ENDING CANCER FOR LIFE
We go beyond offering leading-edge cancer treatments; we care for our patients in the fullest sense of the word.

Our scientists explore every possibility, persistently pushing the boundaries of our understanding of cancer and uncovering novel therapies.

We stand as a beacon for the best and brightest minds, dedicated to the pursuit of knowledge and mentorship, nurturing the discoverers of tomorrow.

We come together every day with one mission: ending cancer for life.
A Message From the President and the Chairman

Innovation With Lasting Impact
New Hope for Treating Brain Cancer
Surviving Against the Odds
An MSK dream team cracks the code of a common brain cancer.

Controlling a Relentless Leukemia
A brave leukemia patient and her caregivers.

From Data to Cures
Microchips and AI are changing the future of cancer care.

Sidelining Side Effects
Improving patients’ quality of life with less toxic treatments.

A New Breed of Cancer Fighters
A first-of-its-kind program trains engineers to answer the big questions.

Excellence Through Inclusion
Seeking a Match for Everyone
Helping people with diverse ancestries find lifesaving donors.

We Are One MSK
Coming Full Circle
MSK saved her life as a child — now she supports vital research at MSK.

Eradicating a Deadly Disparity
Why endometrial cancer is especially dangerous for Black women.

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AMERICAN SYMPHONY
A love story wrapped in a documentary and a campaign to help others.

New Insights Into a Deadly Disparity
Why endometrial cancer is especially dangerous for Black women.

Joshy’s Journey
More Than a Job
The unique expertise of MSK Kids treated a teenager with a rare cancer.

I Never Imagined It Could Happen to Me
A nurse’s experience as a cancer patient brought new insight into what really matters.

The Society of Memorial Sloan Kettering Cancer Center
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The Society of MSK: 2023—2024 Administrative Board
Every day, the people of Memorial Sloan Kettering Cancer Center (MSK) are driven by a singular mission: ending cancer for life.

That relentless focus enables us to provide the world’s best, most compassionate care to every person who comes to MSK. It is what propels us to transform the understanding of cancer through landmark scientific discoveries and lifesaving clinical advances. And it is why we educate and train the next generation of cancer leaders who will bring the MSK standard of excellence to the world for decades to come.

In 2023, MSK reaffirmed the core values that have long made us who we are. In this Annual Report, you will see how these fundamental principles inspire us and drive unstoppable progress. Our values are simple but powerful.

Respect for the Individual: We ensure everyone is heard and valued. Everyone is respected and everyone facing cancer.

One MSK: We work together to do what no one else can do.

Stewardship: Each person takes responsibility to strengthen MSK to better serve our patients, and everyone facing cancer.

One MSK: We work together to do what no one else can in cancer.

Innovation With Lasting Impact: We challenge and everyone is heard and valued. Everyone is respected and everyone facing cancer.

Excellence Through Inclusion: Everyone succeeds when diversity thrives.

We uphold these values in service to our patients, and we develop personalized approaches to care. While the challenge of finding a donor match may be made more challenging to find a donor match.

This Annual Report will also introduce some of the extraordinary people of MSK, including Maddy Ruff, who was treated at MSK for bone cancer as a teenager. Two decades later, she works at MSK to help researchers discover the kind of groundbreaking therapy that saved her life. She’s a shining example for other patients hoping for a healthy and vibrant future.

None of the successes achieved this past year would be possible without philanthropic support from our dedicated giving community. Spreading our research and walks of life. We are deeply grateful to the more than 45,000 donors who gave 600,000 gifts in 2023. This support is an affirmation of what we do and helps to lay the foundation for MSK’s future.

As we look ahead, the work continues across our organization to help reduce suffering, save lives, and unlock discoveries that will change cancer science. We are the standard-bearers, and together, united by our values, the people of MSK form the most capable force against cancer in the world.

Selwyn M. Vickers, MD, FACS
President and Chief Executive Officer

Scott M. Stuart
Chair, Board of Trustees

New York Times best-selling author Suleika Jaouad and her Grammy-winning husband, Jon Batiste. The film follows Suleika as she undergoes a powerful stem cell transplant at MSK. — It also inspired a major campaign that encourages people to register to donate stem cells. This effort is particularly important for people of diverse ethnic backgrounds whose unique tissue types often make it more challenging to find a donor match.

"As we look ahead, the work continues across our organization to help reduce suffering, save lives, and unlock discoveries that will change cancer science. We are the standard-bearers, and together, united by our values, the people of MSK form the most capable force against cancer in the world."
Every day at MSK, we challenge ourselves to constantly learn and improve. We create and apply bold new thinking that makes a difference in the lives of patients. We embrace discovery, knowing that exploring the unknown is the best way to fuel progress in cancer treatment and care around the world.

Research technician Adrienne Chandra, MS, works with Vinod Balachandran, MD, studying pancreatic cancer.
NEW HOPE FOR TREATING BRAIN CANCER

Alicia Kalogeropoulos had everything she wanted in her life at age 27: a loving husband, a first house, and a meaningful career as a nurse anesthetist. One day she tripped at home and hit her head. Fearing a concussion, Alicia’s husband, Alex, took her to the emergency room. A scan revealed awful news. She had a tumor in the front of her brain. “I had no symptoms,” she remembers. “It was a complete shock.”

Suddenly, Alicia felt her bright future teetering on the edge. She was very scared finding out I had brain cancer Initially because I immediately thought this meant I was going to die, “ Alicia says. “I am no longer scared because I have faith in the future of medicine and technology.”

Alicia faced a harrowing decision. Doctors said the treatment option in low-grade gliomas in more than 80% of low-grade gliomas, including Alicia’s. The drug, vorasidenib, targets a mutation in genes. The mutations are present in 20% of low-grade gliomas, using models known as patient-derived xenografts (PDX).

Why Brain Cancer Is So Hard To Treat

There are more than 125 types of brain cancer, and many are especially challenging to treat. Brain surgery is complex. There is a network of blood vessels and closely spaced cells forming a tight wall to protect against toxins. This blood-brain barrier also makes it difficult for drugs to penetrate.

To overcome these hurdles, MSK’s Brain Tumor Center brings together researchers and clinicians across the institution focused on meeting the dire need to improve therapies. Led by Ingo Mellinghoff, MD, FACP, the team has created a unique resource to study the biology of glioblastomas, the deadliest brain tumors. “These models are as close as one can get to experimenting on human brain tumors,” Dr. Parada says. “To my knowledge, no other program is as comprehensive and rigorous as the one we have at MSK.”

It’s this kind of collaboration between scientists and clinicians that pushes forward discoveries in the lab into potential treatments for patients.

In the wake of this advance against low-grade tumors, MSK researchers hope their PDX models will enable real progress against glioblastomas and other deadly brain tumors.

“There are many exciting drugs in development,” Dr. Parada says. “We are getting a much better understanding of the genetic changes occurring in these tumors, as well as developing better biomarkers to monitor how the tumors progress or respond to treatment.”

W ith the phase 3 clinical trial complete, the Food and Drug Administration must still approve vorasidenib before it becomes widely available.

“T his has the potential to be the first new treatment option in low-grade gliomas in more than 20 years,” Dr. Mellinghoff says. It happened as a result of years of painstaking work by determined researchers and technology. “To my knowledge, no other program is as comprehensive and rigorous as the one we have at MSK.”

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This research receives essential philanthropic support from the MSK Giving community, including Cycle for Survival®, Judith W. and Anthony B. Evans and The AE Family Foundation, Fred’s Team®, Richard A. and Susan P. Friedman, the National Brain Tumor Society, and The Schneider Family (Dr. Mellinghoff) and Cycle for Survival®; Fred’s Team®, The A. James & Alice B. Clark Foundation and The Mortimer B. Zuckerman Family Foundation, and The Portmerion B. Zuckerman Family Foundation (Dr. Parada). Dr. Mellinghoff holds the Evnin Family Chair in Neuro-Oncology, the Albert C. Foster Chair in Neuro-Oncology, the Richard A. and Susan P. Friedman National Brain Tumor Society, and The A. James & Alice B. Clark Foundation and The Nussdorf Family Foundation, The Schneider Family (Dr. Mellinghoff); and

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Alicia Kalogeropoulos with her husband, Alex.

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Pancnic cancer has long been a forbidding disease. While the five-year survival rate has improved over time, it is still quite low — about 12%. But surgeon-scientist Vinod Balachandran, MD, has focused on a glimmer of hope: A small percentage of people manage to beat the odds and survive. He wondered, “What made them different?”

“Tumor neoantigens. Their vaccine uses messenger RNA (mRNA) to create a vaccine that would train the immune system to stop the cancer.”

These findings supported our strategy aimed at tailoring each cancer vaccine to each patient’s tumor. “It was a race to see if the vaccine could prevent the disease from returning after surgery.”

After following patients for an average of three years after treatment, of the eight patients in whom vaccines activated T cells, six did not see their cancers return after surgery. The other two responders relapsed. Of the eight patients whose immune systems did not respond to the vaccine in the phase I clinical trial, seven saw their cancers return during the study period. Researchers do not yet know if the vaccine caused the delays in the cancer’s recurrence; finding out requires larger studies.

In June 2023, Genentech and BioNTech initiated a phase 2 clinical trial to evaluate autogene vaccines in approximately 260 patients at various sites around the world, including at MSK.

Preventing — Not Just Treating — Pancreatic Cancer

MSK researchers are also looking for drugs that would halt the disease at its earliest stage. Using cutting-edge technologies, scientists at the David M. Rubenstein Center for Pancreatic Cancer Research are zeroing in on the interaction between genetic mutations and external factors that cause tumor neoantigens.

Researchers in the laboratory of computational biologist Dana Peirce, PhD, and cancer biologist Scott Lowe, PhD, combined sophisticated genetic engineering and advanced computational methods to study the earliest cell states leading to pancreatic cancer. Using a genetically modified mouse model, they were able to mimic pancreatic cancer in humans from its earliest beginnings to when it spreads.

Their research, reported in Science, found that damage to tissue can trigger very fast changes — within 24 to 48 hours — in ways that foster cancer’s emergence and runaway growth. Inflammation from this tissue damage enhanced the cells’ ability to shed their original identity and adapt, a trait known as plasticity.

“T his discovery gives a new, detailed understand of how pancreatic cells progress to cancer when exposed to inflammation,” Dr. Lowe says. “It also provides a roadmap for developing strategies to detect cancer earlier and, if possible, prevent it before they reach an incurable stage.”

It’s this kind of collaborative deep dive into a disease at its most basic level that offers reasons to be optimistic — even about pancreatic cancer.

“At MSK, we have the resources and the freedom to ask the most pressing questions, and then go where the science leads,” Dr. Balachandran says. “I’ve chosen to focus not on why people don’t survive, but rather on why the immune system could be their secret weapon.”

This research receives essential philanthropy from the MSK Giving community, including, Margaret M. Keans (Dr. Balachandran); Stand Up To Cancer (Drs. Balachandran and Greenbaum); The Mark Foundation for Cancer Research (Drs. Greenbaum and Lowe); Cycle for Survival® (Drs. Lowe and Peirce); and Break Through Cancer and the William C. and Joyce C. O’Neil Charitable Trust (Dr. Lowe).

Dr. Lowe holds the Geoffrey B. Gates, MD, 1933–2008, Distinguished Chair in Cancer Research and is a Howard Hughes Medical Institute investigator.

Dr. Peirce holds the Alan and Sandra Gerry Endowed Chair and is a Howard Hughes Medical Institute investigator.

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—Vinod Balachandran, MD
CONTROLLING A RELENTLESS LEUKEMIA

Ever since he was in college, Michael Rosensweig has endured a series of grueling treatments for acute myeloid leukemia (AML). This kind of blood cancer is relentless. It moves quickly and needs aggressive, often harsh, treatment with chemotherapy, sometimes followed by a bone marrow transplant. Even when these therapies stop the cancer, AML often returns.

Then Michael found out that he qualified for a groundbreaking clinical trial of an experimental targeted therapy.

“It’s an amazing, exciting time to be doing leukemia research,” says hematologic oncologist Ethan Stein, MD, Director of the Program for Drug Development in Leukemia. “It’s an amazing, exciting time to be doing leukemia research.”

In the past few years, several new targeted therapies are showing remarkable results. One new drug, venetoclax (Venclexta®), is effective in older people when combined with another therapy.

In addition, MSK’s Leukemia Service led trials that resulted in the approval of two drugs by the Food and Drug Administration — enasidenib (Idhifa®) and ivosidenib (Tibsovo®).

A New Class of Drugs To Treat AML

In 2023 came perhaps the biggest breakthrough of all: proof that a new class of drugs known as menin inhibitors could stop the most lethal form of AML. It was the culmination of research begun a decade ago in the labs of leukemia oncologist Ron Levine, MD, MSK’s Deputy Physician-in-Chief for Translational Research, and Scott Armstrong, MD, PhD.

That groundwork paved the way for a phase 1 clinical trial led by Dr. Stein and published in Nature, which showed that a menin-inhibitor called revumenib was effective in people whose cancer had certain molecular mutations common in AML.

More than half of these patients responded — about 50% had a complete response with partial hematologic recovery, which means that no cancer was detectable in their blood.

“People with these types of alterations tend to have the most dangerous type of this already tough disease,” Dr. Stein says. “What we’ve seen in this study is very promising.”

Another Chance for Michael

When Michael participated in the clinical trial in 2021, his AML had returned three times since he was a junior in college. He graduated from the Massachusetts Institute of Technology. Michael feared he had run out of chances. But Dr. Stein’s groundbreaking trial gave him the opportunity to avoid another round of intensive chemotherapy requiring weeks of hospitalization. Instead, he could take a pill at home twice a day for four weeks.

“Being able to do treatment from home and just be normal for a while was so nice, as opposed to being stuck in a hospital bed for months,” Michael says.

Engineering the Immune System To Fight AML

Researchers are also making inroads treating AML with chimeric antigen receptor (CAR) T cell therapy. This treatment involves removing T cells from a patient and outfitting them in the lab with receptors that recognize specific targets — known as antigens — on the surface of a cancer cell. When these modified cells are put back into the patient, they patrol the bloodstream looking for cancer cells to destroy.

A clinical trial using this approach is now beginning under the direction of hematologic oncologist Jae Park, MD. As for Michael, thanks to the menin inhibitor, he was able to receive a bone marrow transplant. Now cancer free for two years, he says, “I’ve got my life back and I’m so grateful.”

This research receives essential philanthropic support from the MSK Giving community, including Cycle for Survival®, Mazummer Shaw Philanthropy, Lewis A. Sanders, and Comedy vs Cancer.

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Michael Rosensweig, enjoying the outdoors with Snow, has dealt with AML on and off for more than a decade.
The microscope. The petri dish. The X-ray. A handful of tools have radically changed the practice of medicine and biomedical research. Although easy to overlook, the computer microchip, with its layers of silicon and engineering wizardry, is without a doubt one of the most important. Today, as the instruments used in the lab and the clinic become more sophisticated, computation plays an increasingly essential role in scientific discovery and in improving patient care.

“Biology is really becoming an information science,” says Dana Pe’er, PhD, an investigator at Memorial Sloan Kettering Cancer Center (MSK) and Chair of the Computational and Systems Biology Program at MSK’s Sloan Kettering Institute. And what sets MSK apart is the ability for computational and cancer experts to work together as partners to illuminate human biology and improve treatment outcomes.

Dr. Pe’er’s research group, for example, recently developed a computational tool — dubbed Spectra — to help analyze research done with a technique called single-cell sequencing. The technology is akin to taking an orchestra and isolating individual musicians from it, or groups like the woodwinds. By guiding data analysis in a unique way, the Spectra algorithm will provide new insights into the complex interplay among thousands of cells, including those that are critical to helping today’s groundbreaking immunotherapy treatments work for more people.

“Interpreting this type of data is incredibly complex and rife with many statistical pitfalls,” Dr. Pe’er says. “Spectra both finds patterns that are too complex for a human to possibly identify, and also easily finds patterns that would take researchers months using other methods.”

FROM DATA TO CURES

Dr. Pe’er, PhD, and her team are developing new computational tools to accelerate cancer research.

Al and Cancer Care

The importance of computation isn’t limited to the laboratory. MSK is a world leader in the clinical use of home-grown artificial intelligence (AI) models, notes Joseph Deasy, PhD, Chair of MSK’s Department of Medical Physics.

For example, AI is being used routinely to improve the efficiency and quality of radiation therapy treatment planning.

MSK researchers, led by computer scientist Harini Veeraraghavan, PhD, have developed AI methods — trained on MSK imaging data — that can accurately identify healthy tissues that can be spared while zeroing in on tumor tissues. Thanks to this research, the approach now covers more than 40 tissue types and has been used for over 6,000 cancer treatments, making it a great example of the positive impact AI is already starting to have in medicine.

What’s more, because AI programs can be trained to adapt and improve over time, they perform in ways far superior to traditional computing approaches.
Every week, approximately 10,000 imaging scans are done at MSK — each rich with electronic data.
Marc Scarduffa was blindsided when he learned he had stage 3 rectal cancer.

Fit and strong as he celebrated his 50th birthday, he had scheduled a colonoscopy simply because he knew he had reached the recommended age to begin screening for colorectal cancer (the recommended age has since lowered to 45).

Marc had no symptoms, no family history of the disease, and every expectation of a clean bill of health. However, he woke up after the procedure to grim news. He recalls the doctor telling him, “You have a major tumor, you need to get to an oncologist.”

So began a journey that would bring Marc to Memorial Sloan Kettering Cancer Center (MSK). At MSK, he found a new approach to rectal cancer that not only successfully treated his disease but did it with less toxic treatments that caused fewer side effects and provided a better quality of life.

It’s part of the intense focus across MSK to help people facing cancer live their best lives during and after treatment.

Rectal Cancer Treatment Without Radiation Therapy

For Marc, the key was a clinical trial investigating whether people facing rectal cancer that has not spread (metastasized) could be spared radiation therapy. Since 1999, the standard of care for rectal cancer has been chemotherapy and radiation, followed by surgery.

As led by gastrointestinal oncologist Deb Schrag, MD, MPH, who is also Chair of the Department of Medicine, the successful results of the clinical trial that included Marc were presented in 2023 at the American Society of Clinical Oncology, the country’s largest cancer conference. The study was also published in The New England Journal of Medicine.

Dr. Schrag started the trial with a hypothesis: Could we change the chemotherapy regimen used before surgery to allow patients to skip radiation altogether? Preliminary evidence suggested it was possible.

Dr. Schrag hoped eliminating radiation could spare people serious side effects, which can include infertility.

“My colleagues and I began seeing more young women with rectal cancer who were devastated — not just because they had cancer but because the standard treatment we had to offer them would mean that they would not be able to carry a pregnancy to term,” Dr. Schrag says. “That was one of the big reasons we looked for a way to help patients — and to see if we could achieve favorable outcomes without the uniform application of radiation.”

People facing rectal cancer, says Dr. Schrag, are also anxious about other long-term consequences of radiation, which can damage sexual and bowel function.

There are also concerns about radiation and its impact on bone marrow, which makes blood. “Most of your bone marrow is made in the pelvic bones,” explains Dr. Schrag. “When you radiate those bones, the bone marrow resilience can be impaired, which makes it more difficult to get good chemotherapy if cancer comes back.”

Marc says he also heard about radiation side effects from other people with cancer. “I was happy to not have to undergo radiation therapy. Among other things, no radiation meant I didn’t have to lose my hair, which I was very enthusiastic about.”

The success of his treatment, along with the focus on his quality of the end the composition of his care team — including gastrointestinal oncologist Leonard Saltz, MD, and colorectal surgeon Martin Weiser, MD — convinced Marc that “MSK is the gold standard for cancer care.”

He adds, “I’ve been a big fan of MSK, and I’ve told several people with cancer to go there.”

MSK physicians are also advancing other options for people with colorectal cancer by applying the principles of precision medicine. In a landmark study involving the 8% of patients whose tumors have a specific genetic makeup, MSK researchers successfully altered the cancer with immunotherapy alone, allowing patients to skip the usual treatment of radiation, chemotherapy, and surgery, which can have long-lasting side effects.

Similar studies are underway to see if the approach can be used to treat other cancer types.
Treating Prostate Cancer With Ultrasonic Waves

An innovative approach at MSK also helped John Brannan “get a new lease on life” after he was diagnosed with prostate cancer.

A doctor at another hospital suggested surgery as soon as possible. But John was troubled after two people he knew who had undergone similar surgery described persistent side effects, which can commonly include urinary and sexual problems. John learned of an MSK clinical trial for people like him with intermediate-risk prostate cancer and decided to participate. Led by urologic cancer surgeon Behfar Ehdaie, MD, the trial investigated a treatment known as MRgFUS, which uses high-intensity focused ultrasonic waves guided by magnetic resonance imaging (MRI).

“We believe this novel treatment strategy will improve the lives of many prostate cancer patients,” says Dr. Ehdaie. “Instead of removing all the tissue and the nerve fibers and thereby causing side effects, we can use ultrasound waves to destroy cancer cells within the prostate.”

The treatment was focused ultrasonic waves — precisely guided by MRI imaging — to heat the cancer cells inside the prostate to more than 40 degrees Celsius, which kills them.

“Using only sound waves means patients have no cuts, no bruises, no pain — and go home the same day,” says Dr. Ehdaie. John walked out several hours after his treatment and returned to the hotel where he was staying with his wife and had dinner. “It was pretty much back to normal right away,” he says. “It’s a phenomenal use of technology.”

“For instance: “In radiation therapy, we’re constantly trying to design our treatments to minimize side effects,” says radiation oncologist Sean McBride, MD. “Part of that effort, he explains, is listening to patients.

“When a patient has options between different radiation choices, we try to find out what’s most important to them,” he says. “Perhaps it’s sexual function, bowel function, or urinary function. There are subjective factors that go into the table that help us hone our recommendations.”

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John Brannan, pictured with his wife, Lita, says he “was pretty much back to normal right away” after the experimental ultrasound treatment for prostate cancer.

MSK specialists are just as determined to help people with prostate cancer who are not candidates for this treatment, including people with more advanced disease.

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Seeing the Whole Patient

A plan that was carefully tailored to personal needs also proved invaluable for Vivian Moore.

At age 80, she was diagnosed with triple-negative breast cancer, a particularly aggressive form of the disease. While some people her age may have wondered whether undergoing treatment with potentially hard side effects would be worth it, she never considered foregoing cancer care.

“I felt comfortable there,” she says, having been cared for by MSK 10 years earlier for bladder cancer. “And I had a lot of confidence that their team would get me through whatever I was facing.”

MSK crafted a treatment plan for Ms. Moore based on her stamina and other needs, with input from breast cancer experts who have special training and experience treating patients over age 65, including Dr. Mooney’s MSK breast oncologist, Diana Lake, MD.

“We felt the whole team looked closely at individual care to determine what treatment options she could tolerate,” says Ms. Mooney’s daughter, Nicole. “They didn’t make assumptions based on her age or think she was too old.”

Among the care team members was geriatrician Siri Ansori, MD, who evaluated Ms. Moore to check for possible problems with thinking and mental processes that could affect the treatment used to treat breast cancer, especially in older people. Dr. Ansori was also involved with Ms. Moore today at age 82; she has recovered from her cancer and is now cancer-free.

These patients are just the latest example of MSK’s innovative approach to cancer care. At any stage of life, the cancer experts at MSK are determined to find new ways to reduce side effects and preserve quality of life for the people in their care.

Vivian Moore had confidence her MSK team would successfully treat her breast cancer with the fewest side effects possible.
That’s what happened one afternoon a few years ago in the lobby of the Zuckerman Research Center, the 23-story home to lab researchers at Memorial Sloan Kettering Cancer Center (MSK). Biomedical engineer Dan Heller, PhD, started up a conversation with a gynecologic oncologist about his work using nanotechnology to develop tiny implantable sensors to better detect disease.

“I learned there is a desperate need for a better way to detect ovarian cancer,” Dr. Heller recalls. “This cancer is so deadly because it’s very difficult to diagnose early.”

The impromptu conversation kicked off a collaboration. Eight years later, Dr. Heller’s lab — working in consult with gynecologic surgeon Kara Long Roche, MD, MSc — had designed and begun testing a device that might spot the first signs of ovarian cancer by detecting a molecular fingerprint in blood samples.

“This is what can happen when you marry engineering skills with urgent medical needs,” says Dr. Heller, head of the Cancer Nanotechnology Laboratory at the Sloan Kettering Institute. “In a biomedical center like MSK, you are surrounded by problems to solve and questions to answer.”

Now a first-of-its-kind PhD program in cancer engineering will enable aspiring scientists to tackle tough cancer problems. The Pat and Ian Cook Doctoral Program in Cancer Engineering, made possible by a generous gift from MSK Trustee Ian Cook and Pat Cook, was launched in 2023 by MSK’s Gerstner Sloan Kettering Graduate School of Biomedical Sciences (GSK) under the leadership of GSK Dean Michael Overholtzer, PhD. The visionary new program joins the elite Cancer Biology PhD Program, which began in 2006.

“There are many engineers and physical scientists who love making new technologies but would like to go a step further and put them into practice,” says Dr. Keshari, program Co-Director. "At MSK, you might actually be able to do something that can change someone’s life."
Maria and Pedro Lara are grateful for MSK’s expertise in bone marrow transplants for people who are ethnically diverse.

We succeed when diversity thrives.

We actively address barriers to diversity and inclusion in our workforce, our science, and the care we provide. Our doors are open to all. Our researchers explore the biology of cancer among people of different ethnicities, improving outcomes for everyone and leading the way to more equitable care.
A MATCH FOR EVERYONE

Pedro Lara has lived the American dream. A native of El Salvador, he came to the United States as a young man more than 50 years ago and built a proud life working many jobs — even covering travel costs when his weakened immune system made it dangerous for him to use public transportation. — even covering travel costs when his weakened immune system made it dangerous for him to use public transportation.

Pedro says he is grateful for the care he received at MSK — from his medical team but also for the emotional, psychological, and financial support he misses working but fills his days in other ways — riding his bike, snuggling with his cat, and teaching his wife to dance. He misses working but fills his days in other ways — riding his bike, snuggling with his cat, and teaching his wife to dance.

It’s a growing problem as the population becomes more diverse: Patients of Latin American, Asian, African, Middle Eastern, and mixed ancestry have more diverse HLA types, which are considered a full match. People with non-European ancestry have more diverse HLA types, which are more difficult to match. For people of Latin American descent, the odds of finding a matched donor in a public registry are less than 50%. For Black patients, like Pedro, the odds of finding a matched donor in a public registry are less than 50%. For Black patients, like Pedro, the odds of finding a matched donor in a public registry are less than 50%. For Black patients, like Pedro, the odds of finding a matched donor in a public registry are less than 50%. For Black patients, like Pedro, the odds of finding a matched donor in a public registry are less than 50%.

Finding a Donor for Every Patient

To find a suitable match, doctors look for immune markers on white blood cells called HLA types. If two people share all eight markers, they are considered a full match. People with non-European ancestry have more diverse HLA types, which are more difficult to match. For example, for people of Latin American descent, like Pedro, the odds of finding a matched donor in a public registry are less than 50%. For Black patients, the odds are only about 30%.

A Transplant Offers Pedro the Best Chance for a Successful Treatment

Pedro came to MSK after being treated for non-Hodgkin lymphoma at another hospital. The cancer was still present, and the chemotherapy had damaged his bone marrow.

Finding a Donor

A family member who is only a half match can provide healthy cells, even if they were a perfect match.

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When Pedro first came to see me, he was getting blood and platelet transfusions every few days. He needed a transplant," says his doctor, BMT expert Michael Scordo, MD. "When Pedro saw 74, he was in good health. MSK has done extensive research on the best way to match donors for patients who need transplants.

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The next step was finding a donor. Pedro is one of eight siblings, but they were too old to provide healthy cells, even if they were a perfect match. (Ideal donors are under 40.) Pedro has no children and there are no full matches in the public donor databases, either.

Fortunately, Pedro’s niece Debbie Crystal Lara, then 27, was a half match.

"When I learned that I was the best match, of course I was willing to donate my cells," Debbie says. "It was a blessing to know that I would be able to help my uncle." The team at MSK and NMDP arranged for Debbie’s cells to be collected at a facility in San Diego. They were quickly frozen and shipped to MSK.

Pedro’s team had a protocol to help make the half-match transplant successful. "With partially matched donors, we give an extra drug for two days after the transplant. This helps prevent the donor’s immune cells from attacking the recipient," Dr. Scordo says.

Indeed, Pedro had very few complications and recovered quickly. Exactly one month after his transplant, he was discharged from the hospital. More than two years later, Pedro says he feels great. Now retired from his job as a handyman, he misses working but fills his days in other ways — riding his bike, struggling with his cat, and teaching his wife to dance. Pedro says he is grateful for the care he received at MSK, not only from his medical team but also for the emotional, psychological, and financial support — even covering travel costs when his weakened immune system made it dangerous for him to use public transportation.

"Everyone I met throughout my journey gave me the confidence that I would be well again," he says.

For people of
L A T I N A M E R I C A N , A S I A N , O R P A C I F I C I S L A N D E R descent, the odds of finding a matched donor in a public registry are less than 50%.
Life often imitates art.

But in the documentary film American Symphony, life interrupted art instead.

As a result, a love story for the ages unfolded on-screen, a team of specialists saved a young woman’s life, and a campaign was born that will help people with cancer for years to come.

The film was originally intended to document the debut of a symphony composed by Jon Batiste, the Grammy- and Oscar-winning musical phenom and former band leader of The Late Show With Steven Colbert. But during production, Jon’s wife, Suleika Jaouad, received her second bone marrow transplant at Memorial Sloan Kettering Cancer Center (MSK), 13 years after she was first treated at MSK for acute myeloid leukemia.

Suleika gave viewers a rare look inside the life of a stem cell recipient, drawing on her skills as an Emmy Award-winning and New York Times best-selling writer, advocate, and cancer survivor. “We rode out the highest highs and the lowest lows of our lives,” she recalls. “The movie morphed from a music documentary into one about love and art and survival — about what happens when the human spirit is tested again and again.”

To mark the movie’s premiere on Netflix, MSK launched an important campaign with NMDP, which operates the world’s most diverse blood stem cell registry. Called “American Symphony: Become a Lifesaver,” the campaign has a goal to increase the number of people who register to donate blood stem cells, particularly in ethnically diverse communities where finding a donor match can be especially challenging.

At a special screening of the documentary, Suleika and Jon shared their immense gratitude with 150 members of the MSK team. “This film comes as we celebrate 50 years of pioneering stem cell transplants at MSK,” reflected Sergio Giralt, MD, bone marrow transplant specialist. “And we will continue to move this field forward.”

Suleika Jaouad said she and her husband, Jon Batiste, experienced the “highest highs and lowest lows” of their lives during her bone marrow transplant.
The numbers are stark and deeply troubling.

Endometrial cancer — which develops in the lining of the uterus (womb) and is sometimes called uterine cancer — is on the rise in the U.S. In 1987, there were 35,000 cases annually. That number has nearly doubled in 2023 to more than 66,000 cases.

Deaths from the disease have also grown alarmingly in the same period, from fewer than 3,000 to more than 11,000 in the U.S. every year. And the trend line is not getting better.

"Endometrial cancer has been increasing at unprecedented levels over the past five years," says gynecologic surgeon Carol Brown, MD, FACOG, FACS, Chief Health Equity Officer at Memorial Sloan Kettering Cancer Center (MSK). "It’s becoming much more common in all women in the U.S., and it’s occurring at much younger ages."

Against this backdrop, a particularly worrying situation is unfolding for Black women. Dr. Brown explains that the "incidence of endometrial cancer — and the death rate — are rising almost one and a half times more quickly in Black women than in white women."

This disturbing trend mirrors a longstanding disparity involving endometrial cancer that finds Black women are almost twice as likely to die of the disease as white women.

"This is one of the few cancers where things are getting worse, not better," says Carol Aghajanian, MD, Chief of the Gynecologic Medical Oncology Service.

In 2023, researchers and clinicians at MSK played a leading role in addressing this cancer disparity. Their efforts stretch across the entire continuum of MSK, including groundbreaking research that provides insights at the molecular and genetic level, clinical trials that investigate new therapies, and hands-on work in communities most affected by endometrial cancer, where outreach and access to MSK treatment can be lifesaving.

Why Endometrial Cancer Is So Deadly for Black Women

It has long been known that Black people in America suffer disproportionately from a host of cancer types. The American Cancer Society puts it bluntly: "For most types of cancer, Black people have the highest death rate and shortest survival rate of any racial or ethnic group in America."

Dr. Brown, who has devoted her career to helping reveal why this cancer is more deadly for Black women, says endometrial cancer is "one of the few cancers where things are getting worse, not better.”

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Carol Aghajanian, MD, says endometrial cancer is “one of the few cancers where things are getting worse, not better.”
**NEW INSIGHTS**

**FASTER**

**Excellence Through Inclusion**

in Black women than in white women is rising almost type more commonly found in white women. in Black women and are also more aggressive than the these types of cancer are more likely to be diagnosed cancers higher risk and more difficult to treat. findings in Liu, along with colleagues from MSK, published answers about this disparity. first-of-its-kind work that provided important new in November 2023, MSK researchers published at the Molecular Level Reasons for Disparity Discovered In the past decade, “ says Dr. Brown, “we’re learning that most of the disparity in endometrial Liu, along with colleagues from MSK, published about efforts to explore if mutations. She stresses that it is very early days for this immunotherapy has also published early research in the past decade, “she says, “in educating people and the growing incidence and death rate from the disease. This research receives essential philanthropic support from the ENDOMETRIAL CANCER is rising almost 1.5 TIMES FASTER in Black women than in white women

In the past decade,” says Dr. Brown, “we’re learning that most of the disparity in endometrial cancer outcomes has to do with the more aggressive types of cancer that Black women get.”

Take the endometrial cancers called clear cell carcinoma and carcinosarcoma. MSK research shows these are more common in White women than in Black women and are also more aggressive than the type more commonly found in white women.

Reasons for Disparity Discovered

In November 2023, MSK researchers published first-of-its-kind work that provided important new answers about this disparity.

Dr. Aghajanian, Weigelt, Ellenson, and Liu, along with colleagues from MSK, published in Cancer Discovery that showed Black women not only had more aggressive tumor types but also had other key factors that made their cancers higher risk and more difficult to treat.

One such factor is a molecular subtype of endometrial cancer called copy number high, or TP53 aberrant, abbreviated as CN-H/TP53abn. People whose endometrial tumors are CN-H/TP53abn generally have worse outcomes, Dr. Weigelt says.

“The difference between Black and White patients is really of almost 70% of Black patients had this high-risk molecular subtype of endometrial cancer, as opposed to only 25% of White patients. The team also found that the tumors of Black women are less likely to be of the molecular subtype called microsatellite instability-high (MSI-H), a subtype that benefits from some forms of immunotherapy.

**Checkpoint Inhibitors and Endometrial Cancer**

One of the most common forms of immunotherapy is known as a checkpoint inhibitor. This therapy works by unlocking the patient’s own immune cells so they recognize and attack cancer cells, which can camouflage themselves to appear normal.

“Checkpoint inhibitors have been a game-changer,” Dr. Liu says. “They have completely transformed how we treat advanced and recurrent endometrial cancer.”

This form of immunotherapy works best when an endometrial tumor displays many mutations. That makes it easier for the immune system to recognize that the tumor cells are not normal and attack them. Here’s where MSK researchers found a key difference in Black women: Their endometrial tumors had relatively few mutations. “That means,” explains Dr. Weigelt, “that these patients benefit much less from checkpoint inhibitors than White women.”

To begin to address this challenge, Dr. Aghajanian has also published early research in The New England Journal of Medicine about efforts to explore if immunotherapy could help Black women.

“T cell receptor T-cell therapy is an effective approach against endometrial tumors that do not have lots of mutations. She stresses that it is very early days for this research but says “This is just one approach we are taking to end this disparity.”

**How MSK Leads the Field**

“MSK is also a key contributor to national efforts,” Dr. Aghajanian explains that MSK is also a key contributor to national efforts.

**Reaching Out to People Who Need It Most**

Dr. Brown stresses that these approaches rely on efforts to help people — patients and providers as well as the wider community — about the grim realities of endometrial cancer and its disproportionate effect on Black women.

“We’ve made a lot of changes here at MSK over the past decade,” she says, “in educating people and making them aware of cancer disparities in general, and particularly endometrial cancer.”

MSK is also a key contributor to national efforts. Dr. Aghajanian is the Chair of the NCI’s Gynecologic Oncology Group. MSK is part of the National Cancer Institute’s National Clinical Trials Network Program. Dr. Aghajanian explains that “It is important to expand scientific discoveries to cover a larger group of women that represents the entire U.S.”

For the MSK endometrial cancer team, the alarm bells are most certainly ringing. “This cancer has been understudied and underfunded,” concludes Dr. Liu. “At MSK, we’re proud to be doing the deepest dive yet into what drives this cancer disparity that hurts so many women.”

Britta Weigelt, PhD, is a molecular geneticist whose team has helped identify a molecular subtype of endometrial cancer that is particularly dangerous and more often found in Black women.

Ying Liu, MD, MPH, says: “We are proud to be doing the deepest dive yet” into endometrial cancer.
WE ARE
One MSK

We work together to do what no one else can in cancer.

We work collaboratively across all parts of the institution, combining our respective expertise to deliver exceptional and compassionate patient care, research innovation, and training for the next generation of leaders. The people of MSK give their all every day, leaving no stone unturned to support our patients every step of the way.

Today show anchor Al Roker celebrates MSK nurses appearing live on NBC News.
Madeleine Ruff, MHA, helps manage clinical trials that test new cancer treatments to see how well they work. It’s an important job but one that doesn’t seem all that unusual, until you learn that Maddy started her career as a professional rock ‘n’ roll and jazz singer. It’s certainly not the typical road to the front lines of cancer research at Memorial Sloan Kettering Cancer Center (MSK).

But Maddy sees her circuitous path to a career in healthcare as a “full-circle beautiful story” that started almost two decades ago at MSK Kids.

A Special Bond at MSK Kids

Maddy was just 16 years old and focused on a career in music when a nagging pain in her left ankle was diagnosed as osteosarcoma, a rare bone cancer. Maddy and her parents met with MSK orthopedic surgeon John Healey, MD, who told her MSK was treating more of these tumors than any other center in the country. Maddy liked him immediately. “He was so honest and straightforward with me,” she remembers. “He talked directly to me about amputation, not just my parents. He said, ‘This is a tough cancer. But we’re going to beat it.’” Maddy’s left leg was amputated below the knee.

After surgery, she had nine months of chemotherapy, which she says was a “rough ride.” Maddy was determined to finish high school on time and went straight on to college, where she graduated with a music degree. But even after she got the good news that she was cancer free, Maddy never lost touch with Dr. Healey’s office. She was glad to share her story with other young osteosarcoma patients whenever he asked. She even performed at a major event where he was honored.

For the next 10 years, Maddy lived the artist’s life in New York City. By 2020, her music career had slowed down as she moved up the corporate ladder with a hospitality group. But she lost her job during the COVID-19 pandemic. It was a difficult time. She learned that MSK was hiring and called Dr. Healey’s office for guidance. “I reached back out to these people who saved my life,” she says. MSK came through for her one more time.

A New Path Toward Hope for Patients

Maddy’s first job at MSK was as an office coordinator for gynecologic surgeon Jennifer Mueller, MD, FACOG, and her team in the Department of Surgery. There, Maddy found out she had the right stuff — empathy, sensitivity, and patience — that a job helping patients requires. She explains: “You’re basically the first person patients speak to.” She discovered she loved working in healthcare and made the big decision to begin a new career chapter at MSK. “It was just time for me to grow,” she says. By August of 2023, she had completed her Master of Health Administration degree. “I started over in a new career in my early 30s,” says Maddy. “I was making up for lost time.”

Maddy’s career path then took her to the Department of Research at MSK Nassau on the administration side, which included consenting patients to trials. She has a keen understanding of the impact clinical trials have on the lives of all MSK patients, present and future. “Research is the basis of what our standard-of-care treatments are now,” says Maddy.

Patients who choose to participate in a trial at MSK receive the most advanced cancer treatment available, sometimes years before it’s offered anywhere else. “The reason I’m alive is because of the research that led to the treatments I had as a patient,” says Maddy gratefully.

Maddy is now overseeing a number of clinical trials for MSK’s Department of Neurology in Manhattan. In addition to her passion for research, Maddy generously shares another part of her cancer story with many MSK orthopedic patients. “I’m also an amputee. Sometimes patients ask me about it,” says Maddy. “It often creates a kind of common ground, a level of respect.” She does it to offer hope. “It’s something that makes me feel good,” says Maddy. “I have a unique opportunity to be representative of what is possible for those patients.”

As for her first love, music, Maddy hasn’t abandoned it. She calls herself a weekend warrior and still sings with a wedding band. Maddy is hitting all the right notes, wherever she goes.
Sammy is back to playing varsity baseball after successfully being treated at MSK Kids for a rare cancer.

The Best Care for Kids With Cancer

At MSK, Experts Come Together To Provide

Alyson, one of Sammy’s doctors. “At MSK, we have surgeons who see adult patients and who also have expertise in particular organs. We also have surgeons who specialize in pediatric surgery. When our teams work together, patients get the best of both worlds.”

It was for Sammy. His unique case also required the knowledge of medical oncologists familiar with treating younger patients diagnosed with cancers that usually affect older adults.

“This was different in some ways from the typical kind of pediatric surgery like cancer, “ says Dr. Danzer, MSK Kids pediatric surgical oncologist J. Joshua Smith, MD, PhD, who took care of Sammy. “It’s just another way that every tumor cell was removed, while at the same time protecting important nerves in the pelvic area.

The team decided that Sammy’s first treatment should be chemotherapy to destroy as much of the tumor as possible and reduce the risk that it would spread. They chose not to give radiation to avoid damaging the areas related to fertility. Even in those early days, they envisioned a future full of possibilities for Sammy.

The side effects of chemotherapy were rough. But throughout treatment, Sammy continued going to basketball practice, supporting his team from the bench on the days he didn’t feel well enough to play. The drugs worked and destroyed 95% of his tumor, but there was a high risk it would come back.

Sammy’s surgeons wanted to make sure that every tumor cell was removed, while at the same time protecting important nerves in the pelvic area.

Tests revealed a high-grade neuroendocrine carcinoma, a rare cancer usually diagnosed in people older than 50. Sammy had been coping with ulcerative colitis. In November 2021, during a routine colonoscopy, his gastroenterologist saw something suspicious and collected a few samples. Tests revealed a high-grade neuroendocrine carcinoma, a rare cancer usually diagnosed in people older than 50.

Sammy and his parents were referred to MSK Kids, where doctors determined that the cancer was aggressive but treatable.

The whole MSK team was taking care of Sammy,” says his mother, Alyson.

The kind of collaboration is why in 2023 the American College of Surgeons designated MSK the first-ever Level I Specialty Children’s Center in Oncology.

From Surgery Back to the Playing Field, Thanks to MSK Kids Expertise

Sammy was hospitalized for almost two weeks after surgery. Between chemotherapy and recovery from surgery, he lost 30 pounds — mostly muscle. He was anxious to get back to feeling like himself again: Baseball season was starting.

“When I first went back, I was allowed to swing a bat and throw a ball, but I wasn’t allowed to slide into bases yet, which kind of stunk,” Sammy remembers. “My energy wasn’t all there, and I had to give my body time to adjust.”

Sammy’s parents were grateful for everyone who took care of Sammy. “We are grateful for everyone who took care of Sammy,” says Sammy’s dad, Larry.
It’s easy to see that nurse practitioner Jaclyn Stout has a true passion for nursing. Jakki, as she’s called, is a skilled and compassionate caregiver who’s been at Memorial Sloan Kettering Cancer Center (MSK) for 10 years. She loves her work caring for surgery patients recovering from bladder, prostate, kidney, or testicular cancer. “As a bedside nurse and now as a nurse practitioner, I’ve had two of my dream jobs,” says Jakki, who is FNP-BC, PCCN, and OCN certified.

But Jakki, 33, also brings something else to the job — hard-won wisdom. When she was just 28 years old, she was diagnosed with breast cancer and discovered firsthand what it’s like to be in a cancer patient’s shoes. “It started this journey that has been the most interesting, rewarding, and challenging of my life. I never imagined it could happen to me.”

The experience changed her perspective as a nurse, she says. “It shed a new light on what it was like to be a patient.”

A big part of Jakki’s work as a nurse practitioner is helping hospital patients who have had major cancer surgery meet all the milestones to go home safely, and as quickly as possible. “Recovery really happens at home for the patient,” she says. What she knows now from personal experience is that the key factor to a good outcome for patients is good support at home. “I was able to get through everything because I had such a strong support system with my family and friends,” she recalls. “You need people around you who are going to be there for you emotionally, physically, and mentally.”

Before her patients are discharged, Jakki makes sure they plan for ways to navigate their post-op period at home — just like she did — from grocery shopping to walking the dog or making a cup of tea. “One of the fundamental things I learned during my own recovery from cancer is the importance of having people that care about you and love you,” she says.

“Recovery starts with support.”

Jakki’s unique insights as a patient are now benefiting her fellow nurses, who often reach out to her for guidance on how best to support their friends and loved ones recently diagnosed with cancer. “It makes me happy that at least if I had to go through that, I can be a resource to help other people,” she says.

Jakki’s inspiring message of hope, courage, and support has already reached millions of people. Her recovery from breast cancer, her joy in her work, and her warm friendships with fellow nurses inspired NBC News’ Today show to celebrate her as part of its Heroes Week in 2023. The beautiful tribute ended with anchor Al Roker coming to MSK to surprise her with news that a special nurses’ lounge at MSK will be designated in her honor.

For Jakki, whose todays are filled with happiness, health, and laughter, and who has met cancer on both front lines — as a nurse and a patient — her message to MSK patients and those who support them is clear: “There’s always a light at the end of the tunnel. I was a patient, and I came back. And my life continued after cancer. I was able to be even better than I was before.”
STEWARDSHIP

We each take responsibility for strengthening MSK to better serve our global cancer community today and in the future.

This core value is taken to heart by everyone who works at MSK, to honor the tremendous generosity of the MSK Giving community. We carefully utilize our resources. We are grateful for the philanthropy that enables our scientists and caregivers to drive more innovation and save more lives, now and in the future.

MSK patient Alyssa Bingham and her friends Alexandra Ramirez and Kelyn Egbuka ran the 2023 TCS New York City Marathon with Fred’s Team® to raise money for breast cancer research at MSK.
“We are the most capable force against cancer the world has ever seen, and the MSK Giving community is an essential part of our strength. We will continue to innovate in cancer care and research, find new cures, and make sure that everyone can access these breakthroughs. Together, there is nothing we can’t achieve.”

—Selwyn M. Vickers, MD, FACS
President and Chief Executive Officer, Memorial Sloan Kettering Cancer Center

In 2023, the MSK Giving community raised a record-breaking $1 billion — 100% of which will support our Memorial Sloan Kettering Cancer Center (MSK) mission of ending cancer for life. Every single member of the MSK Giving community was key to this historic success.

This was a milestone year for “The MSK Campaign: Leading Science. Changing Lives.” The MSK Campaign is a multi-year effort to make a farsighted difference across MSK’s three pillars: patient care, research, and education. Organized across six strategic initiatives, The MSK Campaign is an opportunity for our vibrant community to ensure that MSK will have the resources needed to create new treatments and cures, turning a legacy of innovation into impact for people with cancer around the world.

Innovating cancer care at MSK and globally is one of the core priorities of The MSK Campaign. In 2023, MSK received the largest donation in its history, $400 million from Kenneth C. Griffin, Founder and Chief Executive Officer of Citadel and Founder of Griffin Catalyst, and David Geffen, Founder of The David Geffen Foundation, to elevate standards of care for all people with cancer. The transformational gift was first announced on Good Morning America.

To learn more about how you can change lives with us, please visit giving.mskcc.org.

Monica Seetharaman, a clinical nurse at MSK Monmouth, is grateful to the MSK Giving community.
The MSK Giving Community in 2023:
Together, Advancing MSK’s Mission

- More than 415,000 DONORS contributed to MSK.
- 142,000 DONORS gave to MSK for the first time.
- 55,000 DONORS increased their giving.
- 22,000 donors made two or more donations.
- 82,000 people raised money on MSK’s behalf.
- 240 DONORS told us that MSK was in their estate plans.
- Donors live in 84 COUNTRIES + all 50 STATES.
The MSK Giving community is a mighty force of hundreds of thousands of people united in a common purpose. Each has a story to tell about their reasons for giving.

For Vanessa and Josh, it’s their precious son, Joshy. He was just 5 months old when he was diagnosed with a pediatric kidney cancer. Seeing such a rambunctious 4-year-old now, it’s hard to imagine what his family endured. Joshy had multiple surgeries, followed by six rounds of radiation and 15 sessions of chemotherapy — all overseen by his compassionate pediatric hematooncologist Michael Ortiz, MD. Thankfully, the treatment worked, and Joshy started pre-K last year. He loves swimming, playing in the park, and watching superhero cartoons. Forever grateful for their son’s care at MSK Kids, Vanessa and Josh saw an ad for Cycle for Survival® and immediately signed up to raise money for research on rare cancers.

In a moment filled with emotion, Vanessa shared their good news with their fellow riders. “We are happy to say in the care of Dr. Ortiz and his amazing team at MSK, Joshy is in remission!” she exclaimed amid tears and cheers.

This family is just one example of the legions of people who give generously to MSK, making a real difference in the lives of patients now and for generations to come. *Scan this QR code to see Joshy’s journey.*

[Image of Vanessa and Josh at an event]

(Josh and Vanessa are eager to give back after the successful treatment of Joshy’s kidney cancer at MSK Kids.)
GIVING THAN A JOB

Even when they’re off the clock, the people of MSK devote themselves to raising money for rare cancer research, and 100% of every dollar has gone directly to the labs at MSK.

For Jennifer Brosnan, an Associate Director for Content Operations at MSK, joining the movement to beat rare cancers was initially a way to honor her aunt, who died of leukemia in October 2013. Jennifer was working as a producer at CNN when a friend of hers was diagnosed with the same cancer. As an early-career research fellow at MSK, when he discovered that people riding stationary bikes were supporting his work on T cell lymphomas, an extremely rare type of cancer that forms in the lymph system, he says he had to get involved.

Like Jennifer, Dr. Vardhana is a Decade Rider and passionate team captain. Every season, he rallies colleagues and labmates to join his squad, and they’ve raised more than $375 million for rare cancer research.

“MSK’s T cell lymphoma program is one of the strongest in the world, and the funds raised through Cycle for Survival help us bridge the gap between research and treatment,” he says.

Over the years, Dr. Vardhana’s research has been supported by numerous philanthropic funds, including the Equinox Innovation Initiative, named in honor of Cycle for Survival’s founding partner, the fitness company Equinox.

Fueling Rare Cancer Breakthroughs

Lymphoma specialist Santosha Vardhana, MD, PhD, first heard about Cycle for Survival® as an early-career research fellow at MSK. When he discovered that people riding stationary bikes were supporting his work on T cell lymphomas, an extremely rare type of cancer that forms in the lymph system, he says he had to get involved.

Like Jennifer, Dr. Vardhana is a Decade Rider and passionate team captain. Every season, he rallies colleagues and labmates to join his squad, and they’ve raised more than $375 million for rare cancer research.

“MSK’s T cell lymphoma program is one of the strongest in the world, thanks to the Cycle for Survival community,” he says.

Dr. Vardhana is determined to understand why immunotherapy doesn’t work for everyone. The idea that immune cells can be harnessed to attack tumors has revolutionized cancer care, but these novel treatments unfortunately still have a low success rate. In the Santosha Vardhana Lab, Dr. Vardhana’s research team is using next-generation techniques to better understand the biological mechanisms that drive immune system regulation. Their mission is to make cancer treatments like immunotherapy effective for more patients.

It Takes a Village

In 2023, Dr. Vardhana found another reason to ride for Cycle after his mother, Raji, died from a rare cancer. The definition of a caregiver, his mother taught him that no goal can be accomplished alone, and her commitment to helping others continues to inspire him to do more.

Now named Raj’s Riders, Dr. Vardhana’s team remembers her legacy by shedding light on those caring for friends or family members with cancer.

“I want to celebrate the people who make daily phone calls, go to appointments, sit in the chemo suite, and change their life plans — all for their loved ones,” he says.

Since 2007, Cycle for Survival has directed more than $375 million for rare cancer research at MSK. To learn more, visit cycleforsurvival.org.

The immunotherapy research of Santosha Vardhana, MD, PhD, has been supported by Cycle for Survival. Dr. Vardhana’s reason to ride is also deeply personal — the memory of his mother, Raji, and his honor to all caregivers.

Bringing People Together

For Jennifer Brosnan, an Associate Director for Content Operations at MSK, joining the movement to beat rare cancers was initially a way to honor her aunt, who died of leukemia in October 2013. Jennifer was working as a producer at CNN when a friend of hers was diagnosed with the same cancer. As an early-career research fellow at MSK, when he discovered that people riding stationary bikes were supporting his work on T cell lymphomas, an extremely rare type of cancer that forms in the lymph system, he says he had to get involved.

Dr. Vardhana is determined to understand why immunotherapy doesn’t work for everyone. The idea that immune cells can be harnessed to attack tumors has revolutionized cancer care, but these novel treatments unfortunately still have a low success rate. In the Santosha Vardhana Lab, Dr. Vardhana’s research team is using next-generation techniques to better understand the biological mechanisms that drive immune system regulation. Their mission is to make cancer treatments like immunotherapy effective for more patients.

It Takes a Village

In 2023, Dr. Vardhana found another reason to ride for Cycle after his mother, Raji, died from a rare cancer. The definition of a caregiver, his mother taught him that no goal can be accomplished alone, and her commitment to helping others continues to inspire him to do more.

Now named Raj’s Riders, Dr. Vardhana’s team remembers her legacy by shedding light on those caring for friends or family members with cancer.

“I want to celebrate the people who make daily phone calls, go to appointments, sit in the chemo suite, and change their life plans — all for their loved ones,” he says.

Since 2007, Cycle for Survival has directed more than $375 million for rare cancer research at MSK. To learn more, visit cycleforsurvival.org.

The immunotherapy research of Santosha Vardhana, MD, PhD, has been supported by Cycle for Survival. Dr. Vardhana’s reason to ride is also deeply personal — the memory of his mother, Raji, and his honor to all caregivers.
The Society of Memorial Sloan Kettering Cancer Center (MSK), an organization of dedicated volunteers, raised an extraordinary $6.6 million in their 2022–2023 season, fueling innovations in cancer care, research, and education.

“The Society’s impact extends across MSK, supporting research and clinical efforts that improve both the physical and mental well-being of people with cancer,” says The Society President Muffie Potter Aston. “I am proud to lead and work alongside such a dedicated group of philanthropists, who are committed to progressing and upholding The Society’s extensive legacy of giving.”

The Society is making good progress toward its 2023–2024 fundraising campaign, with a $1 million effort to support lymphoma research conducted by Gilles Salles, MD, PhD, Chief of MSK’s Lymphoma Service and Steven A. Greenberg Chair. In addition, The Society's research grant program allocated $1 million to MSK’s social services, assisting patients with essentials such as transportation and food. The group also distributed stipends for childcare assistance and dedicated resources to enhance patient care, investing in art and music programs, virtual reality headsets, and technology charging stations.

The Society hosted seven events in its season, including its 16th annual Spring Ball, which raised over $2 million, and the Associates Fall Party, which raised more than $619,000. Nearly $700,000 raised at the Spring Ball was allocated to MSK’s Global Cancer Disparities Initiative (GCDI) to improve outcomes for people with cancer in low- and middle-income countries. GCDI’s work is coordinated through the African Research Group for Oncology, a partnership between MSK researchers and collaborators in Nigeria. Society funding also supported stem cell transplant research led by pediatric hematologist-oncologist Andrew Harris, MD, and MSK’s Pediatric Transplant and Cellular Therapy Service. The Society actively participated in Cycle for Survival® in 2023, and its members look forward to sponsoring rides in New York City and Palm Beach, Florida, in 2024.

Through these efforts and more, The Society continues to fulfill a legacy of giving that it has upheld for more than 75 years. “The Society of MSK is woven into the fabric of our institution, providing significant support and advocacy for people with a wide range of cancers,” says Lisa DeAngelis, MD, MSK’s Chief Physician Executive and Scott M. and Lisa G. Stuart Chair. “A vibrant, dynamic, and highly effective partner of MSK, The Society impacts countless people while helping to further our mission of ending cancer for life.”

Gilles Salles, MD, PhD, received funding for his work studying lymphoma. The Society supported the research into stem cell transplants by Andrew Harris, MD.
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Peter Stetsou, MD
Chief Health Informatics Officer
Statistical Profile
Memorial Sloan Kettering Cancer Center

2019 2020 2021 2022 2023

**PATIENT CARE**

- **Patient Admissions: Adults**
  - 2019: 24,175
  - 2020: 21,517
  - 2021: 23,060
  - 2022: 23,123
  - 2023: 24,519
- **Patient Admissions: Children**
  - 2019: 1,422
  - 2020: 1,305
  - 2021: 1,082
  - 2022: 993
  - 2023: 1,072
- **Total Admissions**
  - 2019: 25,597
  - 2020: 22,822
  - 2021: 24,142
  - 2022: 24,113
  - 2023: 25,591
- **Total Patient Days**
  - 2019: 173,702
  - 2020: 160,922
  - 2021: 171,356
  - 2022: 170,076
  - 2023: 173,198
- **Average Patient Stay (days)**
  - 2019: 7.8
  - 2020: 7.1
  - 2021: 7.1
  - 2022: 7.0
  - 2023: 7.4
- **Bed Occupancy Rate**
  - 2019: 96.2%
  - 2020: 85.9%
  - 2021: 91.3%
  - 2022: 88.1%
  - 2023: 94.8%

**Outpatient MD Visits:**

<table>
<thead>
<tr>
<th>Location</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manhattan</td>
<td>562,224</td>
<td>505,124</td>
<td>478,520</td>
<td>396,347</td>
<td>428,976</td>
</tr>
<tr>
<td>Regional Network</td>
<td>276,849</td>
<td>376,700</td>
<td>354,208</td>
<td>309,633</td>
<td>372,284</td>
</tr>
<tr>
<td><strong>Total Outpatient Visits</strong></td>
<td>839,073</td>
<td>781,924</td>
<td>732,728</td>
<td>680,000</td>
<td>1,002,260</td>
</tr>
<tr>
<td><strong>Screenings</strong></td>
<td>45,263</td>
<td>45,549</td>
<td>51,485</td>
<td>56,523</td>
<td>43,648</td>
</tr>
<tr>
<td><strong>Surgical Cases</strong></td>
<td>27,579</td>
<td>23,967</td>
<td>26,764</td>
<td>26,504</td>
<td>28,446</td>
</tr>
</tbody>
</table>

**New Radiation Oncology Patients**

- **Starting Treatment: Manhattan**
  - 2019: 5,558
  - 2020: 4,173
  - 2021: 4,407
  - 2022: 4,373
  - 2023: 4,725

**Diagnostic and Interventional Radiology Procedures**

<table>
<thead>
<tr>
<th>Specialization</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuclear Medicine</td>
<td>631,076</td>
<td>591,450</td>
<td>659,965</td>
<td>684,225</td>
<td>738,363</td>
</tr>
<tr>
<td><strong>Clinical Investigation Protocols</strong></td>
<td>1,059</td>
<td>1,254</td>
<td>1,689</td>
<td>1,935</td>
<td>1,846</td>
</tr>
</tbody>
</table>

(1) Based on adjusted bed count
(2) Excludes studies closed to accrual

2019 2020 2021 2022 2023

**STAFF**

- **Sloan Kettering Institute Members**
  - 2019: 133
  - 2020: 131
  - 2021: 141
  - 2022: 140
  - 2023: 158

- **Hospital Attending Staff**
  - 2019: 1,358
  - 2020: 1,417
  - 2021: 1,457
  - 2022: 1,508
  - 2023: 1,492

- **Advanced Practice Providers**
  - 2019: 836
  - 2020: 885
  - 2021: 901
  - 2022: 1,062
  - 2023: 1,053

- **Registered Nurses**
  - 2019: 1,417
  - 2020: 1,457
  - 2021: 1,508
  - 2022: 1,582
  - 2023: 1,610

- **Volunteers**
  - 2019: 20,539
  - 2020: 21,055
  - 2021: 21,461
  - 2022: 21,838
  - 2023: 21,077

- **Residents and Clinical Fellows: Positions**
  - 2019: 475
  - 2020: 463
  - 2021: 543
  - 2022: 592
  - 2023: 593

- **Residents and Clinical Fellows: Annual Total**
  - 2019: 1,690
  - 2020: 1,641
  - 2021: 1,611
  - 2022: 1,952
  - 2023: 1,824

- **Research Fellows**
  - 2019: 31
  - 2020: 28
  - 2021: 28
  - 2022: 24
  - 2023: 41

- **Research Scholars**
  - 2019: 171
  - 2020: 150
  - 2021: 105
  - 2022: 102
  - 2023: 135

- **Research Associates**
  - 2019: 6
  - 2020: 5
  - 2021: 9
  - 2022: 5
  - 2023: 3

- **PhD Candidates**
  - 2019: 277
  - 2020: 282
  - 2021: 310
  - 2022: 317
  - 2023: 312

- **MD-PhD Candidates**
  - 2019: 27
  - 2020: 27
  - 2021: 27
  - 2022: 25
  - 2023: 26

- **Registrants in CME Programs**
  - 2019: 7,921
  - 2020: 6,582
  - 2021: 6,507
  - 2022: 7,685
  - 2023: 7,615

- **Medical Observers**
  - 2019: 770
  - 2020: 432
  - 2021: 264
  - 2022: 458
  - 2023: 370

- **Medical Students**
  - 2019: 477
  - 2020: 246
  - 2021: 350
  - 2022: 445
  - 2023: 401

- **Nursing Students**
  - 2019: 553
  - 2020: 507
  - 2021: 475
  - 2022: 530
  - 2023: 610

(1) In 2023, 19 staff members held appointments in both the Sloan Kettering Institute and the Hospital.
## Combined Statements of Activities

**Memorial Sloan Kettering Cancer Center**

### OPERATING REVENUES (Dollars in Thousands)

<table>
<thead>
<tr>
<th>Revenue Source</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Care Revenue</td>
<td>$4,560,174</td>
<td>$4,261,296</td>
<td>$5,011,551</td>
<td>$5,393,762</td>
<td>$6,082,112</td>
</tr>
<tr>
<td>Grants and Contracts</td>
<td>368,743</td>
<td>347,540</td>
<td>411,772</td>
<td>427,125</td>
<td>475,076</td>
</tr>
<tr>
<td>Contributions</td>
<td>172,525</td>
<td>175,641</td>
<td>162,290</td>
<td>183,414</td>
<td>201,427</td>
</tr>
<tr>
<td>Other Income</td>
<td>96,000</td>
<td>103,975</td>
<td>98,462</td>
<td>102,595</td>
<td>109,579</td>
</tr>
<tr>
<td>Investment Earnings Supporting Operations</td>
<td>162,445</td>
<td>199,090</td>
<td>171,111</td>
<td>203,106</td>
<td>221,992</td>
</tr>
<tr>
<td>Total Operating Revenues</td>
<td>$5,483,376</td>
<td>$5,407,196</td>
<td>$6,398,365</td>
<td>$6,630,444</td>
<td>$7,354,228</td>
</tr>
</tbody>
</table>

### OPERATING EXPENSES (Dollars in Thousands)

<table>
<thead>
<tr>
<th>Expense Source</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation and Fringe Benefits</td>
<td>2,892,770</td>
<td>3,184,891</td>
<td>3,315,428</td>
<td>3,628,897</td>
<td>3,714,130</td>
</tr>
<tr>
<td>Purchased Supplies and Services</td>
<td>2,026,254</td>
<td>2,123,302</td>
<td>2,312,862</td>
<td>2,689,562</td>
<td>2,943,840</td>
</tr>
<tr>
<td>Depreciation and Amortization</td>
<td>329,774</td>
<td>412,493</td>
<td>422,309</td>
<td>437,224</td>
<td>430,356</td>
</tr>
<tr>
<td>Interest</td>
<td>40,099</td>
<td>103,682</td>
<td>112,663</td>
<td>122,813</td>
<td>131,625</td>
</tr>
<tr>
<td>Total Operating Expenses</td>
<td>5,288,897</td>
<td>5,824,368</td>
<td>6,163,263</td>
<td>6,878,496</td>
<td>7,219,951</td>
</tr>
</tbody>
</table>

### Excess (deficit) of Revenue Over Expenses (Dollars in Thousands)

<table>
<thead>
<tr>
<th>Year</th>
<th>Excess (deficit) of Revenue Over Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>$19,479</td>
</tr>
<tr>
<td>2020</td>
<td>$(417,172)</td>
</tr>
<tr>
<td>2021</td>
<td>$235,102</td>
</tr>
<tr>
<td>2022</td>
<td>$(248,052)</td>
</tr>
<tr>
<td>2023</td>
<td>$134,277</td>
</tr>
</tbody>
</table>

### Philanthropic Revenue

- 2019: $254,401
- 2020: $263,572
- 2021: $576,457
- 2022: $452,083
- 2023: $448,663

### Capital Spending

<table>
<thead>
<tr>
<th>Year</th>
<th>Capital Spending</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>$626,148</td>
</tr>
<tr>
<td>2020</td>
<td>$264,706</td>
</tr>
<tr>
<td>2021</td>
<td>$238,168</td>
</tr>
<tr>
<td>2022</td>
<td>$547,091</td>
</tr>
<tr>
<td>2023</td>
<td>$407,777</td>
</tr>
</tbody>
</table>

### BALANCE SHEET SUMMARY

<table>
<thead>
<tr>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets</td>
<td>$11,421,453</td>
<td>$13,335,250</td>
<td>$14,964,252</td>
<td>$14,052,590</td>
</tr>
<tr>
<td>Liabilities</td>
<td>$6,975,340</td>
<td>$8,058,541</td>
<td>$9,824,390</td>
<td>$8,742,282</td>
</tr>
<tr>
<td>Net Assets</td>
<td>$4,446,113</td>
<td>$5,276,709</td>
<td>$5,140,862</td>
<td>$5,310,308</td>
</tr>
</tbody>
</table>
The Society of Memorial Sloan Kettering Cancer Center

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