MCW's Cancer Enterprise:

TRANSFORMING LIVES THROUGH DISCOVERY

By Lee Dickert, Tina MacDonald and Sara L. Wilkins

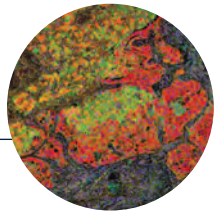
Pulitzer Prize-winning author and oncologist Siddhartha Mukherjee once called cancer the "emperor of all maladies" – a metaphor that highlights the powerful and pervasive influence cancer has made on individuals and societies throughout history. For centuries, people have sought to understand and confront this complex disease, making steady progress thanks to research, innovation and medical breakthroughs.

This long history of discovery began in the 18th century when scientists began uncovering the causes of cancer, including environmental influences and genetic predisposition. The 19th century brought the pivotal discovery that cancer originates at the cellular level, while the development of X-rays laid the groundwork for modern cancer care. By the 20th century, breakthroughs in cancer biology opened the door to major advances in detection and treatment. Today, discoveries are happening faster than ever – immunotherapy, targeted treatments and precision medicine are revolutionizing cancer care, making therapies safer, more effective and uniquely tailored to each patient.

For decades, MCW has made ending cancer a priority by investing in groundbreaking research, driving scientific discovery and pioneering new treatments that are helping improve patient care across the state and nation. This commitment reflects MCW's long-standing promise to the people of Wisconsin: to tackle cancer's toughest challenges so that it no longer defines or controls lives, and to ensure that progress is felt everywhere, by everyone and at every step of the cancer journey.

What follows is an inside look at MCW's comprehensive cancer enterprise, spanning research and clinical care to education and community engagement.

Opening in 2025, the MCW Center for Cancer Discovery will be a cornerstone of cancer research in eastern Wisconsin.



It Ends Here – The MCW Cancer Center

At the heart of this effort is the MCW Cancer Center, which plays a central role in accelerating progress across the cancer continuum. Guided by Director Gustavo W. Leone, PhD, a nationally recognized leader in cancer research, the center is eastern Wisconsin's only academic cancer research center. In partnership with Froedtert Hospital, it also serves as the region's largest provider of cancer care. Here, world-renowned scientists and clinicians are leading a new era of discovery, leveraging cutting-edge technologies and the state's most extensive cancer clinical treatment trial program to deliver more personalized, effective and accessible care.

While the center's impact is deeply felt across eastern Wisconsin, its influence extends far beyond – from local neighborhoods to national research networks, and from individual patients to entire populations. By fostering collaboration across disciplines and communities, the MCW Cancer Center is shaping a future in which more people survive and thrive after cancer.

Where Science Drives Progress

Scientific innovation fuels this future. The MCW Cancer Center's research is anchored by five scientific focus areas – cancer disparities, precision oncology, immuno-oncology, cancer metabolism and structural biology – each reflecting a commitment to improving outcomes for Wisconsin families. The center also leads in rare cancers research, creating new hope for patients with limited options. These areas are supported by three integrated research programs:

- **Cancer Control**, which addresses biological, social and health system factors driving disparities;
- **Cancer Biology**, which uncovers the molecular mechanisms behind cancer; and
- **Discovery and Developmental Therapeutics**, which translates basic science into novel treatments.

Together, they form a powerful pipeline that moves discoveries from the lab to the lives of patients.

Turning Discovery into Impact

At the MCW Cancer Center, discoveries are accelerating at an unprecedented pace, fueled by deeper insights into how cancer starts, grows and responds to its environment. From understanding the biology of tumors to addressing the social and structural factors that influence outcomes, scientists are uncovering new ways to detect cancer earlier, improve treatment and enhance quality of life.

What follow are a few ways the MCW Cancer Center is transforming cancer care.

Redefining Cancer Care Through Clinical Research

Clinical trials are where scientific discovery meets patient care. The MCW Cancer Center's Clinical Trials Office (CTO) manages more than 220 active trials across disease types – the largest cancer

(continued on page 18)

A Legacy of Innovation

1972: A patient outcomes registry, housed at MCW, laid the groundwork for the Center for International Blood and Marrow Transplant Research, now a global hub with data from more than 700,000 patients and nearly 310 centers worldwide.

1976: The MACC Fund (Midwest Athletes Against Childhood Cancer) was founded as a lifeline for children facing cancer and blood disorders. It has since contributed nearly $87 million to childhood cancer research and more than $71.5 million to MCW.

1984: The Milwaukee Regional Cancer Center was established, and in 1986 was renamed the Cancer Center of the Medical College of Wisconsin.

2008: The $95 million Froedtert & the Medical College of Wisconsin Clinical Cancer Center officially opened.

2010: A regional cancer network expanded programs to two community hospitals.

2012: An outpatient Translational Research Unit was established.

2019: Wisconsin Governor Tony Evers championed $10 million in state funding for MCW's Center for Cancer Discovery.

2020: Gustavo W. Leone, PhD, became the MCW Cancer Center director.

2022: Groundbreaking for the MCW Center for Cancer Discovery marked a new chapter in cancer research infrastructure.

2022: An inpatient Translational Research Unit was established.

2023: The Rare Cancer and Precision Medicine Clinic opened.

2024: MCW led a groundbreaking change in Medicare policy for older patients with myelodysplastic syndromes.

2025: An application for NCI designation – the highest federal recognition for a cancer center – was submitted, with a decision expected later this year.

2025 *(coming soon)*: Arrival of the first compact proton therapy system for advanced radiotherapy services.

2025 *(coming soon)*: Grand opening of the MCW Center for Cancer Discovery.

2025 *(coming soon)*: Every dollar raised in the inaugural *Audaxity* bike ride will support cancer research *(see pages 14-15)*.

treatment program in the state. These trials offer patients access to the latest therapies and help advance national standards of care. Whether testing a novel drug, refining a treatment combination or studying supportive care interventions, the CTO ensures that research is safe, ethical and inclusive.

Pioneering CAR T-Cell Therapy

Researchers at the MCW Cancer Center are revolutionizing blood cancer treatment with CAR T-cell therapy, which uses a person's own immune cells to find and destroy cancer. For patients with B-cell lymphoma, investigators in the center's unique Cell Therapy Shared Resource engineer T cells in just eight to 12 days – much faster than the national average. As Wisconsin's only such facility, this lab has enabled more than 100 patients to receive this novel therapy in clinical trials led by Nirav Shah, MD, MSPH, with many experiencing lasting remissions.

Binod Dhakal, MD, MS '16, FEL '16, and his research team, also played a lead role in the international CARTITUDE-4 trial, which led to FDA approval of a similar CAR T-cell treatment for multiple myeloma. What makes this trial significant is that patients can now access the therapy earlier, after just one relapse – rather than waiting until other treatments fail.

Expanding the Reach of Immunotherapy

The MCW Cancer Center is breaking new ground by testing CAR T-cell therapies beyond blood cancers and into solid tumors. In a pioneering clinical trial, Lubna Chaudhary, MD, FEL '15, MS '16, is leading a first-in-human study exploring the use of CAR T-cell therapy in patients with aggressive breast and lung cancers. Nationally, John Charlson, MD, GME '02, FEL '07, and his team played a key role in the FDA approval for afamitresgene autoleucel (afami-cel) – the first engineered T-cell therapy for a solid tumor – used to treat a rare and aggressive cancer called synovial sarcoma. These breakthroughs represent a bold step toward expanding the reach of immunotherapy.

Advancing Personalized Medicine

The MCW Cancer Center's precision oncology trials use a "multi-omics" method, analyzing DNA, RNA and proteins to fully understand a patient's cancer. This level of detail helps researchers design more personalized treatment plans tailored to the specific biology of each tumor.

One example is the national DART trial that tests a dual immunotherapy combination in patients with rare cancers. Co-led by Razelle Kurzrock, MD, associate director of clinical research, the trial has already changed national treatment guidelines for two rare tumor types and continues to expand, now enrolling patients at more than 1,000 sites across the country.

Dr. Kurzrock also co-led the MCW I-PREDICT trial, a ground-breaking study that uses comprehensive molecular profiling to identify specific abnormalities in each tumor. A team of experts reviews each case to recommend a personalized combination of therapies matched to the tumor's unique biology. To date, more than 150 patients have participated, gaining access to treatment strategies not available through standard care.

(Above) *The Rare Cancer and Precision Medicine Clinic brings expert specialists together to provide personalized, expanded treatment options. (l-r) Hui-Zi Chen, MD, PhD, with her patient and a family member.*

(Center) *Thanks to a generous gift from the Nicholas Family Foundation, the Translational Research Unit offers patients greater access to innovative clinical trials and advanced treatments. (l-r) Sameem Abedin, MD, and Deepak Kilari, MD.*

(Far right) *Supported by the MACC Fund, a study led locally by Angela Steineck, MD, is exploring whether early use of an immunotherapy drug can improve outcomes for children with neuroblastoma.*

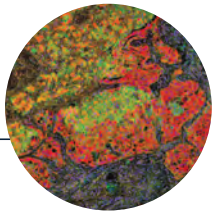
Improving Treatment for Aggressive Cancers

MCW scientists are relentless in their pursuit of making aggressive cancers more treatable. For glioblastoma, a fast-growing brain tumor, Jennifer Connelly, MD '03, GME '08, FEL '09, is testing an oral therapy called gallium maltolate that tricks cancer cells into absorbing gallium instead of iron, disrupting their ability to grow. Early promising results highlight a powerful collaboration between researchers and the community.

In pancreatic cancer, investigators have identified a group of patients who may benefit from immunotherapy – a major step for a cancer often resistant to such treatment. By analyzing more than 1,600 tumor samples, they found four immune-related subtypes including one likely to respond, helping pave the way for more precise and effective therapies for one of the deadliest cancers.

For head and neck cancer, Stuart Wong, MD '90, GME '93, FEL '98, co-led a national study that found a safer, more effective treatment for patients who can't tolerate standard chemotherapy. The HN004 trial showed that pairing radiation with the targeted therapy cetuximab improved outcomes with fewer side effects. These results are now shaping national treatment guidelines, providing new options for older adults and those with other health conditions.

These examples reflect the breadth of innovation happening every day – from blood cancers to solid tumors, from new therapies to improved delivery methods, from rare diseases to those that affect thousands of Wisconsinites.



Research that Reflects the Community

MCW's cancer enterprise isn't just built for the community – it's built with it. Serving nearly 3.4 million people across 29 counties, including 75 percent of Wisconsin's racial and ethnic minority populations, the MCW Cancer Center is committed to research and care strategies rooted in real needs and delivered with trust.

MCW's Office of Community Outreach & Engagement (COE) partners with local clinics, nonprofits and community members to expand access to screening, education and clinical trials. Its Community & Cancer Science Network connects researchers and community leaders to co-develop solutions for cancer prevention, care and survivorship.

Another major initiative, the ThriveOn Collaboration, unites MCW with the Greater Milwaukee Foundation and Royal Capital. This hub for community health, education and engagement houses MCW's community-facing cancer programs, with space for workshops, research and services co-designed with local residents. *(See the cover story in the summer 2024 issue of* MCW Magazine *for more information on the ThriveOn Collaboration and ThriveOn King.)*

By listening first and building together, MCW is making research more relevant, inclusive and lasting.

Investing in Critical Infrastructure

The MCW Cancer Center, located within the Milwaukee Regional Medical Center (MRMC), benefits from a collaborative environment with some of the region's leading institutions such as Froedtert Hospital, Children's Wisconsin and the Versiti Blood Research Institute (VBRI). This partnership provides a synergistic environment where research, education and clinical care converge to advance cancer discoveries and improve outcomes for patients.

MCW Center for Cancer Discovery

The MRMC is home to the MCW Center for Cancer Discovery (CCD), which is set to become a cornerstone of cancer research in eastern Wisconsin. Opening in August 2025, this 161,000-square-foot facility will be the only building in the region dedicated entirely to cancer research – and MCW's most significant investment yet in accelerating discovery. The CCD is designed for collaboration, featuring scientific "neighborhoods" organized by the center's scientific focus areas. Shared labs, meeting spaces and centralized Shared Resources – including genomics, imaging and metabolomics – support seamless interaction and high-impact science.

The CCD also houses the BioHub, a biotech incubator that will help researchers translate discoveries into new diagnostics, therapies and technologies. With direct connections to the VBRI and relocation of the Center for International Blood and Marrow Transplant Research, the CCD brings together world-class partners under one roof.

The Froedtert & the Medical College of Wisconsin Health Network

The Froedtert & the Medical College of Wisconsin health network, a unified system of 10 hospitals, is home to a multi-disciplinary team of cancer experts and healthcare professionals

(continued on page 21)

Partners in Progress

FUELING THE FUTURE OF CANCER CARE

At MCW, visionary donors accelerate progress in cancer research and care – fueling discovery, expanding access to lifesaving treatments, and empowering the scientists and clinicians leading the charge. Inspired by personal experiences, bold ideas or a shared commitment to a better future, these partners turn hope into action and bring meaningful change to patients and families.

What follows are several of MCW's community partners who are having an impact on the future of cancer care.

MACC Fund: A Legacy of Advancing Cures for Kids

Energized by a dedicated community of donors and volunteers since its founding in 1976, the MAAC Fund has contributed more than $87 million to childhood cancer and related blood disorders research, and helped improve the five-year survival rate for pediatric cancers from 20 percent to more than 80 percent.

Together, the partnership of the MACC Fund, MCW and Children's Wisconsin has become one of the nation's most impactful philanthropic forces in pediatric cancer and blood disorder research.

In 2019, the MACC Fund announced a $25 million pledge – the largest in its history – to MCW and Children's Wisconsin, further strengthening this collaboration and accelerating medical discoveries and clinical advancements to improve survival rates and quality of life for kids diagnosed with cancer or a blood disorder.

In October 2019, Jon McGlocklin, co-founder of the MACC Fund, announced a $25 million pledge to MCW and Children's Wisconsin. Becky Pinter, president and CEO of the MACC Fund, also spoke at the event.

Katina Shaw: Cancer is a Marathon

Multiple myeloma survivor Katina Shaw, vice president of community relations for the Milwaukee Brewers, has turned her cancer journey into advocacy. After a stem cell transplant and care at the Froedtert Clinical Cancer Center, she marked a milestone in October 2023 by running the Chicago Marathon with her oncologist, Binod Dhakal, MD, FEL '12.

In 2024, Shaw shared her story at the F&MCW Desert Classic, emphasizing the importance of second opinions, early diagnosis and community support. As a Froedtert Hospital Foundation board member, Shaw uses her voice and experience to raise awareness and help shape philanthropic priorities that support expert, lifesaving care.

A Shared Vision: Riney Foundation and MCW Advance Myeloma Research

A transformative gift from the Paula and Rodger Riney Foundation accelerates multiple myeloma research at MCW, supporting projects focused on immunotherapy and survivorship. Building on MCW's leadership in CAR T-cell research, the gift advances efforts to develop new therapies and understand why patients respond differently to similar treatments.

"This support gives us the opportunity to dream big," says Anthony Zamora, PhD, assistant professor of medicine (hematology/oncology). "The work we're doing today – thanks to the Riney Foundation – has the potential to change how we understand, treat and ultimately outpace this complex disease."

A Lasting Legacy: Bob Uecker Chair in Pancreatic Cancer Research

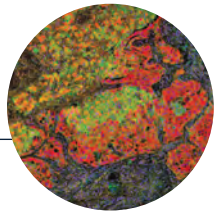
Before his passing in January 2025, Hall of Fame broadcaster Bob Uecker established a named chair to advance pancreatic cancer research, now held by William A. Hall, MD, chair of radiation oncology. Supported by Uecker, Brewers leadership and the community, the gift strengthens MCW's LaBahn Pancreatic Cancer Program.

"Bob was the heart and soul of the Brewers organization, and a friend to so many," said Brewers' owner Mark Attanasio at a celebration in September 2024. "Debbie and I wanted to honor him in a way that would create lasting impact – by supporting research that gives hope to patients and families facing this devastating disease."

Mellowes Family Accelerates Precision Oncology with $10 Million Genomics Gift

Linda and John Mellowes made a $10 million investment in precision medicine at MCW, establishing the Linda T. and John A. Mellowes Center for Genomic Sciences and Precision Medicine. Their gift – the largest philanthropic contribution to genomic sciences in MCW's history – funds three endowed chairs, including the Mellowes Endowed Chair in Precision Oncology, held by Razelle Kurzrock, MD.

Dr. Kurzrock, who also serves as associate director of clinical research for the MCW Cancer Center, leads efforts to develop treatments based on patients' genomic data, including therapies for rare tumors. She notes that philanthropy "propels innovative research and makes it possible for us to deliver potentially lifesaving new therapies." – MICHAEL J. MATHIAS



dedicated to delivering compassionate, integrated care. Expanding this reach, the newly formed Froedtert ThedaCare Health is bringing cutting-edge care closer to home with six new community cancer centers across eastern and northern Wisconsin, including three serving rural areas to ensure broader patient access.

Advancing the Next Generation of Cancer Researchers

The future of cancer discovery depends on the next generation of cancer researchers – and the MCW Cancer Center is committed to preparing them. From early exposure for middle and high school students to postdoctoral training, MCW invests across the educational pipeline.

Programs such as the University of Wisconsin-Milwaukee Undergraduate Research Experience bring students into MCW labs to work with faculty mentors and present at scientific conferences. Annual symposia provide additional opportunities to showcase research and connect with peers, faculty and community members.

Through a strong culture of mentorship and training, the MCW Cancer Center is building a diverse, skilled workforce ready to lead the next era of cancer research and care.

Leading a New Era

On June 4, 2025, the MCW Cancer Center hosted its formal site visit with the National Cancer Institute (NCI), a pivotal moment in its pursuit of NCI designation. This national recognition would place MCW among an elite group of 73 cancer centers nationwide, unlocking new federal funding, expanding research collaborations and accelerating the pace at which discoveries are delivered to patients across eastern Wisconsin. If awarded, it would mark a historic first for Milwaukee, currently the largest metropolitan area in the country without an NCI-designated cancer center.

It marks the beginning of a new era, shaped by scientific excellence, powered by community partnership and defined by a bold vision: to lead breakthroughs that not only change cancer care, but ensure those advances reach every person who needs them.

"Hosting the NCI site visit is an accomplishment that represents years of dedication from our researchers, clinicians, staff, institutional leaders and the entire community. Their collective effort has built a center worthy of this moment: one that's relentless in its pursuit of new knowledge, committed to turning science into real solutions and now prepared to shape the future of cancer research and care at a national level," says Dr. Leone. ■

Meet Some of the Investigators Driving Cancer Discovery

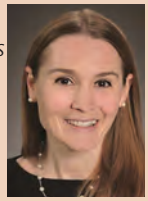
Gustavo W. Leone, PhD
MCW Cancer Center Director and Senior Associate Dean of Cancer Research
Dr. Leone's research focuses on identifying how disruption of critical cell cycle regulatory pathways contributes to uncontrolled cell growth – a hallmark of cancer – as well as cell-to-cell communication. As a preeminent cancer researcher, his work has been continuously funded by the National Institutes of Health (NIH) since 1999.

Ehab Atallah, MD
Professor of Medicine (Hematology/Oncology)
Dr. Atallah recently launched the phase 2 MyeloMATCH study, which uses rapid biomarker testing to match patients with aggressive myeloid cancer to personalized clinical trials – enabling more precise, targeted treatment.

Pradeep Chaluvally-Raghavan, PhD
Associate Professor of Obstetrics and Gynecology
A novel study led by Dr. Chaluvally-Raghavan led to a potential game-changing treatment for chemo-resistant ovarian cancer that may pave the way for therapies targeting other aggressive cancers like glioblastoma and pancreatic cancer.

Lindsay Puckett, MD
Associate Professor of Radiation Oncology
A phase 3 trial led by Dr. Puckett evaluates stereotactic body radiation therapy in advanced non-small cell lung cancer that can't be treated with surgery. This cutting-edge technique delivers radiation with pinpoint accuracy, targeting tumors while minimizing harm to the surrounding healthy tissue. This treatment may be both a safe and more effective treatment for patients.

Kelly Rentscher, PhD
Assistant Professor of Psychiatry and Behavioral Medicine
In a recent national study, Dr. Rentscher and colleagues found that older breast cancer survivors – especially those treated with chemotherapy – show signs of accelerated epigenetic aging, which may contribute to poorer outcomes. The findings could help inform interventions to slow decline and improve post-treatment quality of life.



Angela Steineck, MD '13
Assistant Professor of Pediatrics (Hematology/Oncology)
Dr. Steineck recently led a phase 3 study to examine whether early use of the immunotherapy drug dinutuximab improves outcomes for children with high-risk neuroblastoma. The novel approach may target cancer cells more effectively, potentially reducing relapse and improving patient outcomes.