the region.

**What does the future hold?**

Our strategy is one of continued growth. The rationale behind that is not just mission or finances, but also because it fits with the changing reality of cancer care. Cancers are increasingly stratified by their molecular features. It’s the era of precision medicine. The eligibility criteria for our clinical trials are narrowing and in order to find patients for those trials, we need to be reaching more cancer patients.

**What are the challenges of expanding to new locations?**

We have a very special way of caring for cancer patients that requires a tightly knit system and a certain culture that really puts the patient and their family first. It’s hard to bottle the culture that makes Dana-Farber so special and export it to other sites. That’s why we choose very carefully when we enter a new affiliation.
By Richard Saltus

Therapy

Breakthrough

New drug causes cancer cells to...
Anthony Letai, MD, PhD, says cancer drugs known as Bcl-2 inhibitors represent “true game changers.”
In the fall of 2013, after a series of CT scans and tissue biopsies, Roy Jann, a 59-year-old insurance executive, walked into a Rhode Island hospital with his wife to learn the results.

“They showed us into the wood-paneled library,” Jann recalls. “That’s never a good sign.”

This was a few weeks after he first had an inkling something was amiss. Jann, who lives in Dighton, Mass., is a self-described gym rat and a highly competitive fitness buff who enjoys adventure vacations. But biking up a mountain in Colorado in August with his wife and friends, he was short of breath and fell behind the others. Moreover, he had noticed a swelling the size of a peanut under the skin of his neck – but he dismissed it as a harmless fatty growth.

Still, his group biked 50 miles a day during the trip, and Jann did OK. In September, his doctor examined the neck lump and was concerned. A scan revealed other lumps inside his body. Next were the biopsies and, when he and his wife met with a physician, Jann was told he had chronic lymphocytic leukemia (CLL), a blood cancer and the most common adult leukemia, a type that typically grows slowly. “He said I might not need treatment for seven or eight years,” Jann says. So, reassured, he went into watch-and-wait mode, and continued his daily workouts.

However, watching and waiting ended suddenly just four months later, when things went downhill – fast. Antibiotics failed to quell a stubborn cough and a stomach bug, then vomiting and weight loss put Jann in the hospital. His CLL was behaving aggressively and, in May 2014, when he was referred to oncologist Matthew Davids, MD, in the CLL center at Dana-Farber/Brigham and Women’s Cancer Center (DF/BWCC), he got even worse news. Tests showed his CLL cells contained an ominous type of DNA damage – the deletion of a chromosome segment known as 17p – that makes chemotherapy much less effective and creates a very poor prognosis – historically two to three-year survival.

“I was shocked,” Jann admits. “It was very scary. But Dr. Davids has a way about him. He just said, ‘We’re going to address this.’”

Davids had a reason for his confidence. He was leading a clinical trial of a new cancer drug that was showing exciting promise in CLL patients. Called ABT-199 (now known as venetoclax), it belongs to a class of drugs called Bcl-2 inhibitors that are just emerging from three decades of research. They disable the Bcl-2 “pro-survival” proteins that enable cancer cells to escape the “pro-death” signals that command abnormal cells to self-destruct through apoptosis, a natural quality-control process in the body. One member of Jann’s treatment team referred to venetoclax as “the rock-star drug.”

By the time Jann started on a venetoclax clinical trial in December 2014, two other drug therapies had failed and he had large lumps in his neck and inside his body. Venetoclax is an oral drug; Jann took four pills every morning.

“Within the first month, I could feel the lumps going down, and then they were all gone,” recalls Jann. “I felt normal.” The drug can have side effects, but Jann experienced only some mild nausea and bloating.

By May 2015, the raging leukemia had been driven into retreat, leaving only a barely detectable trace.
“Venetoclax has curative potential, particularly if used in combination with other drugs.”

– Matthew Davids, MD

of cancer in his bone marrow. To be on the safe side, Davids recommended that Jann undergo a reduced-intensity donor stem cell transplant to wipe out any hidden cancer. Again, fortune shone on Jann. Stem cell transplants, even reduced-intensity ones, are risky procedures that require stem cell donors who are immunologically matched to the recipients. Jann’s sister, Lisa Murphy, was a perfect match and he had a successful procedure in June 2015, under the care of Edwin Alyea, MD, at DF/BWCC.

“Many CLL patients on venetoclax achieve a minimal residual disease (MRD)-negative complete response, which means that even with highly sensitive techniques we cannot detect any leukemia in their body,” explains Davids. “Although this is not necessarily equivalent to cure, it does suggest that venetoclax has curative potential, particularly if used in combination with other drugs.”

Striking Response Rate

The promising outcomes with venetoclax in the DF/BWCC-led phase 1 clinical trial for CLL were presented at the American Society of Hematology (ASH) meeting in December 2015 and published in the New England Journal of Medicine. Venetoclax was administered to patients with relapsed or treatment-resistant CLL. Almost 90 percent of the patients had high-risk genetic features – like Jann’s 17p deletion – predicting a poor outcome. Of the 106 patients, 79 percent responded, meaning the amount of cancer was reduced significantly. In an impressive 20 percent, the leukemia went into complete remission. And, in several patients, the cancer became totally undetectable, even by very sensitive testing. The results were particularly remarkable considering how sick these patients were at first.

Bcl-2 inhibitors like venetoclax “are going to change practice across many cancers,” says Anthony Letai, MD, PhD. Research in Letai’s Dana-Farber laboratory has produced a series of discoveries and tools for the development of Bcl-2 inhibitors and for predicting which types of cancer might respond best. “Dana-Farber
“This could perhaps form the backbone for a combination therapy that is free of chemotherapy.”

– Jennifer Brown, MD, PhD

has been an academic leader at every part of this program, from understanding the basic biochemistry all the way to the clinic,” he says.

Investigators predict that even though venetoclax worked well by itself, it will be more potent when combined with other drugs. In a phase 1B study presented at the ASH annual meeting in December 2015, venetoclax combined with a standard antibody drug, rituximab, achieved an overall response rate of 86 percent in CLL patients: An astonishing 41 percent went into complete remission, with similar results in various high-risk subgroups, including those with a 17p deletion.

Interestingly, notes Davids, eight patients who achieved MRD-negative complete response elected to stop taking venetoclax, and none of these patients had clinical relapse. Some of them were still in complete remission approaching two years after their last dose. Davids says this suggests that combining venetoclax with other active drugs in CLL has the potential to achieve deep and durable responses without the need for continuous venetoclax dosing.

“I am very excited about venetoclax as a novel class of inhibitors that affects Bcl-2, particularly because some of its mode of action suggests that it may work well in combination with ibrutinib [another new CLL treatment],” says Jennifer Brown, MD, PhD, director of the CLL treatment center at DF/BWCC. “This could perhaps form the backbone for a potential combination therapy that is free of chemotherapy.”

Fulfilling a Vision

The Food and Drug Administration (FDA) has designated venetoclax a “breakthrough therapy,” for CLL and acute myeloid leukemia. If approved, as many expect in 2016, it will be, among other things, the fulfillment of a vision that Dana-Farber’s Stanley Korsmeyer, MD, conceived but did not live to see realized.

Korsmeyer, who headed Dana-Farber’s Program in Molecular Oncology from 1998 until his death from cancer in 2005, discovered the role of Bcl-2 in cancer nearly 30 years ago. In

At left, Emily Su, Shruti Bhatt, PhD, and Jing Deng, PhD, work in the laboratory of Anthony Letai, MD, PhD. At right, patient Roy Jann enjoys the great outdoors with his wife, Karen Boch.
In the 1980s, he and his colleagues at Washington University in St. Louis identified Bcl-2 (for B-cell lymphoma-2) as a gene and protein present at abnormally high levels in lymphoma cells that allowed them to defy the body’s efforts to eliminate them through apoptosis, or programmed cell death.

The late Korsmeyer showed that Bcl-2 acted as a survival protein for cancer cells, which would normally self-destruct like other damaged, unwanted, or dangerous cells when ordered to do so by signals from within and outside the cells. Lymphoma cells harnessed Bcl-2 proteins, he demonstrated, to intercept and block apoptotic death signals. He went on to show that Bcl-2 was the ringleader of about 20 genes and proteins that regulate apoptosis, and that Bcl-2 is overexpressed in multiple cancers. In doing so, he was one of the founders of an entire field of research directed at understanding the program of cell death in normal and cancer cells.

If cancer was dependent on these survival proteins, reasoned Korsmeyer and others, it might allow a new approach – designing drugs that blocked the survival signals so that apoptosis could destroy the cancer. While at Dana-Farber, he and Letai, who was then a postdoctoral fellow in Korsmeyer’s laboratory, showed that CLL was dependent on – in fact, “addicted” to – Bcl-2. They found that CLL cells were very efficiently killed in the laboratory by Bcl-2 inhibitor compounds that were the forerunners of ABT-199. Letai would later discover Bcl-2 addiction in other cancers, including acute myeloid leukemia (AML), acute lymphocytic leukemia (ALL), and some types of non-Hodgkin lymphoma. These findings prompted expansion of clinical trials of ABT-199 to these diseases as well.

Discovering the importance of Bcl-2 in cancer was one thing: figuring out how to block it potently and selectively, to avoid serious side effects, was another. Korsmeyer helped found a company, and he and Letai also worked with Abbott Laboratories to devise potential Bcl-2 inhibitors.

Abbott – the predecessor to AbbVie – working with Genentech developed a series of compounds that bind to a particular site that Bcl-2 molecules use to prevent cancer cell death. The first compound to be given to patients in trials was ABT-263 (navitoclax) in 2009. While it was modestly effective, it also destroyed blood-clotting platelets, which limited the doses that could be given. As a next step, AbbVie re-engineered the compound to eliminate that problem, and the new drug, ABT-199, entered clinical trials in 2011.

“It’s amazing how far they’ve come in being able to treat my disease,” Jann says. “If I had gotten this cancer three or four years ago, I wouldn’t be alive now.”

But he is very much alive. He’s begun working out with a personal trainer amid precautions to prevent infections because of his still-recovering immune system. He’s also back to work part-time, dealing with clients remotely from home.

If all continues to go well, this June, nearly two years after he was first diagnosed, he plans to resume full-time work.

The Dana-Farber investigators are also working full-time to improve and expand the promising role of Bcl-2 inhibitors in this new attack on stubborn and life-threatening cancers.

Learn more about Dana-Farber breakthroughs. Visit www.discovercarebelieve.org.
hen oncologist Charles Fuchs, MD, MPH, started his career at Dana-Farber 30 years ago, he had little to offer his patients with esophageal cancer. Hope was scant, too; there was almost no research going on to understand the disease. Things have changed. Research at Dana-Farber is uncovering the genetic changes that cause the cancer to form and grow. This work is beginning to pay off, with collaboration from Fuchs and other clinical specialists at the Center for Esophageal and Gastric Cancer at Dana-Farber/Brigham and Women’s Cancer Center (DF/BWCC). Not only is this research leading to the testing of new treatments for esophageal cancer, but also it is adding an investigative dimension to the center’s already unique multispecialty care, provided by oncologists, radiologists, and a surgical team with expertise in minimally invasive techniques.

This all-hands-on-deck approach to finding new ways to treat esophageal cancer could not be more timely. Survival rates for this rare disease remain low, while the number of cases diagnosed each year is on the rise. Some forms, such as esophageal adenocarcinoma, have risen 600 percent over the last 30 years. “For a while, it was the most rapidly increasing cancer in the U.S.,” says oncologist Peter Enzinger, MD, director of the Center for Esophageal and Gastric Cancer.

Esophageal cancer typically affects men over age 50, so numbers may be increasing as the population ages. Alcohol and smoking are also risk factors.
Obesity, on the rise in the U.S., also increases the risk of the disease. The connection between obesity and esophageal cancer is clear statistically, but the mechanism isn’t fully understood. Doctors speculate that added weight in the body increases pressure inside the abdomen, which could lead to more acid reflux, causing damage that raises the risk of cancer.

Esophageal cancer can be found early through an endoscopy, in which a doctor uses a scope to look inside the esophagus and stomach. But doctors don’t routinely screen for the disease and patients often ignore warning signs, such as frequent heartburn, weight loss, or abdominal discomfort. As a result, the disease is diagnosed in many patients at an advanced stage, lowering their chances of survival. “People with persistent heartburn should get endoscopies, especially if they are age 50 or older,” says Enzinger.

A Home Base for Patients

Because there are so few cases of esophageal cancer each year, oncologists in community hospitals rarely see enough patients to develop the depth of experience needed to treat them. With case numbers on the rise, the field needed a place where patients could find expert care. So, in 2014, DF/BWCC formed the Center for Esophageal and Gastric Cancer to bring together a core group of experts to develop the best practices for caring for these patients.

At a first visit to the center, a patient typically sees a surgeon, radiation oncologist, and medical oncologist, who review the case together and
In his work with patients, surgeon Scott Swanson, MD, aims for a minimally invasive approach, including robotically guided surgery.

recommend a course of action. “This is a disease where it’s really important to involve all the specialties, because combining all three modes of treatment — surgery, radiation, and chemotherapy — leads to the best outcomes,” says Enzinger.

A typical patient will begin with chemotherapy to treat any cancer that may have spread into the liver or lungs. During chemotherapy, radiation is applied to control the main tumor. Surgery follows to remove the cancer. For patients diagnosed early, the team also offers localized treatment that removes only the lining of the esophagus, so patients don’t need more extensive surgery.

The center’s team of thoracic surgeons have a spectrum of minimally invasive approaches, including robotically guided surgery. “There’s never a gap in coverage; it’s a comprehensive team effort,” says thoracic surgeon Scott Swanson, MD, chief surgical officer of DF/BWCC and disease center leader of the Thoracic Oncology Program.

In the past, some patients were deemed too sick for esophageal surgery, which is often a critical part of treatment. But with minimally invasive techniques, surgery is now a safe option for a wider range of patients. Swanson and other surgeons in the center now routinely perform the procedure on elderly patients, and also operate with success on obese patients and those with advanced heart disease.

The procedure may involve removing all or part of the pipe that connects the throat to the stomach, yet patients typically spend less than a week in the hospital and leave with small incisions on the chest and abdomen.

“Most patients go home surprised at how well they feel,” Swanson says. “Doing this surgery is a lot more rewarding now, because patients do so well.”

The surgical team’s expertise is one reason why the center’s mortality rate for esophageal cancer was up to 10 times better than the national average, says Swanson.

Research Drives Advances in Care

Treatment advances in other cancers helped fuel the first steps toward better esophageal cancer drugs. For example, when newer chemotherapy drugs worked for other cancers, researchers tried them in esophageal to see if they’d work there too. “That did move the needle in terms of improving patient outcomes,” says Fuchs.

More recently, however, the field has become poised for more significant improvements. In cases of breast cancer that are HER2-positive, meaning the HER2 gene is overactive driving the tumor’s growth, trastuzumab (Herceptin) is used to block that growth mechanism. For these patients, survival rates have improved substantially. It turns out that some forms of esophageal cancers are also HER2-positive, and trastuzumab also improves outcomes for this group of patients. Dana-Farber’s Adam Bass, MD, co-director of the...
Oncologist Peter Enzinger, MD, is one of a core group of experts working to develop the best practices for caring for patients with esophageal cancer, gastric cancer, and related conditions.

“‘We’re trying to drill down on the question of what esophageal cancer is.’”

– Adam Bass, MD

Cancer Genome Atlas project for esophageal cancer, is leading further genomic research.

“We’re trying to drill down on the question of what esophageal cancer is,” says Bass. “Understanding the landscape of genes that are amplified in these tumors will help point out new candidate therapeutics.”

Bass and colleagues are sequencing the genomes of a large number of samples of esophageal cancers and looking for patterns of abnormal genetic activity. They recently found that a gene called PD-L2 is expressed in some esophageal tumors. PD-L2 is part of a cloaking mechanism many tumors use to hide from the immune system, which would otherwise attack the cancer cells.

In recent years, pharmaceutical companies have developed a “checkpoint inhibitor” drug called pembrolizumab (Keytruda) that deactivates the cloaking mechanism so that the immune system can find and attack the tumor. The development of pembrolizumab was based in no small part on the early investigations of Dana-Farber scientist Gordon Freeman, PhD, into the basic workings of the immune system and checkpoint proteins.

While these immunotherapy drugs were developed for more commonly studied cancers, such as melanoma, Enzinger and Fuchs are working with pharmaceutical partners to test pembrolizumab in esophageal cancer. Enzinger is leading a clinical trial at DF/BWCC for esophageal cancer that was slated to begin recruiting patients in early 2016. Fuchs is also leading a trial involving pembrolizumab for patients with gastric cancer.

The center is applying its all-hands-on-deck approach to these trials, as well, by involving surgeons in the investigative process. Patients will be biopsied before and after treatment with the drug so that Bass, Fuchs, and Enzinger can evaluate the drug’s effects and learn more about the tumors in which it works best.

As promising as immunotherapy may be, Bass has also uncovered other possible options. In his laboratory, Bass grows tumor samples from patient biopsies in plastic dishes or animal models, turning them into models of the cancer. His team is working to make many copies of each model and then test an array of drugs and drug combinations against them to see which drugs work best in different circumstances.

“Patients want us to figure this out in the laboratory so that we can then bring the best ideas forward into clinical trials,” Bass says.

For a long time, oncologists had little to offer patients with esophageal cancer. But now, through collaborative efforts at the center to both advance clinical care and move research forward, options are expanding rapidly.

“There’s an opportunity to make radical improvements in this field,” Enzinger says. “We’re working hard to make that happen.”

The chain of red hexagons twisting through the hollow of a polished blue cavern in the image at right is a chemist’s view of one of the most promising anti-cancer compounds now under study.

Known as THZ1, it was originally fabricated by Dana-Farber scientists to inhibit a protein called JNK, which is often overactive in cancer cells. Later tests showed it to be the first compound capable of irreversibly blocking CDK7 (the lumpy blue structure in the illustration), a protein that is a prime target for cancer therapies. It accomplishes this feat by virtue of its shape: it fits snugly inside a pocket on CDK7 and contains a crystal “warhead” called acrylamide that carries it directly to the protein. The result is an exceptionally tight and long-lasting bond between THZ1 and CDK7, suggesting THZ1 could be effective against certain cancers.

CDK7 is part of the cell’s machinery for switching genes on. The diagram at far right shows how THZ1 can interfere with this machinery. When a gene is activated, a section of DNA loops around to bring two sections next to each other. A group of proteins, including CDK7, converge at the point of overlap to transfer genetic information from DNA to RNA. In many cancers, this transfer process, known as DNA transcription, runs nonstop. This can ramp up the production of certain cancer-related proteins.

To bring this runaway transcription under control, scientists have long sought to block some of the proteins that drive it. Unfortunately, one of the major groups of these proteins, known as transcription factors, have been notoriously difficult to block with drug molecules. Hence the appeal of CDK7 as a drug target.

“The ability of THZ1 to target CDK7 suggests it may be a potent inhibitor for cancers and other diseases,” says Dana-Farber medicinal chemist Tinghu Zhang, PhD, who first synthesized THZ1 (and the scientist for whom it is named). “In animal studies, it has shown to be very effective against small cell lung cancer, neuroblastoma, and some blood cancers.”

Work is now underway to develop THZ1 into a drug that can be tested in patients in clinical trials.
MAKING A BETTER MOLECULE

Factors

CDK7

THZ1

Transcription Factors

CDK7

THZ1
Miracle Drugs?

Our medicine cabinet may already hold keys to fighting some cancers.

BY ROBERT LEVY

To view the latest drugs being tested to prevent cancer, you could visit any of hundreds of academic and pharmaceutical laboratories around the world. There, you’d see scientists poring over images of chemical structure and computer data, attempting to identify the most promising drug candidates.

Or, you could visit your medicine cabinet.

The notion that existing drugs – not just compounds created at a cost of millions of dollars and consuming decades of research work – could help prevent cancer might sound like a disreputable Internet rumor. But research findings stretching over more than a decade argue in favor of it.
Paired with healthy habits like exercise, common medicine cabinet items such as aspirin, vitamin D, and metformin show potential in preventing some cancers.

The names of these potentially cancer-preventing drugs and compounds read like the inventory of any self-respecting local pharmacy: aspirin, vitamin D, and metformin (widely used for diabetes). And, if one of the healthiest activities known to humankind counts as preventive medicine, exercise should be included as well.

“There’s a great deal of interesting science being done to understand the fundamental biologic pathways involved in cancer. We’re discovering that a number of compounds used routinely to treat other conditions or maintain health may actually target some of these pathways,” says Charles Fuchs, MD, MPH, chief of the Division of Gastrointestinal Oncology at Dana-Farber/Brigham and Women’s Cancer Center (DF/BWCC).

Fuchs has led numerous studies of aspirin and other common medicines’ ability to prevent colorectal cancer, or prevent it from recurring in people who have had the disease. The advantage of such known compounds is not only economic but logistical: As they’re already known to be safe, they can pass through clinical testing more speedily.

Early Clues

The first sign that aspirin might have a future in colorectal cancer prevention came in the 1980s, in laboratory studies that suggested that aspirin-like compounds can reduce the proliferation of colon cancer cells. It was postulated that aspirin interfered with a growth-related enzyme called COX-2 in the tumor cells.

To pursue the matter further, Fuchs and his colleagues analyzed data from a long-term epidemiological study in which a connection between aspirin and cancer prevention wasn’t even on the radar. The Nurses’ Health Study, which began tracking the health of 122,000 nurses in 1976, had been collecting data on participants’ aspirin use since its inception. Study leaders were hoping to determine if regular use reduced the risk of heart disease. Fuchs put the data through a different kind of filter: “We asked whether women who took aspirin had a lower risk of colon cancer,” he says.

The result, published in 2005,
was unequivocal: Regular aspirin-takers had a significantly lower risk of developing colorectal cancer, and the benefit was directly related to how much aspirin they took. Those who took higher amounts received, on average, more of a gain than those who took lower amounts. This kind of accordance, known as a “dose-response” relationship, is powerful information in science. “When we see that kind of relationship, it gives us a better sense that associations are real,” Fuchs says.

Investigators now had two types of evidence that aspirin and related compounds could lessen the risk of colorectal cancer occurrence or recurrence – results from laboratory experiments and from a large “observational” study that followed people’s health over a period of many years. The strongest evidence would need to come from an interventional clinical trial, a carefully controlled study in which the effect of aspirin would be compared to that of a placebo, or inactive pill, in people at risk for colorectal cancer.

The results of that trial showed that participants who took aspirin or celecoxib, a pain-reliever that hits the same molecular target as aspirin, had a smaller chance of developing adenomatous colon polyps – noncancerous growths in the lining of the colon that can be a forerunner of cancer – than those who took a placebo. “The findings of this study provided

“There’s a great deal of interesting science being done to understand the fundamental biologic pathways involved in cancer.”

– Charles Fuchs, MD, MPH

Level I evidence, the strongest type, that aspirin can be a form of chemo-prevention for colon cancer,” Fuchs remarks.

Fuchs and his team next set out to determine whether aspirin could help people already diagnosed with colorectal cancer. As before, they hopped aboard a study that was already underway. “The National Institutes of Health had launched a clinical trial of a potential new therapy for patients with stage III colon cancer,” he relates. “We ‘nested’ a study inside it, distributing questionnaires about aspirin use to the study participants.” The compliance rate – the proportion of participants who completed and turned in the questionnaire – was an astounding 98 percent. Aspirin and related medications again came out as winners: Patients who took aspirin or celecoxib along with chemotherapy following surgery survived longer than those who took a placebo.

On the basis of these findings, DF/BWCC’s Jeffrey Meyerhardt, MD, MPH, and Fuchs launched a nationwide clinical trial in which patients newly diagnosed with colon cancer were randomly assigned to receive either celecoxib or a placebo to determine if adding celecoxib to standard therapy could improve patient results.

Researchers then circled back to the place where hints of an anti-cancer role for aspirin first surfaced – the laboratory. By studying the molecular machinery within colorectal tumors, they’re hoping to identify which patients have the most to gain from aspirin therapy. One study, led by Fuchs, found that patients with colorectal tumors high in COX-2 had a sharply lower chance of dying of colorectal cancer if they took aspirin following treatment. Another study, led by Dana-Farber’s Shuji Ogino, MD, PhD, found a similar survival boost for patients whose colorectal tumor cells
carried a mutation in the gene PIK3CA. (Both sets of findings will need further confirmation before they affect patient treatment.)

With the case for aspirin as a colorectal cancer preventer seemingly sealed, one might expect public health authorities to recommend it for people at risk for the disease. In 2007, however, the U.S. Preventive Services Task Force announced that while there’s sufficient evidence of aspirin’s effectiveness, the potential risks of regular aspirin consumption (mainly gastrointestinal bleeding) outweigh its benefits. Some in the research community have argued vigorously against this ruling, and in late 2015 the task force announced it’s reconsidering its decision.

**Familiar Names**

Meanwhile, evidence is mounting that vitamin D can also help protect against colorectal cancer. A study presented last year by Dana-Farber’s Kimmie Ng, MD, MPH, found that patients with metastatic colorectal cancer who had high levels of the vitamin in their bloodstream prior to chemotherapy treatment survived longer, on average, than patients with lower levels. The study didn’t examine whether there is a biological cause-and-effect relationship between higher vitamin D levels and extended survival, so it’s premature to recommend the vitamin as a treatment for colorectal cancer, researchers say.

Another agent gaining attention in colorectal cancer prevention is metformin, a standard drug for type 2 diabetes. Able to reduce glucose (sugar) production by the liver, metformin also has a way of easing cancer cells’ frenzied use of energy—possibly mimicking the benefits of healthy diet and exercise. Meyerhardt is leading a clinical trial of metformin for patients with colorectal cancer.

The most readily available, least expensive of all health interventions—exercise—is also getting a look as a potential colorectal cancer deterrent. “We’ve led three observational studies on exercise, and they consistently show that patients who are more physically active have a lower risk of recurrence and of dying from the disease,” Meyerhardt says. The optimal amount of exercise necessary to attain maximum benefit seems to be about 150 minutes a week of moderate activity such as brisk walking, although lower levels of exercise probably are beneficial as well. Meyerhardt is now leading a study involving survivors of colorectal or breast cancer to see whether exercise affects participants’ blood levels of insulin and inflammation-causing compounds, high amounts of which can spur cancer growth.

Because so much evidence points to, but doesn’t conclusively show, an anti-colorectal cancer role for aspirin, vitamin D,
metformin, and exercise, Meyerhardt walks a fine line when discussing them with patients. “I tell them we have observational studies of the benefits of these approaches, but no definitive data from randomized clinical trials yet,” he remarks. “I say that the data for the benefits of exercise are strong and consistent. For exercise and vitamin D, in particular, I talk about the general health benefits they can provide.”

**Up Next: Breast Cancer**

The encouraging news about aspirin and colorectal cancer has sparked interest in studying it in other forms of cancer as well. Ironically, however, the very ordinariness of aspirin has militated against such research.

“Clinical trials on drugs are typically funded by the companies that develop and produce them. In the case of aspirin – a generic drug that costs less than $6 for a year’s supply – there’s no financial incentive for manufacturers to understand how it might be helpful in cancer,” says Wendy Chen, MD, MPH, a breast cancer physician-researcher in the Susan F. Smith Center for Women’s Cancers at Dana-Farber.

The obstacles don’t end there; some exist within academic research centers themselves. Internal review panels – which examine proposed studies to ensure they protect patients and are scientifically sound – are often more interested in research into cutting-edge, targeted therapies than in old standby drugs, however compelling the science in their favor may be, Chen remarks.

Such impediments didn’t dissuade Chen. In 2010 she and Michelle Holmes, MD, PhD, of the Harvard T.H. Chan School of Public Health published an observational study that showed that women with breast cancer who took aspirin at least once a week were 50 percent less likely to die of breast cancer. A British study two years later produced similar findings.

Chen, Holmes, and Eric Winer, MD, director of Breast Oncology at the Susan F. Smith Center, procured a $10 million Breakthrough Grant from a U.S. Department of Defense Office research program to organize a clinical trial that will test whether aspirin helps women (and men) with breast cancer avoid a recurrence of the disease and live longer. The trial will enroll 3,000 patients in the first clinical test in the U.S. of aspirin in the disease.

While such studies may lack the cachet of trials involving the latest laboratory creations, they deserve to be carried out with equal scientific rigor and care, Fuchs says. “Our goal is to test these familiar drugs with the same scrupulousness as we would use in a test of chemotherapy agents. If we’re going to recommend them for use in patients, we want to be sure the science supports us.”

Wendy Chen, MD, MPH, helped lead a study that found aspirin can be beneficial for women with breast cancer. Learn more about exercise and cancer. Visit our page at www.dana-farber.org/exercise.
In nearly 25 years of heading major institutions of academic medicine, Edward J. Benz Jr., MD, has earned nearly as much praise for his people skills as for his clinical and research expertise.

Now, as he prepares to vacate his Dana-Farber leadership roles after 16 years as president and CEO, Benz admits this was not always the case.

While attending Catholic high school in his native Allentown, Pa., Benz once offended the nun teaching his sophomore biology class by correctly stating that there were 46 chromosomes in human cells – not 48, as she insisted. The irate instructor sent Benz to confession after forcing him to write “Man has 46 chromosomes” 500 times on a classroom chalkboard.

“What did you tell the priest?” she later asked Benz. “I told him I lied, 500 times,” the headstrong 15-year-old quipped.

Benz jokes that his people skills have improved a little through the decades. Along with his passion and vision, they have served him well since late 2000, when he succeeded David G. Nathan, MD, as Dana-Farber president.

The esteem and affection that Dana-Farber staff members have for Benz, who will step down from his position at the end of 2016, is genuine. During a period of dramatic change in the world of health care funding and delivery, a focus on Dana-Farber’s multiple missions of research, care, and training the next generation of leaders — along with the employees devoted to delivering them — has remained his top priority.

“Ed embodies our mission, and provides its heart and soul,” says Craig Bunnell, MD, MPH, chief medical officer, Dana-Farber. “His commitment is evident to everyone, shining through when you see him speak or even when you read his emails. He has a passion about the organization and what we do here that sets the tone for all of us.”
A Return to His Roots

Taking the reins at Dana-Farber marked a homecoming for Benz, who in the 1970s had been President Emeritus Nathan’s student — and later his colleague — at Harvard Medical School. Like his mentor, Benz emerged as a world-renowned hematologist, and led medical programs at Yale, the University of Pittsburgh, and Johns Hopkins University School of Medicine.

When Benz returned to Boston’s Longwood Medical Area in 2000, he arrived at a Dana-Farber poised for dramatic growth. After a half-century during which its facilities remained within shouting distance of founder Sidney Farber’s original basement laboratory at Boston Children’s Hospital, Dana-Farber expanded during Benz’s tenure to include several campuses across the city, as well as satellite facilities and hospital partnerships throughout New England, and abroad.

“As cancer care has evolved, Ed has adapted our organization to thrive in new settings while maintaining the core of what we do so uniquely well,” says Elizabeth Liebow, the Institute’s senior vice president of Business Development, Clinical Planning, and Community Site Operations. “Under his leadership, we have evolved our delivery of services to be more convenient and accessible for patients and their families — including treatment options closer to their homes.”

Back on its main campus, while Dana-Farber has remained an outpatient facility, its joint ventures with neighboring Longwood hospitals — Dana-Farber/Brigham and Women’s Cancer Center (DF/BWCC) and Dana-Farber/Boston Children’s Cancer and Blood Disorders Center — have grown and flourished.

“Ed is a clear, careful, logical thinker who listens,” says Elizabeth Nabel, MD, president, Brigham and Women’s Health Care. “He weighs the pros and cons and works to develop win-win solutions. He fosters collaboration. He possesses all of the skills that are required to be a highly effective leader in our complex industry.”

Dana-Farber’s rising stature during Benz’s tenure supports this view. Its regional reputation long since established, the organization is now annually recognized as among the top cancer centers in the United States. In 2015, U.S. News and World Report ranked Dana-Farber/Boston Children’s as the nation’s leading pediatric cancer program for the second straight year, while the adult program at DF/BWCC was the highest-ranked in New England for the 15th consecutive time — as well as fourth nationwide.

“He has not only expanded the resources — both physical and intellectual — but has also left us in as solid a position as possible,” says his predecessor, Nathan. “It’s hard to find someone equal parts clinician and scientist, but Ed is that while also possessing a keen understanding of management. It’s been a superb combination for us.”

Bridge Builder

The bridges to Dana-Farber’s inpatient partners now extend from gleaming new facilities built during Benz’s administration, the Yawkey Center for Cancer Care and a completely refurbished Jimmy Fund Clinic. Their design and construction included input not only from caregivers and administrative staff, but also from adult and pediatric Patient and...
Leadership skills, warmth, and foresight make Benz a valued mentor, committed to building a staff that is diverse in background and skills.

Family Advisory Councils, which have had a strong voice at Dana-Farber throughout Benz’s tenure. Indeed, many organizations look to Dana-Farber as a leader in patient-centered care.

“He’s always talked about that inclusiveness of patients and families in thinking, planning, organizational strategy, managing risk and safety, and quality,” says Patricia Reid Ponte, RN, DNPc, FAAN, senior vice president for Patient Care Services and chief nursing officer at Dana-Farber. “As a physician or a leader of a team, you need that inclusive approach to planning and decision-making.”

Throughout his time as president, Benz has championed basic science research at the Institute. Early on, he recognized that genomics – the study of the complete set of DNA within cells – would become a cornerstone of cancer research. He supported Dana-Farber’s alliance with the Broad Institute of MIT and Harvard, giving Dana-Farber scientists access to some of the most advanced technology for tracking the links between genetic mutations and cancer.

Benz also spearheaded Dana-Farber’s investment in cancer chemical biology, making the Institute, for the first time, a center for the development of compounds that can become new targeted therapies for cancer, including a class of drugs designed to destroy, rather than merely block, cancer-related proteins in cells. Benz’s influence also extended to the establishment of Integrated Research Centers, which provide collaboration technology platforms to researchers across the Institute, from laboratory scientists to those who translate basic science advances into new therapies for patients. Among these centers is the Lurie Family Imaging Center, which uses advanced technology to detect cancer and evaluate how well it responds to potential treatments.

A key component of Benz’s vision of Dana-Farber’s role in the early development of new cancer drugs is the Robert and Renée Belfer Center for Applied Cancer Science, opened in 2006. The Belfer Center serves as a magnet for collaborations between Dana-Farber scientists and pharmaceutical companies, speeding the process by which promising scientific leads are converted into new and better therapies.

A physician-scientist by training, Benz also has a strong grasp of melding research with clinical care. Dana-Farber is a leader in the development of clinical trials, the ultimate embodiment of the “bench-to-bedside” concept embraced by Institute founder Sidney Farber, MD. The number of clinical trials per year has steadily increased. And, with the leadership of Chief Scientific Officer Barrett Rollins, MD, PhD, and in close collaboration with Brigham and Women’s Hospital.

“He has not only expanded the resources ... but has left us in as solid a position as possible.”

– David G. Nathan, MD, president emeritus
and Boston Children’s Hospital, Benz helped launch Profile, one of the nation’s most comprehensive precision cancer medicine research initiatives.

Benz has also been a strong advocate for growing both areas of the Institute. In an era of decreased federal funding for cancer research, he moved quickly on the opportunity to make Dana-Farber the lead tenant in the brand-new Longwood Center, with portions of five floors dedicated to the Linde Family Program in Clinical Chemical Biology, the Blais Proteomics Center, and programs in computational biology and biostatistics. Located just across the street from Dana-Farber’s main campus, the space – which opened in 2015 – also houses the Belfer Center, a fully integrated, collaborative cancer research center focused on translating today’s innovative oncology research into tomorrow’s treatments.

Assuring that people from all backgrounds have the ability to benefit from such developments as employees or patients, Benz focused on establishing initiatives to increase the number of women and minority faculty and managers at Dana-Farber. Further programs focused on eliminating racial, ethnic, and socioeconomic disparities in cancer prevention, outcomes, and care. In 2013, Dana-Farber partnered with Whittier Street Health Center to establish a cancer clinic in Boston’s Roxbury neighborhood. Thought to be the first dedicated cancer clinic in a community health center, it was named for Benz to honor his commitment to making it a reality.

“In reaching out to communities that have not previously had access to our resources, he had the ability to be proactive rather than reactive,” says Karen Burns White, MS, deputy associate director of the Initiative to Eliminate Cancer Disparities. Adds Christopher Lathan, MD, MS, MPH, faculty director for Cancer Care Equity, “Our disparities program would not exist, on many levels, without his involvement. Ed’s compassion and intelligence allow him to understand patients from all socioeconomic and racial backgrounds.”

This commitment has extended into some of the world’s poorest locales. The Center for Global Cancer Medicine at Dana-Farber provides care, education, new facilities, and research expertise to the people of Rwanda and Haiti – in many cases the first cancer treatment these individuals have ever received.

Always on the Move

All these developments have meant many more people coming to Dana-Farber for work or care. Staff size tripled during Benz’s tenure to more than 4,000 full-time staff, as did patient volume, and fundraising became another hallmark of the Benz presidency.

A $1 billion capital campaign during his tenure, the first ever at a New England hospital, helped to build the Yawkey Center, and giving remained strong even during a global economic downturn. Susan Paresky, senior vice presi-
dent for Development and the Jimmy Fund, can count on Benz to show up at donor events to passionately and effectively explain the most important research and clinical areas needing support.

The already-palpable power of Dana-Farber’s Jimmy Fund expanded through the growing appeal of iconic events like the WEEI/NESN Jimmy Fund Radio-Telethon and Jimmy Fund Scooper Bowl®, and through the dedication of fundraising partners like the Pan-Mass Challenge bike-a-thon. Benz not only touted these staples on the New England fundraising calendar, he also participated in them himself – even when doing so took some multitasking.

“I can remember him completing the Boston Marathon® Jimmy Fund Walk one warm September afternoon, and then going into the Fairmount Copley Plaza right near the finish line,” recalls Robert J. Mayer, MD, faculty vice president for Academic Affairs. “He took a quick shower, grabbed a sports coat he had left there, strode into the last part of the postgraduate course we were presenting to a ballroom full of oncologists and hematologists, and gave a terrific lecture.”

This speaks to another of Benz’s strengths – the ability to help others gain skills and stature by his example. “Ed has been a tremendous mentor for me,” says Rollins. “He has helped me learn how to guide people so that they work together to go in a certain direction.” Adds Deborah Hicks, senior vice president for Human Resources, “He cares as deeply about every individual as he does about the whole institution.”

Now, Benz will prepare to let others take the lead. In addition to his Dana-Farber title, he has simultaneously held positions as CEO of Dana-Farber/Partners Cancer Care; director and principal investigator of the Dana-Farber/Harvard Cancer Center, trustee of Dana-Farber/Children’s Hospital Cancer Care, and the Richard and Susan Smith Professor of Medicine at Harvard Medical School. He will vacate all of these roles and return full-time to his clinical and research work, as well as his teaching position as a professor of medicine, pediatrics, and genetics on the Harvard Medical School faculty.

“I’m looking forward to having a little more time to be a hematologist, which is what I set out to be when I was doing my training in medical school and fell in love with the field,” Benz says. Having served in a consulting role during the search for his successor, he is looking forward to “someone else being the boss.” A more flexible schedule will mean more time for non-work-related travel with his wife, Peggy Vettesse, PhD, RN, a nurse leader at Dana-Farber throughout her husband’s tenure. Their four children and eight grandchildren will also keep him busy, as will playing whatever sport is in season and rooting for his beloved Pittsburgh Steelers.

“Of all the fabulous jobs that I have been lucky to have, this one has definitely been the best,” adds Benz. “I remain energized about the great work that we do, and remain as optimistic as ever about our future.”
WHY I WORK HERE

James Tulsky, MD

By SHANNON WATTERSON

James Tulsky, MD, is comfortable where most doctors aren’t. While some may, understandably, shy away from talking about the challenges of serious illness, the new chair of Dana-Farber’s Psychosocial Oncology and Palliative Care department recognizes that these conversations are some of the most important a doctor and patient will ever have. He also knows that Dana-Farber is uniquely positioned to address patient values throughout treatment and at the end of life.

“The fact that we have palliative care, psychosocial oncology, and social work all under one roof exists nowhere else,” says Tulsky of his department’s structure. “It allows us to think very carefully about what each of these disciplines has to contribute to the care of people with cancer.”

Tulsky, who joined Dana-Farber in September 2015, is dedicated to helping providers throughout the Institute feel as comfortable as he is with conversations about patients’ values and goals. This specific interest in communication between doctors and patients stems from an incident he witnessed as a resident, when an emergency room physician asked the wife of a man with widespread metastatic lung cancer, “Do you want us to do everything for your husband?” The wife answered in the way any good spouse would, Tulsky remembers, with, “Yes, of course.” The man, who had been actively dying at home, was then intubated, rather than made comfortable, and died overnight. “An incredible spark went off for me about the power of words, and that how we craft our language makes all the difference in the world,” Tulsky says.

That interest in the intersection of medicine and the humanities stayed with him. In 1995, Tulsky joined the Project on Death in America Faculty Scholars Program, led by Susan Block, MD, his predecessor at Dana-Farber. “The people in that program ended up creating what has become academic palliative care,” he recalls. Later, to help oncologists better communicate with patients and their loved ones, Tulsky co-founded the nonprofit VitalTalk.

“Most doctors have not received formal training in this,” Tulsky explains. “These conversations bring up a lot of emotions, not only for patients, but also for oncologists, who fear taking away the patient’s hope or harming their relationship with the patient; it sometimes appears easier to avoid it.”

In 2016, Tulsky will introduce his VitalTalk curriculum, which includes practicing communication skills with simulated patients, to Dana-Farber oncology fellows for the first time. He also hopes to train several faculty members to become VitalTalk facilitators, to further develop training opportunities across the Institute and its affiliates.

“We talk about personalized medicine often here, which is scientifically amazing and incredibly beneficial to patients. But let’s provide personalized medicine that matches not only people’s genomes, but also their personalities, values, and goals.”
Laura Greco

As told to STACEY CUNNINGTON

We all know what to expect after a car accident: insurance claims, whiplash, maybe a broken bone. A cancer diagnosis, though? Not so common. For 40-year-old Laura Greco, this is what happened after a collision on a snowy day in 2015.

If I hadn’t been in the car accident, I wouldn’t have found the cancer as early.

I was hit by an SUV while driving home. My 6-year-old complained of injury to his arm, so we went via ambulance to the hospital. As the adrenaline wore off, I started to feel whiplash pains, so I had a trauma scan. They found nothing significant relating to my pain, but told me, casually, that I might want to check out the mass in my lung. “We see stuff in lungs all the time,” the physician’s assistant informed me. “You’ve never smoked, right?”

“Right, and I’m only 40!” I replied. A few days later, the doctor called to tell me that I needed to get the mass in my lung biopsied right away.

Lung cancer isn’t just for smokers.
The biopsy results showed it was non-small cell cancer, adenocarcinoma. I had stage 3A cancer. I was in complete disbelief. Doesn’t someone with cancer feel sick? I felt great! Like so many others, I believed the anti-smoking campaigns. I thought that if you never smoked, you could cross lung cancer off your worry list. Turns out, all you need is lungs.

The risk to nonsmokers should be clearer.
At the same time I was being diagnosed, I was in New York, where I was bombarded with a big public service campaign about a young man who died of lung cancer with the tagline “if only I didn’t pick up that first cigarette.” I screamed and cried, because I never picked up that first cigarette. I called the department behind the campaign, and explained that not picking up a cigarette will prevent many instances of lung cancer, but it won’t prevent all cases. In fact, the ad campaign reinforces the false notion that “no smoking means no cancer.”

The face of lung cancer is changing.
According to recent studies, the face of lung cancer is getting younger, and involving more never-smokers. Yet, many in the medical community don’t acknowledge this new reality. Lung cancer in never-smokers is the sixth-leading cause of cancer death in the U.S. That’s hardly rare. It’s time for lung cancer to be recognized as the indiscriminate killer that it is.

Laura Greco was diagnosed with lung cancer after a car accident brought her to the emergency room.

“IF ONLY I DIDN’T PICK UP THAT FIRST CIGARETTE.’ I SCREAMED AND CRIED, BECAUSE I NEVER PICKED UP THAT FIRST CIGARETTE.”
Dana-Farber Cancer Institute

Founded in 1947 by Sidney Farber, MD, Dana-Farber Cancer Institute (www.dana-farber.org) is world renowned for its unique blend of basic and clinical research and for using its discoveries to improve treatments for cancer and related diseases. Consistently ranked one of the top cancer centers in the country by U.S. News & World Report, Dana-Farber is a founding member of the Dana-Farber/Harvard Cancer Center, which is one of 45 nationally designated Comprehensive Cancer Centers. As a teaching affiliate of Harvard Medical School, Dana-Farber is also one of 20 federal Centers for AIDS Research in the United States. It has earned “Magnet” status for excellence in nursing and is a QOPI® Certified Practice.

Dana-Farber partners with Brigham and Women’s Hospital to deliver care for adults with cancer through Dana-Farber/Brigham and Women’s Cancer Center. It also has a long-standing alliance with Boston Children’s Hospital to care for pediatric cancer patients through Dana-Farber/Boston Children’s Cancer and Blood Disorders Center. Bringing together the strengths of three world-class institutions, these partnerships provide an exceptional level of care for cancer patients and their families.

The Jimmy Fund

The Jimmy Fund (www.JimmyFund.org) solely supports Dana-Farber, raising funds for adult and pediatric cancer care and research to improve the chances of survival for cancer patients around the world. It is the official charity of the Massachusetts Chiefs of Police Association, the Pan-Massachusetts Challenge, and the Variety Children’s Charity of New England. Since 1948, the generosity of millions of people has helped the Jimmy Fund save countless lives and reduce the burden of cancer for patients and families worldwide. Follow the Jimmy Fund on Facebook (www.facebook.com/th JimmyFund) and on Twitter (@TheJimmyFund).

10% of all designated gifts supports our Faculty Research Fund to advance Dana-Farber’s research mission.
A Message from Chief Financial Officer Michael Reney

Dana-Farber’s strong financial performance in fiscal year 2015 culminated in an increase in net assets of approximately $8 million. The positive results came during a year when the Institute converted its clinical and revenue-cycle software platform to Epic Systems. This new set of applications will enhance safety features, allow critical access to data, and bring efficiencies to our workflows. In anticipation of the expected challenges and costs related to the conversion, we budgeted for a lower-than-typical operating margin of approximately $12 million, or 1 percent. We achieved an operating margin of $22 million, or roughly 1.8 percent. Non-operating revenue was negatively affected by overall conditions in the investment markets, which returned (2.0) percent for the fiscal year. The result was a deficit of revenues over expenses of $2.5 million.

Patient care revenue increased by 13.8 percent across the Institute, including the main Boston campus, our regional satellite centers, and our physician practice offices, continuing the trend of the last several years. Thanks to the ongoing support of our donors, it was an outstanding year for fundraising, which saw a 13.4 percent increase in unrestricted giving. Research revenues increased by 11 percent during fiscal year 2015, reflecting strong growth from all funding sources. This growth was seen at the federal level following several years of reductions in funding from the National Institutes of Health, as well as from our non-government and commercial sponsors, and in the increased use of gifts.

Our investments in research during 2015 continue to position us well for the future. The Longwood Center opened and investigators and their staff began moving into this state-of-the-art laboratory facility in January 2015. We recently committed to leasing additional space within the Longwood Center for purposes of housing our animal facility, which will move from its current home in the Smith Building during late calendar year 2016. Our increased footprint in the Longwood Center reflects our commitment to best-in-class scientific advancements.

On the clinical side, fiscal year 2015 marked the first full year of operations at our newest regional satellite, at St. Elizabeth’s Medical Center in Boston, as well as our physician medical oncology practice (Dana-Farber Community Cancer Care), which allows us to provide community oncology in a physician practice setting.

Management, faculty, and staff throughout Dana-Farber – guided by the oversight of several committees of our Board of Trustees – worked diligently to achieve these results. We are grateful to them and also to the many donors and friends of Dana-Farber, who continue to demonstrate their commitment to the organization with their valuable knowledge and generous contributions. We are proud of all of these efforts and thankful for this strong and ongoing support.
### Condensed Consolidated Balance Sheets

For the Fiscal Year Ended Sept. 30  
(Dollars in thousands)

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Assets</td>
<td>$230,235</td>
<td>$233,941</td>
</tr>
<tr>
<td>Investments</td>
<td>950,994</td>
<td>948,680</td>
</tr>
<tr>
<td>Debt Service Reserve and Construction Fund</td>
<td>12,666</td>
<td>12,586</td>
</tr>
<tr>
<td>Property, Plant, and Equipment, net</td>
<td>748,560</td>
<td>694,132</td>
</tr>
<tr>
<td>Contributions Receivable, less current portion</td>
<td>40,469</td>
<td>37,748</td>
</tr>
<tr>
<td>Other Assets</td>
<td>23,809</td>
<td>23,571</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td>$2,006,733</td>
<td>$1,950,658</td>
</tr>
</tbody>
</table>

|                     |        |        |
| **Liabilities and Net Assets** |        |        |
| Current Liabilities  | $262,055 | $222,743 |
| Long-Term Debt and Other Liabilities | 440,219 | 415,765 |

| **Net Assets**      |        |        |
| Unrestricted        | 612,732 | 606,863 |
| Temporarily Restricted | 516,907 | 538,070 |
| Permanently Restricted | 174,820 | 167,217 |
| **Subtotal Net Assets** | 1,304,459 | 1,312,150 |

|                     |        |        |
| **Total Liabilities and Net Assets** |        |        |
| **Total Assets**    | $2,006,733 | $1,950,658 |

### Summary Statistical Information
(Unless otherwise noted, includes adult and pediatric patients)

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infusion Treatments</td>
<td>136,703</td>
<td>131,017</td>
</tr>
<tr>
<td>Outpatient MD Visits</td>
<td>259,838</td>
<td>252,582</td>
</tr>
<tr>
<td>Number of Licensed Beds (as of year-end)</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Adult Inpatient Discharges</td>
<td>1,258</td>
<td>1,059</td>
</tr>
<tr>
<td>Clinical Trials (open to patients at Dana-Farber, including therapeutic and nontherapeutic trials)</td>
<td>752</td>
<td>761</td>
</tr>
</tbody>
</table>

*Subsidiaries include Dana-Farber Inc., Dana-Farber Cancer Care Network, and Dana-Farber Trust.*
## Condensed Consolidated Statements of Operations and Changes in Net Assets

For the Fiscal Year Ended Sept. 30  
(Dollars in thousands)

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenues</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research</td>
<td>$357,625</td>
<td>$322,101</td>
</tr>
<tr>
<td>Patient Service, net</td>
<td>773,222</td>
<td>679,175</td>
</tr>
<tr>
<td>Unrestricted Contributions and Bequests</td>
<td>69,398</td>
<td>61,183</td>
</tr>
<tr>
<td>Other Operating</td>
<td>20,941</td>
<td>24,179</td>
</tr>
<tr>
<td><strong>Total Revenues</strong></td>
<td>$1,221,186</td>
<td>$1,086,638</td>
</tr>
<tr>
<td><strong>Expenses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Research</td>
<td>310,721</td>
<td>280,130</td>
</tr>
<tr>
<td>Direct Patient Care</td>
<td>512,950</td>
<td>441,875</td>
</tr>
<tr>
<td>Indirect</td>
<td>375,516</td>
<td>343,379</td>
</tr>
<tr>
<td><strong>Total Operating Expenses</strong></td>
<td>$1,199,187</td>
<td>$1,065,384</td>
</tr>
<tr>
<td><strong>Operating Income</strong></td>
<td>21,999</td>
<td>21,254</td>
</tr>
<tr>
<td>Investment Return, net</td>
<td>(7,345)</td>
<td>22,028</td>
</tr>
<tr>
<td>Interest Rate Swap Agreement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net interest received/(paid)</td>
<td>(5,593)</td>
<td>(5,611)</td>
</tr>
<tr>
<td>Change in fair value</td>
<td>(11,238)</td>
<td>(5,615)</td>
</tr>
<tr>
<td>Other</td>
<td>(248)</td>
<td></td>
</tr>
<tr>
<td><strong>(Deficit)/Excess of Revenues Over Expenses</strong></td>
<td>(2,425)</td>
<td>32,056</td>
</tr>
<tr>
<td>Other</td>
<td>8,294</td>
<td>18,588</td>
</tr>
<tr>
<td>(Decrease)/Increase in Temporarily Restricted Net Assets</td>
<td>(21,163)</td>
<td>70,767</td>
</tr>
<tr>
<td>Increase in Permanently Restricted Net Assets</td>
<td>7,603</td>
<td>8,356</td>
</tr>
<tr>
<td><strong>(Decrease)/Increase in Net Assets</strong></td>
<td>(7,691)</td>
<td>129,767</td>
</tr>
<tr>
<td><strong>Net Assets at Beginning of Year</strong></td>
<td>1,312,150</td>
<td>1,182,383</td>
</tr>
<tr>
<td><strong>Net Assets at End of Year</strong></td>
<td>$1,304,459</td>
<td>$1,312,150</td>
</tr>
</tbody>
</table>

The preceding selected consolidated financial data as of Sept. 30, 2015, and 2014 (except for the summary statistical data) have been derived from the consolidated financial statements of Dana-Farber Cancer Institute Inc., Dana-Farber Inc., Dana-Farber Cancer Care Network, and Dana-Farber Trust. These have been audited by Ernst & Young, LLP, independent auditors.

In FY 2015, the Institute raised $204 million in new gifts and new pledges through its Division of Development and the Jimmy Fund, and through the Friends of Dana-Farber Cancer Institute. For accounting purposes, the financial charts reflect new gifts and new pledges calculated at present value, excluding commitments the Institute could not record due to conditionality.
**CORPORATE OFFICERS**

Joshua Bekenstein  
*Chairman*

Edward J. Benz Jr., MD  
*President and Chief Executive Officer*

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*Vice Chairman*

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*Treasurer*

Michael L. Reney  
*Assistant Treasurer*

Neal J. Curtin, Esq.  
*Secretary*

Richard S. Boskey, Esq.  
*Assistant Secretary*

Kathleen Harkey  
*Assistant Secretary*

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**Audit Committee**  
John J. O’Connor

**Committee on Facility Planning and Construction**  
Peter Palandjian

**Communications Committee**  
Harvey Rosenthal  
Nancy Q. Gibson

**Community Programs Committee**  
Amy Z. Reiner  
Jerry M. Socol

**Compensation Committee**  
Joshua Bekenstein

**Executive Committee**  
Joshua Bekenstein

**Finance Committee**  
Brian J. Knez

**Governance Committee**  
Hon. Scott L. Kafker

**Investment Committee**  
Robert Stansky

**Joint Committee on Quality Improvement and Risk Management**  
Steven P. Koppel  
Robert J. Sachs

**Medical Staff Appointments Committee**  
Bradley A. Lucas

**Trustee Science Committee**  
Malcolm S. Salter

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**Development Committee**  
Lawrence Lucchino, Chair

**Trustee Annual Fund Committee**  
Jean Sharf

**Gift Planning Committee**  
Barbara L. Sadowsky  
James P. Sadowsky

*The governance listings in this annual report are current as of Jan. 1, 2016.*
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Gerhard R. Andlinger3
Michael J. Andrews4
David Auerbach3
David E. Barrett2
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Robert Belfer3
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Armin G. Biller3
John F. Blais3
Betty Ann Blum1
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Hon. Frederick L. Brown3
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Suzanne Chapman2
George Cloutier2
Marc A. Cohen2
Joseph F. Cotter4
Gary L. Countryman3
Howard Cox1
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Alice Cutler3
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Nader F. Darelshori3
Karen G. DaSilva1
Laura Weissman Davis2
David A. Dechman2
Peter I. deRoeth3
Emily F. DiMaggio3
Sean Dobson1
James H. Donovan2
James Dow2
John P. Dunfe3
Donald Dwaresh3
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Edward Eskandarian3
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Stephen B. Farber2
Thomas A. Farrington1
James L. Fine1
Stephen A. Fine1
Deborah S. First1
Robert C. First1
Charles Forman2
Helena B. Foulkes1
Michael Frieze3
M. Dozier Gardner3
Arthur Gelb, ScD3
Nancy Q. Gibson1*
William M. Gillen2
Christopher R. Gordon2
Michael S. Gordon2
Jill K. Greenthal1
James D. Griffin, MD2
Peggy Grodd2
Phillip T. Gross1
Richard Grubman2
Christopher J. Hadley3
Judith Hale3
David V. Harkins2
Marian L. HeardF
Frances Heller1
Alan J. Hirschfield1
Barbara H. Hugus, PhD4
Alison Poorvu Jaffe2
Jane P. Jamieson1
Andrew Janower1
Glenn M. Johnson2
Hon. Scott L. Kafker1*
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Stephen B. Kay3
Phyllis Swerling Kellerm4
Joseph M. Kelley1
Michele Kessler2
Michael J. Kittredge2
Brian J. Knez1*
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Steven P. Koppel1
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Robert K. Kraft1
Sandra G. Krakoff3
Phyllis Krock2
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Althea Lank3
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John J. Legere2
Kenneth Levine2
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Demond Martin3
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Joseph C. McNay3
William F. Meagher3
Richard P. Morse3
David G. Nathan, MD3
Joseph E. Norberg1
John J. O’Connor1*
Vincent M. O’Reilly3*
Stuart H. Orkin, MD2
Edward O. Owens1
Karen Linde Packman1
Peter Palandjian1*
Arthur M. Pappas, MD4
Theodore Pasquarello1
Jean F. Pearlstein3*
Robert J. Perez Jr.2
David B. Perini3
Eileen Perini3
Jennifer Perini1
Steven P. Perlmutter, Esq.1
Susan M. Poduska1
Elizabeth Pohl1
William J. Poutsika2
John M. Randolph4
Kathleen M. Randolph, PhD4
John P. Readon Jr.3
Shari E. Redstone2
Sunner M. Redstone4
Amy Z. Reiner2
Robert L. Reynolds1
Barrett J. Rollins, MD, PhD2
Ann M. Rosenberg2
Harvey Rosenthal1*
Edward F. Rover3
Robert J. Sachs, Esq.1*
Barbara L. Sadowsky2
James P. Sadowsky2
Stephen E. Sallan, MD2
Malcolm S. Salter1*
H. Terrence Samway2
Rebecca Sanders1
Eric D. Schlag1
Judith P. Schlag1
Richard N. Seaman2
Thomas Sellers2
Laura Sen1*
Paul J. Severino2
Jean S. Sharf3
Richard A. Smith3*
Mrs. Susan F. Smith3
Ruth F. Snider3
Jerry M. Socol1*
Gloria H. Spivak3*
Robert Stansky1*
Richard M. Stone, MD2
James M. Stoneman3
William Starr3
Sandra Stratford, MD2
Patrick J. Sullivan3
Ronald S. Sullivan Jr.1
Jean C. Tempel1
Beth F. Terrana1
David B. Ting1
Delores Barr Weaver3
J. Wayne Weaver3
T. Conrad Wetterau2
Gregory A. White2
Frederica M. Williams1
Winnie W. Wong, PhD2
Carl Yastrzemski4
George J. Yost III, Esq.1
Mortimer B. Zuckerman4
1 Governing Trustee
2 Trustee
3 Distinguished Trustee
4 Honorary Trustee
* Member, Executive Committee
+ Deceased

The governance listings in this annual report are current as of Jan. 1, 2016.
Executive Leadership

Edward J. Benz Jr., MD
President and Chief Executive Officer

Richard S. Boskey, Esq.
Senior Vice President; General Counsel; and Chief Governance Officer

Craig Bunnell, MD, MPH, MBA
Chief Medical Officer

George D. Demetri, MD
Senior Vice President, Experimental Therapeutics

James D. Griffin, MD
Chair, Medical Oncology

Daphne A. Haas-Kogan, MD
Chair, Radiation Oncology

William C. Hahn, MD, PhD
Chair, Executive Committee for Research

Deborah Hicks, MA
Senior Vice President, Human Resources

Joseph O. Jacobson, MD, MSc
Chief Quality Officer

Bruce E. Johnson, MD
Chief Clinical Research Officer

Elizabeth A. Liebow, MS
Senior Vice President, Business Development, Clinical Planning, and Community Site Operations

Maria Papola Megdal, MHA
Senior Vice President, Institute Operations

Drew Memmott, MA, MPhil
Senior Vice President, Research, Dana-Farber Cancer Institute; Associate Director for Administration, DF/HCC

Lee M. Nadler, MD
Senior Vice President, Experimental Medicine

Stuart H. Orkin, MD
Chair, Pediatric Oncology

Susan S. Paresky, MBA
Senior Vice President, Development

Patricia Reid Ponte, RN, DNSc, FAAN
Senior Vice President, Patient Care Services, and Chief Nursing Officer

Dorothy E. Puhy, MBA
Executive Vice President and Chief Operating Officer

Michael L. Reney, MBA
Senior Vice President, Chief Financial Officer and Assistant Treasurer

Barrett J. Rollins, MD, PhD
Chief Scientific Officer

Stephen E. Sallan, MD
Chief of Staff Emeritus

Steven R. Singer, MPA
Senior Vice President, Communications

Robert J. Soiffer, MD
Chair, Executive Committee for Clinical Programs

Richard M. Stone, MD
Chief of Staff

Scott J. Swanson, MD
Chief Surgical Officer

Mary-Ellen Taplin, MD
Chair, Executive Committee for Clinical Research

James A. Tulsky, MD
Chair, Psychosocial Oncology and Palliative Care

Annick D. Van den Abbeele, MD
Chief of Imaging

Eric P. Winer, MD
Chief Clinical Strategy Officer

The governance listings on this page are current as of Jan. 1, 2016.
Friends of Dana-Farber Cancer Institute

Co-Presidents
Jen Cunningham Butler
Suzanne Chapman

Executive Committee
Debbie Maltzman, Treasurer*
Lesley Prowda, Vice President of Patient Services
Elaine Tinetti, Recording Secretary
Lori Whelan and Susan Wilk, Vice Presidents of Fundraising

Governing Directors
Suzanne Fisher Bloomberg
Kim Chisholm
Alice Cutler*
Sarah Duggan
MaryBeth Finn
Lauren Frei
Jayne Bennett Friedberg*
Susan Mendoza Friedman
Micki Hirsch
Jane M. Holt*
Marci Katz
Amye Kurson
Audra Lank
Rebecca Latimore*
Eileen MacElroy
Jane B. Mayer
Jane R. Moss
Marci Noller
Tobey Oresman
Jean F. Pearlstein*
Cristina S. Peters*
Alexandra Slote
Courtney Tatelman
Elaine Zouzas Thibault
Dana Gerson Unger

Honorary Directors
Jean Speare Canellos*
Barbara Lapp
Louise S. Shivek
Susan F. Smith
Marilyn N. Wolman

Governing Directors:
Members at Large
Sree Balamurugesh
Carrie Wilson

Founding President
Sheila Driscoll Cunningham**

Program Director
Sarah M. Duggan

Art Program Administrator
Elaine L. Tinetti

* Past President
** Deceased

Trustee Chairs and Co-Chairs, President’s Visiting Committees

Visiting Committee for Basic Science
William S. Karol
Edward F. Rover

Visiting Committee for the Gastrointestinal Cancer Center
Peter Palandjian
Winnie W. Wong, PhD

Visiting Committee for Hematologic Oncology
Marc A. Cohen
Theodore T. Pasquarrello

Visiting Committee for Institute Initiatives
Nancy Q. Gibson
Jennifer Perini

Visiting Committee for Pediatric Oncology
Alison Poorvu Jaffe
T. Conrad Wetterau

The governance listings in this annual report are current as of Jan. 1, 2016.

Dana-Farber Inc.

Corporate Officers
Joshua Bekenstein
Chairman
Edward J. Benz Jr., MD
President and Chief Executive Officer
Brian J. Knez
Treasurer and Vice Chairman
Neal J. Curtin, Esq.
Secretary
Richard S. Boskey, Esq.
Assistant Secretary
Kathleen Harkey
Assistant Secretary

Trustees
Joshua Bekenstein
Edward J. Benz Jr., MD
Brian J. Knez
Robert Stansky

Dana-Farber Inc. manages the investments of Dana-Farber Cancer Institute Inc.
A young patient shares a smile while her father stops for coffee on the way to an appointment at Dana-Farber/Boston Children’s Cancer and Blood Disorders Center.