

# 2023 | MARSHFIELD CLINIC RESEARCH INSTITUTE YEAR IN REVIEW



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Highlights

# Our mission, vision and values

## Mission

We enrich lives through discovery, translation and application of scientific knowledge that improves health and well-being.

## Vision

We will innovate and define the future of health care for generations. Our research will be the source of innovation for the future of disease and injury prevention and integrated health care locally and globally.

## Values

- **Discovery:** Will be the foundation of the overall activities of the research group.
- **Translation:** A major effort will be made to apply our discoveries in the health care setting.
- **Dissemination:** Results of work done will be distributed broadly on a timely basis.
- **Teamwork:** Will be a hallmark of the research group.
- **Excellence:** Will be the standard for all research and program activities.
- **Collaboration:** Partnerships both internal and external will be sought and encouraged.

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## Marshfield Clinic Research Institute Oversight Board

### Marshfield Clinic Health System Physicians, Scientists, and Leaders



**Corey Cronrath, D.O., MPH**  
Service Line Medical Director, Occupational Health  
Marshfield Clinic Physician Class A Member  
Vice Chair - Executive Committee



**Edward G. Fernandez, M.D.**  
Pediatrics - Intensivist  
Marshfield Clinic Physician Class A Member



**Scott J. Hebbring, Ph.D.**  
Research Scientist, Center for Precision Medicine  
Research - Marshfield Clinic Research Institute  
Marshfield Clinic Health System Leader  
Member-at-Large - Executive Committee



**Krista Hoglund, A.S.A., MAAA**  
CEO, Security Health Plan  
Marshfield Clinic Health System Leader



**Matthew J. Jansen, M.D.**  
Medical Director for Division of Education  
Marshfield Clinic Health System Physician  
Marshfield Clinic Health System Leader  
Chair - Executive Committee



**Adedayo Onitilo, M.D., Ph.D., MSCR**  
Medical Oncologist and Hematologist  
Marshfield Clinic Physician Class A Member



**Rohit Sharma, M.D., FACS**  
Surgical Oncologist  
Marshfield Clinic Physician Class A Member



**Tammy Simon, R.N., M.S.N.**  
Vice President, Institute for Quality,  
Innovation, Patient Safety  
Marshfield Clinic Health System Leader  
Secretary - Executive Committee

### Community Members



**Brent Bergman**  
CEO, RevCycle, Inc.  
Alliance Collection Agencies, Inc.  
Healthcare Business Services, Inc.  
Member-at-Large - Executive Committee



**Ashley Fredrick, M.B.A.**  
Owner/Realtor  
NextHome Hub City



**Brian Forrest**  
Owner  
Maple Ridge Dairy

**Kathy Zalewski, Ph.D.**  
Program Director - Doctor of Physical Therapy  
Professor - Doctor of Physical Therapy  
University of Wisconsin-Stevens Point

# Giving back

Throughout the year, Marshfield Clinic Research Institute scientists and staff collect much-needed items for the communities in which they work.

*“We especially have a soft spot for children in need, and we so thoroughly enjoy partnering with our local community organizations to ensure every child has, at a minimum, the basics to stay warm and help them gain confidence,” said Krystal Boese, assistant manager, Integrated Research and Development Lab. “I find these collection events to be very personally rewarding.”*

## 2023 initiatives included:

### Project Shine Garden Sharing:

Auctioned donated harvest items to generate proceeds to support patients in the areas of greatest need.

**Best First Day:** Conducted in conjunction with Soup or Socks, the initiative provided clothing to school-aged children to help support their confidence as they approached the upcoming school year.

**Keep Kids Warm and Best Snow Day drives:** This partnership with Soup or Socks and the Marshfield Area Community Foundation collected warm clothing for the coming winter.

**Child Advocacy Center:** Collected blankets for the center.

**Souper Bowl of Caring:** Tapped into a Super Bowl theme to gather canned soups for a local food bank.

## Donation Numbers

- 170 Food Items
- 169 Essential Clothing Items
- 269 Warm Clothing Items
- 116 Blankets
- 5 Hope Baskets
- \$2,340 Monetary Donations





## Dear Friends and Colleagues:

Since I came to Marshfield Clinic Health System over 20 years ago, I have had the privilege of knowing and working with some of the many legends in our organization's history.

As Marshfield Clinic Research Institute enters its 65th year, we reflect on the gift our predecessors provided with their vision of creating a research institute. All of us who call the Research Institute our work-home can thank the brilliant clinicians, researchers, technicians, coordinators, and administrators who laid the foundation. Over time, each generation added to that substrate of research, fostering a relationship between evidence-based science and our rural communities.

Today, scientific inquiry thrives in the vibrant environment that is the Research Institute. Our teams continue to inform public health policy and bring new diagnostic, preventative and treatment options to our patients. We are conducting

research in cardiology, occupational health, infectious diseases, cancer, obesity, pediatric medicine, maternal health, pharmacogenomics and the list goes on. More than 110 scientific articles emerged from our doors last year, many of which were published in high-impact journals. Local, national and even international collaborations prosper with the participation of our people. We are the premier rural health care research institute in the United States, giving us much to celebrate.

We are grateful for the generosity of our donors. Their gifts support the research institute in boldly aspiring towards novel ideas - and in supporting the tried-and-true programs that save and improve lives locally and globally. Gifts from grateful patients and visionary donors provide the essential ingredient that nurtures our research successes.

In this Year in Review, we share with you the deeply personal stories that brought many of us to Marshfield

Clinic. Our writers offer you their inspirations for serving our patients, their reasons for giving back to our communities, and examples of how we contribute to humanity worldwide. The ideas here range from the lofty to the personal, wide and deep. They will share with you how they continue to build upon our research environment through their inspirations, passions and innovations. We are proud of our history and grateful for our founders and benefactors. Our gratitude, our sense of purpose, and our connections with you are our strength.

Thank you for your commitment and support.

My very best to you all,

*Jen*

Jennifer Meece, Ph.D.  
Executive Director  
Marshfield Clinic Research Institute



***A long history of  
vaccine research at  
Marshfield Clinic  
Research Institute***

Ed Belongia, M.D.  
Center for Clinical Epidemiology  
and Population Health

## **Marshfield Clinic Health System**

is nationally recognized in vaccine research. Our skilled cadre of scientists and support staff builds its program using our expertise in vaccine safety, vaccine effectiveness, laboratory testing, and study operations.

Vaccine research was not on my mind when I joined Marshfield Clinic in the 1990s. Back then, I was pursuing the epidemiology of infectious diseases in rural settings, especially tickborne diseases and antibiotic resistance infections. However, other physicians were advancing vaccine research. Brad Sullivan, M.D., published important early research on vaccine immune response and safety in children, and Ray Haselby, D.O., published clinical trial results on a promising Lyme disease vaccine. Today, Marshfield Clinic Health System physicians assess safety and level-of-protection before licensure, including an investigational Respiratory Syncytial Virus (RSV) vaccine during pregnancy to protect infants from severe respiratory illness, and another investigational Lyme disease vaccine.

In 2001, the Marshfield Clinic Research Institute's Center for Clinical Epidemiology and Population Health became involved in post-licensure vaccine research by joining the Centers for Disease Control and Prevention (CDC)-funded Vaccine Safety Datalink (VSD). VSD was small - just four U.S. sites merging electronic health records and immunization data to study vaccine safety. I remember pulling an all-nighter to beat the application deadline. Although inexperienced with vaccine safety research, we impressed reviewers with our epidemiology expertise, our homegrown electronic health record (Cattails) and our regional immunization registry. The VSD network now includes 13 research sites and over 14 million people. Marshfield researchers have led many vaccine safety studies, including studies of influenza vaccine in

pregnancy and human papillomavirus vaccines in adolescents. Currently, we are developing plans to monitor the safety of RSV vaccines recently licensed for use in older adults.

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Our influenza vaccine research program began in 2005 when we received three years of CDC funding to study flu vaccine effectiveness. We convinced reviewers that we had the best research team and population to

answer the questions - because we did! Since then, Research Institute scientists have published more than 140 papers related to influenza, including key studies on vaccine-induced protection against the flu and the immune effects of repeated flu vaccination.

Currently, Huong Nguyen, Ph.D., leads a large industry-funded study to measure the protection of a newer flu vaccine (Flucelvax) manufactured without eggs. This study screens thousands of patients with respiratory illness enrolled during the flu season and estimates vaccine effectiveness from the number vaccinated among those who are flu-positive and flu-negative. During 2023, this was the only U.S. study that reported interim flu vaccine effectiveness in February.

The strong collaboration between our epidemiologists and laboratory scientists helps us stand at the forefront of vaccine research. The Integrated Research and Development Lab plays a key role with high-volume molecular testing and sequencing to identify respiratory viruses. Our vaccine research has generated innovative knowledge for both providers and patients, and our research has influenced national vaccine policy recommendations. Our teams will lead the way in vaccine science into the coming decade.



## Embracing our dynamic work environments

Steve Theis  
Research Navigator  
Office of Research and  
Sponsored Programs

**The story of my hometown** is eerily like that of my journey to research. It begins just outside of St. Cloud, Minnesota, in a neighborhood once blanketed with rolling fields of luscious yellow ears of corn. As the city edge expanded the country landscape receded, changing and evolving with the environment that confronted it.

Studying biology in college was not something that I intended on doing, at least not with an end goal or plan in sight. It was simply a fascinating field of study that I excelled at. After completing my degree, I went to work as an analytical chemist at a pharmaceutical company in Minnesota. I quickly learned the product purity, safety and stability standards for the Food and Drug Administration (FDA), and the United States Pharmacopeia (USP). Unbeknownst to me, this job was invaluable experience that facilitated my future career at Marshfield Clinic Research Institute.

After my physical environment changed from Minnesota to central Wisconsin, I adapted and began working on the reverse side of FDA and USP standards, collaborating with physicians and research participants on a variety of clinical trials with the clinical research team. In 2019, recognizing that a gap existed between clinical providers and clinical research, Marshfield Clinic Research Institute leadership embarked on a journey to develop a groundbreaking program aimed to bridge the gap. The new Research Navigation Program changed my atmosphere yet again and in early 2020, I joined the Office of

Research and Sponsored Programs team to spearhead the Research Navigation Program.

Since joining the team, I have had the pleasure of working with clinicians and service lines on a large diversity of research projects and specialties. This program allows me to directly grasp how research contributes to the advancements in medical knowledge and improved care. It allows involved clinicians to evaluate clinical practice objectively and to be directly involved in advancing their discipline. The clinicians and I are inspired, well into the future, by patients directly benefiting from the outputs of our research.

As the edge of research continues to advance, I look forward to reaching new clinicians in the health system, assisting existing clinicians interested in stepping into a research role, and further boosting research and clinical integration while building strong collaborations between our clinicians, scientists and external partners. Even while our environment changes and evolves, we adapt with it.



***Mental and physical training helps me adapt to the many challenges within research. It improves my discipline. It's about pushing through and calming the mind. Often, the challenges are not as difficult as they initially seem.***





# *A personal journey as a patient to advocacy in agricultural health and safety research*

Kyle Koshalek  
Project Manager  
National Farm  
Medicine Center

**My journey** to Marshfield Clinic Research Institute began abruptly as I found myself admitted to Marshfield Children's Hospital around my 10th birthday. I was diagnosed with a rare condition that hospitalized me for several months. The experience and great care I received left me with an enduring desire to be part of Marshfield Clinic and give back to the community, making an impact and saving lives as the physicians were able to do for me.

I joined the National Farm Medicine Center in 2019 as a research coordinator. I was particularly drawn to agricultural safety and health as my extended family had experienced multiple tragic losses on the farm. This inspired me to work with the farming community to disseminate prevention messages to reduce injuries and fatalities on farms. My work over the years has deeply engaged me in multifaceted projects and programs that encapsulate research, community, and connections to health and safety. Two of these programs are the Rural Firefighters Delivering Agricultural Safety and Health (RF-DASH) and the Agriculture Rescue Training. Both involve collaborating with rural firefighters and EMS to mitigate injuries and fatalities on farms. The programs recognize the unique challenges these first responders face and devise prevention, pre-planning, and rescue strategies to enhance safety protocols.

Simultaneously, I delved into the realm of the Dairy Microbiome (DOME) study, particularly exploring the comparison and make-up of the microbial environment in farm and non-farm workers with dairy cows on Wisconsin farms. I also work with an amazing team investigating the Wisconsin Infant Study Cohort (WISC) and Environmental Influences on Child Health Outcomes (ECHO). These programs look at how farm environments, particularly those immersed in livestock, affect the immune systems of children, and how rural and urban environments play a role in children's health. WISC and ECHO seek to understand how

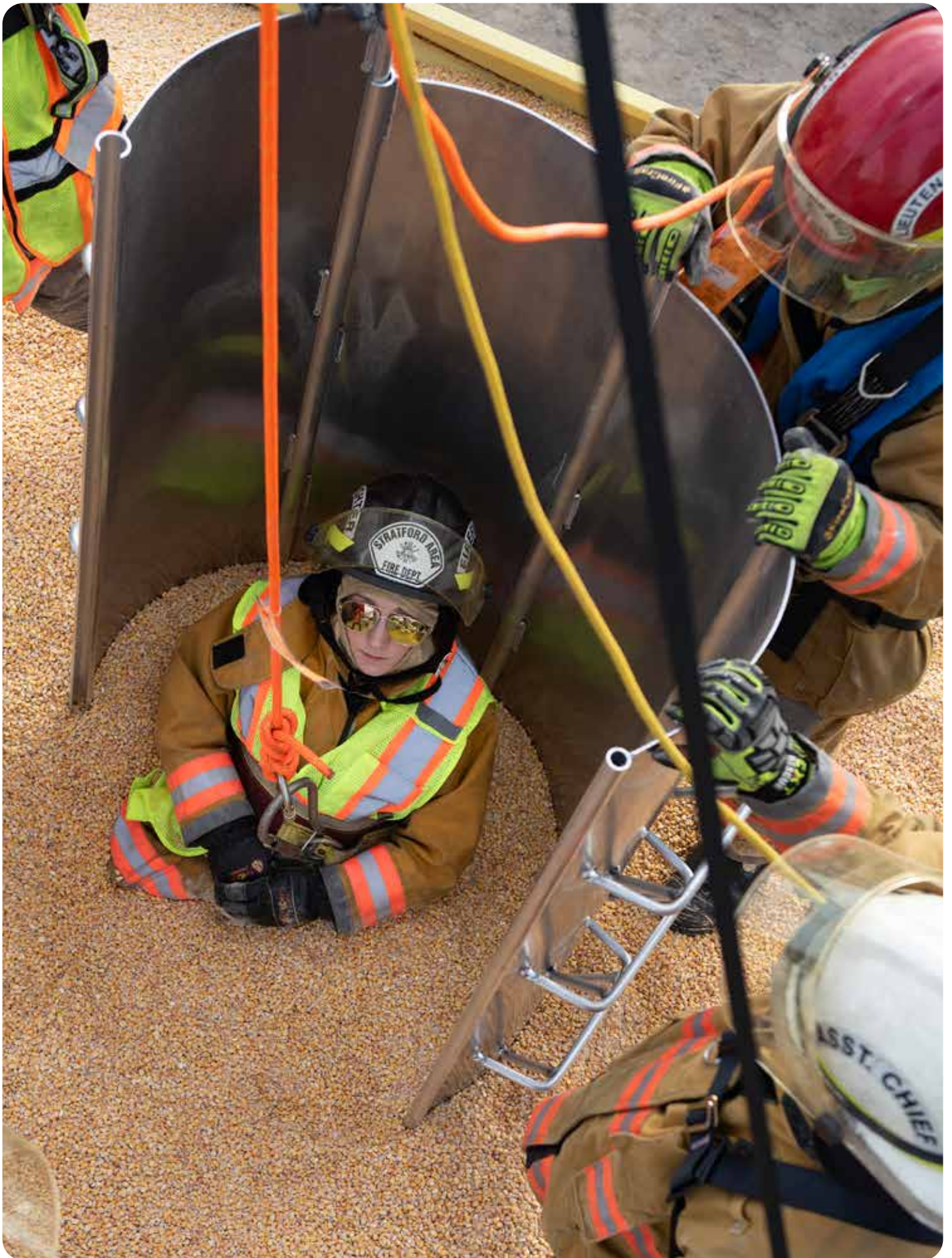
these settings influence allergic diseases in youth and unraveling how the farm environments can play a role in fostering healthier futures for the next generation.

My passion stems from my experiences and drives me to continue giving back to the community. It fuels my commitment to making a tangible impact on agricultural health and safety, a cause that resonates within me and underscores the essence of my work. I want to extend a heartfelt "thank you" to the incredible teams on these projects whose dedication plays fundamental roles in the success and impacts they have had on our communities.

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# Broad, analytic support for research

Richard Berg, M.S.  
Biostatistician  
Office of Research  
Computing and Analytics

**I have always been interested** in science and problem solving. After completing a bachelor's in biology, I worked on an environmental study of copper and nickel mining in northern Minnesota. There, I had an opportunity to work with experienced scientists and learned that, if I had any talent in science, it was on the analytical side – using data to answer questions. This led me to a graduate degree in statistics, followed by work in biostatistics at Cleveland Clinic Foundation. My work years in Cleveland focused on large, multi-center clinical trials, particularly the National Institutes of Health study of “Modification of Diet in Renal Disease.”

My 31 years at Marshfield have presented many opportunities to work on a much broader variety of research, particularly projects designed locally by clinician-scientists. A perfect example of my work in this role is the Bardet-Biedl Syndrome (BBS) project initiated at Marshfield Clinic Research Institute by Robert Haws, M.D., formerly a Marshfield Clinic physician and director of the Center for Clinical Research.

BBS is a rare genetic disorder which can have severe impacts on several body systems. BBS has not attracted the research attention from pharmaceutical companies and other large research organizations like more common disorders, but Dr. Haws and colleagues at Marshfield Clinic Health System initiated a registry to enable research into the condition. The Clinical Registry Investigating Bardet-Biedl Syndrome now provides support

to BBS patients at Marshfield Clinic and around the world. Most recently, I've had the opportunity to work with Ekaterina Keifer, Ph.D., who continues to investigate development and

development of complex analyses, and complex modeling. Together our work directly impacts the caliber of the research performed within the Research Institute. Collectively, we provide full-service information technology support dedicated to research.

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*... it can be difficult  
to see your own  
contributions. Everything we  
do is part of a crucial team  
in which every participant  
brings necessary skills and  
perspectives.*

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When I sat down to write this, I solicited a little help from my colleagues. They've told me kind things: my strengths are to think through the analytical challenges of each study and initiate discussions with the study teams to address those challenges, for example. They tell me I am good at anticipating methodological issues to improve the quality of any research project I participate in. I suppose these things are true, though in the sciences, it can be difficult to see your own contributions. Everything we do is part of a crucial team in which every participant brings necessary skills and perspectives.

In ORCA, we support each other. I have mentored my fair share of folks and guided them to be successful in their own research pursuits but at the end of the day these are all collaborations. Solving problems does not happen in a bubble. I've come a long way from my first environmental study, but I'm grateful to work with such a talented team on my journey.

cognitive functioning for BBS patients.

I've been fortunate to find a home in the Research Institute's Office of Research Computing and Analytics (ORCA). It's great to share my commitment to excellence in data-driven science with my colleagues in ORCA and our scientific collaborators. The ORCA team includes analysts, software engineers, systems, and database staff. Folks like me (a research statistician) have roles that include study design, development of analytical methods, interpretation and

## Bardet-Biedl Syndrome + Marshfield Clinic Research Institute

**Bardet-Biedl Syndrome (BBS)** is a rare genetic disorder. While there are more than 26 genes associated with BBS, the underlying cause regardless of gene is malfunction of primary cilia, small hair-like structures that are key components of cellular communication.

Symptoms can include:



Obesity



Reduced kidney function

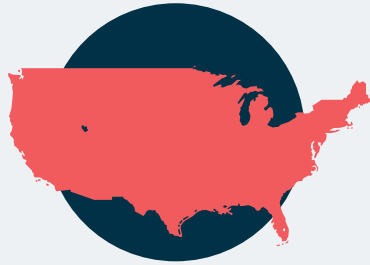


Retinal degeneration



Polydactyly  
(extra digits of the hands or feet)

Who it effects:



4,000 in U.S.



1 in 100,000

### Marshfield Clinic Research Institute

In 2013, Marshfield Clinic Health System inaugurated the sole U.S. clinic exclusively catering to children with this a rare syndrome, offering comprehensive evaluations and individualized treatment recommendations from specialists who understand the underlying disease.

In 2014, Dr. Robert Haws and the Clinic initiated the global Clinical Registry Investigating BBS (CRIBBS), facilitating patient tracking, medical record collection, and detailed illness profiling to overcome challenges in recruiting participants for clinical trials related to this rare disease.

BBS Clinic:



30 staff



Includes patients from  
Kuwait & Australia

CRIBBS:



750 participants



75% from U.S.  
& Canada

OSRP

# *Funding the research 'to enrich lives'*



Brian Nikolai  
Grant and Contract Specialist  
Office of Research and  
Sponsored Programs

**Like many people in the Marshfield area,** I am a central Wisconsin native. My family and I have grown side-by-side with Marshfield Clinic Health System for as long as I can remember and, in a way, being a witness to how the Health System creates healthy communities influenced my journey to health care and research.

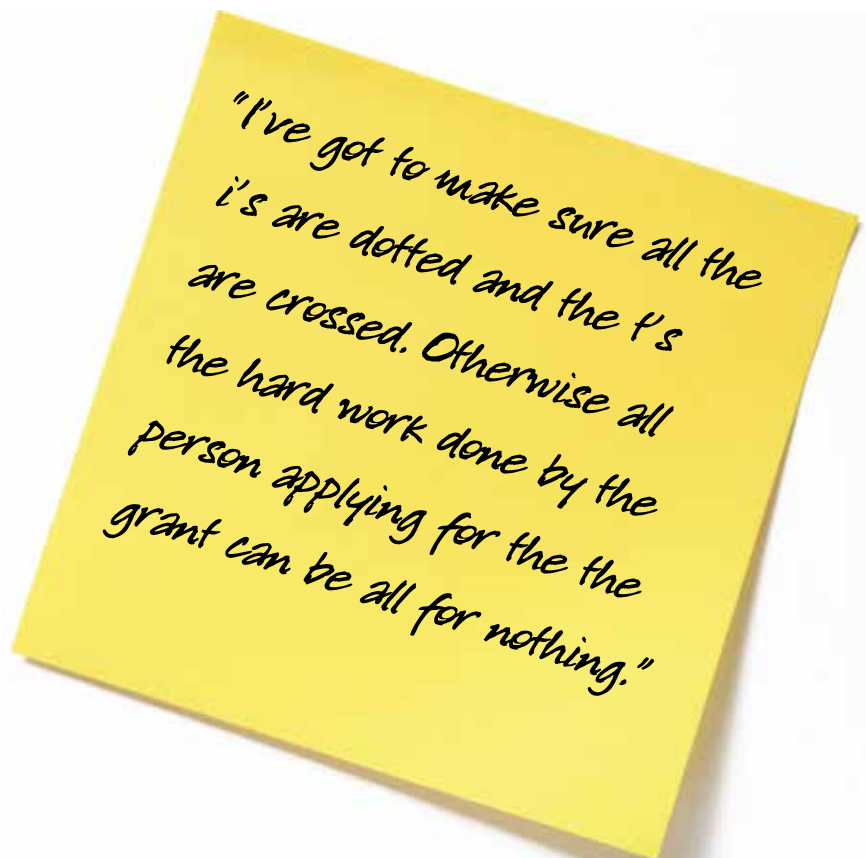
Shortly after receiving my degree in Human Resources (HR), I started my career at Marshfield Clinic as an HR representative. At that time, I did not have a clear picture of how I could make an impact on health care, but I knew that I wanted to make a difference. In this role I worked with research by proxy through recruiting, interviewing, credentialing, and negotiating employment offers. I was able to expand on knowledge I began to develop in college related to government requirements for hiring practices, compensation, and workers compensation and could recommend and develop changes for employment practices that abided by the guidelines. While I participated in job fairs and college recruitment events to bring qualified staff into the system and in research, I did not fully understand the depth and impact that research had on healthcare or how Marshfield Clinic Research Institute directly contributed to the care provided to patients of the health care system.

In 2013, I was recruited to be a direct part of the research team, bringing many transferrable skills that would benefit me as a new grant and contract specialist within Sponsored Programs. Jumping into the world of research was a

bit terrifying, as I do not have a medical or science background, but my job would be supporting those that do. This is how I would make a difference! My initial fear was quickly extinguished as I learned that it is the people within the Research Institute – the scientists, administrators, support staff, project managers – who have enabled the Research Institute to grow over the past 64 years. While each team within the Research Institute and Health System has a vastly different job, each is supportive, collaborative, encouraging and most importantly, each genuinely cares, keeping their eye on our mission to enrich lives.

Similarly, the Sponsored Programs team, although behind-the-scenes, supports all sponsored projects for the system. From externally funded state and federal grants to

industry sponsored contracts, it all empowers our science to enrich lives. This team collaborates with administrators and investigators to ensure each proposal meets the unique requirements of the application and that it is of a quality for which our organization can be proud. We teach each other in this process: Grants and Contract Specialists learn a little more about the passion of an inimitable investigator, while investigators acquire an understanding of the requirements, structure of submitting, and receiving a sponsored award. In a sponsored grant's lifecycle, countless milestones are celebrated starting from the point of an award and ending at the point where a project succeeds and transforms bedside practice – changing the lives of those in our community and sometimes across the globe.





## *Why I like being a scientist*

Sanjay K. Shukla, Ph.D.  
Director  
Center for Precision  
Medicine Research

**Late one evening in February 2020,** a colleague texted me to ask if I had heard about a mysterious viral disease outbreak in China. He worried that if the virus reached India with its dense population and crowded living conditions, millions would die. I was surprised when he told me the University of Wisconsin-Madison might close its campus.

Yet within a month, scientists worldwide mobilized to understand the biology and virulence of this devastating new coronavirus, SARS-CoV-2. Despite the frightening challenge, the virus's genome was sequenced within a week and made available to the world. Scientists quickly developed polymerase chain reaction (PCR) and enzyme-linked immunosorbent assay (ELISA) assays for rapid detection, exploring public health measures to contain the threat and developing an effective vaccine.

As a scientist with expertise in genetics and infectious diseases, I focused on contributing to the solution. Although not engaged in active COVID-related research, I, like many other scientists, scanned scientific papers to understand its genomics, infectivity, and immune system effects and the public health measures to contain the spread. As a scientist, it was my duty to explain the rapidly emerging knowledge to family, friends and physician colleagues. In record time, mRNA-based vaccines were available. It reminded me of graduate school courses where we learned about



DNA based vaccines, how to make mRNA stable outside of a cell, and how lipids act as a packaging material. Suddenly, all those studies and passion became useful in some way.

All modern research advancements happen in small increments where thousands of scientists work on the same disease or pathogen over the years, adding solutions brick by brick. Consider, for example, our Centers for Disease Control and Prevention/National Institute for Occupational Safety and Health-funded Dairy Worker Microbiome (Dome) Project. In DOME, I teamed with an anthropologist and an epidemiologist to address the question: “Does occupational exposure to a dairy work environment have beneficial and detrimental effect on the gastrointestinal systems of the workers?” After years with trusted participants from our farming community, the published results showed that dairy workers reported fewer gastrointestinal infection symptoms compared to non-dairy workers.

Another example involves multiple sclerosis, a traumatic, potentially disabling disease of the central nervous system. Marshfield Clinic Health System has a long history of treating Multiple sclerosis patients. Working with another interdisciplinary team, including neurologist Paula Aston, M.D., we study the synergy of genetics and gut microbiome in causing diseases or triggering its symptoms. I am grateful to our dedicated patients who consented for the study, providing valuable clinical samples to build a biobank and help us add more bricks of knowledge to this complex disease.



*As a scientist,  
it was my duty to  
explain the rapidly  
emerging knowledge  
to family, friends  
and physician  
colleagues.*

Solving most health and disease mysteries requires empirical, hypothesis-driven, data-rich research. In the academic setting, research needs continued philanthropic support from individual donors, grateful patients and government grants. Our research at Marshfield Clinic Research Institute also bolsters the health system’s professional excellence, subject matter expertise, reputation and patient trust.

Doing research is a privilege and I want to thank many donors, federal and state-level funding agencies, the Health System, and its successive leadership groups who have supported it.



*Safeguarding research participants*

**Institutional Review Board helps to safeguard research participants**

Melissa Hubing  
Analyst  
Institutional Review Board

**My job can be hard to explain,** but I tell people that I am a “facilitator of information.” If that doesn’t get a reaction, I say that I work in an office where we might not wear capes, but we protect the rights and welfare of people who take part in our research studies. Then they become more interested!

I have been with Marshfield Clinic Health System for 37 years, the past 30 of those spent with the

Institutional Review Board (IRB) of Marshfield Clinic Research Institute. The IRB is a federally mandated committee that has the authority to approve, require modifications to, or disapprove research when it believes the participant’s rights or welfare are not properly protected.

Our IRB is comprised of physicians, researchers, staff, and community members. Research studies involving people (or their information or biological specimens) must receive IRB review and approval before they can begin. I am currently an IRB analyst and

coordinate the IRB committee’s review of research projects. I take meeting minutes, assist IRB members in their reviews, and help maintain federal regulatory compliance of the Board.

Research has provided me with unique work experiences. Highlights include helping our research program attain accreditation from the Association for the Accreditation of Human Research Protection Programs (AAHRPP) in 2014. This effort earned the Research Institute a place among the world’s most respected, trustworthy research



organizations. More importantly, it assures our patients/research subjects that we follow rigorous standards for ethics, quality and protections for human research.

Reviewing old IRB rosters shows I have had the opportunity to work closely with 168 volunteer IRB members since 1986. They are some of the most dedicated people in all of research. Helping scientists and physician researchers move their projects through the IRB process has been another highlight and an ongoing lesson in working with different personalities! So, although

my work keeps me hidden behind the front lines of science, I am proud to be part of Team MCRI.

Personal experiences also fuel the connection I feel to research; I recognize the way scientific advancements have benefited my immediate family. When I first met my husband 37 years ago, he was using what now seems like an archaic med-injector device that plunged an insulin needle into his skin. Now, he has an insulin pump that basically works like an artificial pancreas. Our youngest son is an adult survivor of the rare childhood disease, Langerhans Cell

Histiocytosis, which causes the white blood cells to destroy the bones. Cancer research learned that chemotherapy treatment kills white blood cells, and that knowledge helped develop an effective treatment for Histiocytosis.

These medical advances would not have been made without researchers, study volunteers, and IRBs, just like we have here in Marshfield. Because of work like this, we are all extremely fortunate to have world-class research taking place right here in rural Wisconsin.

# *Day in the life of a research coordinator*

Sandra Freeman  
 Research Coordinator  
 Fritz Wenzel Center for  
 Clinical Research

**Clinical trials**, in which patients receive innovative treatments, are about patient connection. Medicine may progress, but patient relationships remain the guiding force. Research coordinators are the patient-facing edge, and we witness and remember every struggle and every success.

I will never forget when my own infant son was hospitalized with respiratory syncytial virus (RSV). One of the pediatricians approached me about enrolling him into a clinical study. Ultimately, my son did not meet eligibility requirements, but this piqued my interest. I knew I wanted to join a research team. Since then, the U.S. Food and Drug Administration has approved new drugs to prevent RSV in babies, toddlers and older adults.

One way or another, Marshfield Clinic Research Institute touches each such vaccine you might see in the news. Our role in clinical trials has helped develop vaccines for shingles, varicella (chicken pox), rotavirus, MMR (measles, mumps and rubella) and many others. Today, if you see a drug company like Pfizer developing a vaccine, the Research Institute has likely worked with them.

Work in clinical trials differs daily. One day might begin with seeing patients in back-to-back meetings. A clinical trial may take massive recruitment effort, but when the study gets approved, all hands are on deck. After we have subjects recruited, we meet them weekly or monthly, depending on the study. We build our schedules around theirs and may stay late or plan visits early to meet them.

Other days I load up technical tools like portable electrocardiogram and ultrasound machines. On these days, we schedule procedures with members of the study team: physician investigators, pharmacists, lab technicians, recruitment staff, registered nurses and unblinded research coordinators. Each team member helps provide treatment options normally not available to patients. It isn't easy balancing schedules for specialty providers, primary providers and patients. Sometimes we juggle nephrology, cardiology, scheduling and laboratory work.

Clinical trials are about patients, not us research coordinators. Nevertheless, every team member pours their heart into the patient relationship, learning crucial medical and personal details. I still see families of subjects I enrolled over 30 years ago who give me updates; they have become my family, too. Our patients take the trials seriously, invest in the science and talk well of their experience. This helps keep enrollment up, and vendors see us as a dependable source of research data. It truly is a case where everyone wants the best for everyone involved.

This is what accomplishment means when it comes to patient connection. I no longer see mothers carrying sick children with meningitis into our clinics or hospitals. A vaccine exists now and that is thanks, in part, to work done in clinical trials. We will continue the journey of improving the lives of our patients, bettering treatments for evolving challenges. That is the difference clinical trials make.

***Research is important because I don't want my grandchildren dealing with the same diseases we are today. That's why studies are so important.***







CCRC

## *A tale of many cities*

Adedayo Onitilo, M.D., Ph.D.  
Medical Director  
Cancer Care and  
Research Center

**Lagos is Nigeria's** economic and cultural powerhouse. A city of 21 million, it is a melting pot of diversity and prepares residents as citizens of the world – it is the city I called my first home. In Africa it takes a village to raise a child, and this was true for me too even though I grew up in a megacity and not a village. While I started my

journey in Lagos, truly the entire world has been the village which shaped me into who I am today.

My parents are Yorubas – an ethnic group of people who live in Nigeria – and with their values, guidance and encouragement, I excelled as a student and entered medical school. As a young medical student, I was unsure of the path I would take but had an affinity for learning and research. I excelled in hematology. With the gifts I was afforded, I worked hard, traveled the globe from the West Indies to

the United States and Australia, chasing academic opportunity. Along the way I completed my clinical internship, clinical residency, clinical research training, a doctorate in epidemiology and even found time to start a family.

As if by pre-ordination, I found Marshfield Clinic Health System where I could build a robust clinical practice and involve myself in cutting-edge research. The Wausau/Weston community became my new home. I became a busy clinician, then added service

line medical director, researcher and administrator to my many hats I wear. A vision of integrated research and cancer care inspired me, and today, our team is the only service line at Marshfield Clinic Health System fully integrating research and routine clinical practice. Thousands of patients have benefited, hundreds of papers have been published and the team has achieved platinum status for enrollment in multiple clinical trials.

Yet, despite this success, I felt restless. Both Nigeria and U.S. customs would greet me with “welcome home” when I traveled. As a Nigerian-born doctor practicing in the United States, I have often felt the way Michael Jackson describes in his song, “Wanna Be Startin’ Somethin,” a man in the middle.

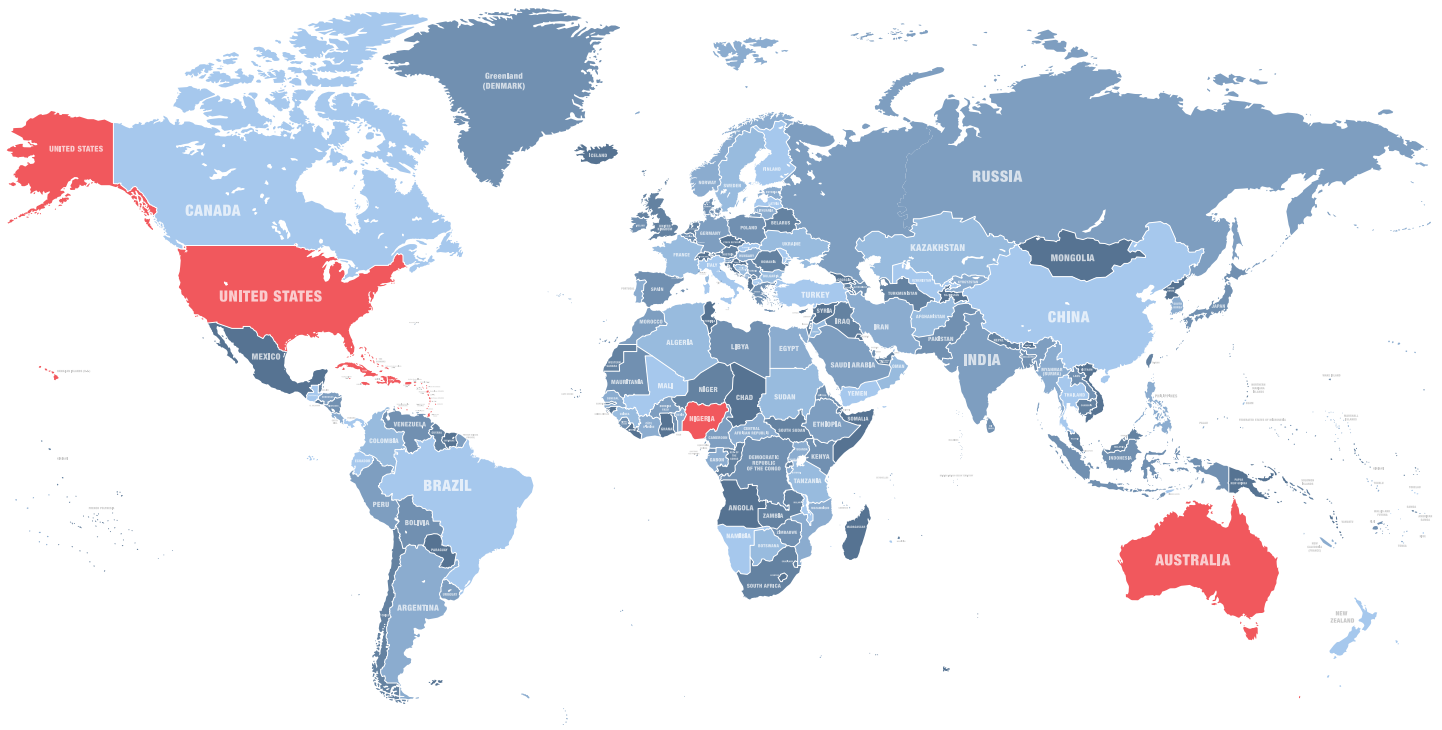
Noticing an increase in cancer incidence and prevalence in Nigeria, I began another journey – broadening

*Noticing an increase  
in cancer incidence  
and prevalence in  
Nigeria, I began  
another journey.*

the scale of the knowledge and experience I had developed for global oncology initiatives. Nigeria needed a cancer care program.

In 2017, I became involved in bringing state-of-the-art clinical care to Nigeria. By 2019, several colleagues from the Cancer Care & Research Center traveled to Nigeria to teach, help set up clinical spaces, share our knowledge of organizational structure, and build relationships with new colleagues abroad. I continue to serve on tumor boards in Nigeria. Our team has hosted our international colleagues who view Marshfield Clinic Cancer Care & Research as a model.

My work with this team helps quell my restlessness. I know that I will continue to feel the pull of two places I call home. Nevertheless, I am reminded of words my global community shared with me as a young man: “Unto whom much is given, much is required.”



# Using microbiology, molecular pathology to improve patient care

Brooke Olson  
Project Manager  
Integrated Research and  
Development Laboratory

## **We are the laboratory scientists.**

While patients may not see our white coats, we play an important role in their health care through research at Marshfield Clinic Research Institute. Our high-functioning team leads research efforts in microbiology/molecular pathology, and consists of myself, Project Manager Brooke Olson, with the support of Senior Research Associates Cory Pike and Erin Higdon. We are the connection between clinical laboratory science and the research community. Our group, in turn, receives full support from our research and clinical laboratory principal investigators, other Integrated Research and Development Laboratory (IRDL) associates, and Research Institute administration.

Distinguished leadership guided our early research studies as well. These efforts involved world-renowned pathologist/microbiologist Thomas Fritsche, M.D., former Marshfield Labs clinical lab director and current emeritus researcher, and Jennifer Meece, Ph.D., current executive director and IRDL director. Our research portfolio focused on verification and implementation of state-of-the-art diagnostic device instrumentation in our clinical laboratory, human and veterinary antimicrobial resistance surveillance, and implementing a large biobank to support clinical trials.

It was in these projects that we found the need for collaboration between research and the clinical lab. This intersection laid the foundation for what we now call microbiology/molecular pathology (MMP) research.

Between us, our team possesses over four combined decades of service. Our early career paths

differed slightly but continued to intersect. I support IRDL and Marshfield Labs clinical laboratory in infectious disease and microbiology-focused research. Pike, a certified medical technologist, started in the clinical microbiology laboratory, and Higdon provides laboratory-based expertise in a wide variety of Research Institute clinical studies.

Our enthusiasm for science and discovery led us to the Marshfield Clinic Health System, where we met Dr. Fritsche. His commitment to research and the improvement of patient care fueled our passion for research. With connections in the scientific community, he supports our work in microbiology and molecular pathology to continually improve health outcomes.

Over the years and following the COVID-19 pandemic, MMP research has adapted and continues to grow its portfolio of transitional research. We take pride in supporting worldwide industry leaders bringing new infectious disease-related diagnostic devices to market and continuing to contribute to antimicrobial resistance surveillance studies. Our dedicated team within IRDL, collaborating with our clinical lab, contributes trial site expertise to antimicrobial susceptibility, respiratory and Lyme disease studies. Together we evaluate the performance, safety and effectiveness of new technology.



**While patients may not see our white coats, we play an important role in their health care through research at Marshfield Clinic Research Institute.**





# Support for local cancer care and research helps Upper Peninsula native become a survivor

Maree Stewart  
Communications and  
Grant Officer  
Marshfield Clinic Health  
System Foundation

**Bill Bertoldi faces each day** with a singular goal: overcoming cancer. Inspired by his late mother’s resilient spirit during her battle with colon cancer, Bertoldi’s determination to beat cancer fuels his journey. Despite losing his mother to the disease, her daily defiance against cancer left its mark on Bertoldi.

Bertoldi’s connection with Marshfield Medical Center-Dickinson in Michigan, where his mother received care, profoundly influenced his own health care decisions. Lead oncologist Gustavo Morel, M.D., earned Bertoldi’s trust through his compassionate care for his mother. Bertoldi’s mother made him promise that if he ever faced cancer himself, he would go to Dr. Morel for treatment. It was advice he hoped to never have to take.

A lifelong educator and community leader in Michigan’s Upper Peninsula, Bertoldi’s health took a sudden turn when diabetes complications and a suspicious mole led to a Stage II melanoma diagnosis in 2014. Despite subsequent treatments, Bertoldi’s cancer journey escalated to Stage III melanoma the following year.

Under Dr. Morel’s guidance, Bertoldi underwent a rigorous treatment regimen including immunotherapy, radiation and surgery at Marshfield Medical Center-Dickinson. Throughout his treatment, Bertoldi experienced unwavering support from his medical team, who treated him like family, and relied on his community for assistance during challenging times.

But Bertoldi’s battle with cancer was not yet over. In 2022, he received a Stage IV lymphoma diagnosis. Urgent chemotherapy, facilitated by Dr. Morel, proved lifesaving, though challenging side effects required additional treatments. Today, Bertoldi is a cancer survivor.

Grateful for his medical team’s dedication and inspired by his mother’s legacy, Bertoldi actively supports Marshfield Clinic Health System Foundation’s capital campaign for the construction of a new cancer center at Marshfield Medical Center-Dickinson. The facility aims to enhance cancer care and research accessibility for Upper Peninsula communities. More than 75% of the \$3 million capital campaign goal has already been raised thanks to generous donors.

Total donations to Marshfield Clinic Health System Foundation reached a record \$12 million in 2023. This includes significant contributions to research funding, driving innovation and progress in cancer treatment. Bertoldi’s journey underscores the importance of accessible, comprehensive cancer care and the pivotal role of research in shaping outcomes for patients like himself.

As the new cancer center takes shape, Bertoldi’s personal contribution and advocacy reflect his belief in accessible, comprehensive cancer care for all. His journey underscores the transformative power of community support, accessible, high-quality health care, and unwavering determination in facing life’s most formidable challenges.

## DONATIONS

to research programs at Marshfield Clinic Research Institute through Marshfield Clinic Health System Foundation are essential to better diagnose, treat and prevent health challenges that directly affect the rural communities we serve, including cancer.



To support local research efforts, visit [marshfieldclinic.org/giving/donate](https://marshfieldclinic.org/giving/donate)



# Highlights

## CPMR

### Revitalizing medical record alerts

Pharmacogenetics (PGx) is the area of medicine that considers how an individual's genes (rather, chunks of DNA) may impact how they respond to a given medication. This can improve patient safety and avoid potentially ineffective medications and/or dosing. The CPMR team worked diligently this year to continue optimizing use of this cutting-edge health data. In 2023, point-of-prescribing alerts were deployed for clinician and pharmacy use. These alerts advise the prescriber when a patient has PGx testing done and let the prescriber know of potential risks with medications for which the patient may have an interaction.

### All of Us across Wisconsin

The *All of Us* Research Program is a National Institutes of Health study with Marshfield Clinic Research Institute partnering. Its goal is to gather medical data from one million or more people across the United States with a focus on rural areas and other areas of the county historically not represented in biomedical research. Throughout the year the dedicated *All of Us* research team has traveled across the state to recruit and enroll participants into the large-scale project.

Interested in becoming an *All of Us* participant?

Visit <https://marshfield.joinallofus.org/> to find out how!

### Medical records project

When MCHS purchased St. Joseph's Hospital, it purchased its history including paper-based medical records dating back to the early 1900s. These records have been under-utilized until now. Starting with the most recent documents, talented and dedicated staff have abstracted nearly all available records. Variables abstracted include emergency contact information, basic demographics, occupation, religion, and ICD coding. Of the more than 23,000 patients abstracted thus far, nearly 80% can be mapped to a Marshfield Clinic MHN, thus enriching our clinical health data available for research.

### Celebrating an accomplished physician and researcher

Dr. Richard Dart, a clinical nephrologist, began his research journey shortly after joining Marshfield Clinic Health System. 2023 marked the 50-year anniversary of his research involvement and the year in which he received the Association for the Advancement of Medical Instrumentation Standards Developer Award from Johns Hopkins. Over the years, Dr. Dart has served on various Research Institute committees, from Infectious Diseases to the Medical Record as a whole, all while leading numerous projects focused on hypertension, renal diseases, and bioethics. The Research Institute is privileged to have counted him as a colleague over the years — not to mention a friend to those of us who call research home.

### Facts/Figures

- Center authors named on 12 peer-reviewed publications
- 33 funding requests submitted, 17 new or competitive
- 5 new donor-supported projects awarded totaling \$370,563
- 16 awards received from external grants and contracts (includes state, private and federal) totaling \$6,151,383

## FWCCR

### Vaccine approval received

In July, after years of trials involving Marshfield participants, the U.S. Food and Drug Administration approved Beyfortus (nirsevimab-alip) for the prevention of Respiratory Syncytial Virus (RSV), a lower respiratory tract disease. The vaccine is for neonates and infants born during or entering their first RSV season, and in children up to 24 months of age who remain vulnerable to severe RSV disease through their second RSV season.

### Facts/Figures

- Center authors named on 6 peer reviewed publications
- 9 grant or contract funding requests submitted, 3 new
- 1 new donor-supported projects awarded utilizing \$80,000 in support from our donors
- 3 awards received from external grants and contracts awarded (includes state, private and federal) totaling \$72,000 in total funding
- 19 active clinical trials, 35 completed enrollments
- 9 new clinical trials
- 19 subject matter expert clinicians with up to 3% sponsored research time



## CCRC

### Cellular therapy

The Marshfield Medical Center's Cellular Therapy Program, led by Dr. Seth Fagbemi as the medical director and supported by Dr. Kathy Puca and Amber Mews R.N., celebrated milestones. The program achieved accreditation from the Foundation for the Accreditation of Cellular Therapy for both its Autologous Stem Cell Transplant and newly established Immune Effector Cell/CAR-T Cell Therapy programs. This accreditation testifies to the program's longstanding commitment to quality care and innovation in treatment options for blood cancers since its inception in 1982 and initial accreditation in 2000.

### Dickinson expansion

Several service line and research leaders celebrated the groundbreaking of their new Cancer Care Center in Iron Mountain, Mich. The project is anticipated to be completed in May 2024 and will make available to patients' oncology clinical trials - paramount to improving care.

### Milestones in population-based studies

Under the leadership of Dr. Adedayo Onitilo and with support from the Ebenreiter Endowment Fund, the CCRC team secured two funded population-based-observational studies in health services research projects, prepared extramural proposals for potential funding, contributed six published peer-reviewed manuscripts and seven conference presentations, and recognized notable honors and academic contributions.



### Cross-institution care

In December, CCRC received a patient referral from the University of Chicago, motivated by that team's research opportunities and the center's goal of making national and global clinical trials available close to home. Partnering meticulously with the cancer oncology service line, the team helped ensure that this patient could participate in this clinical trial opportunity. Between the referral date, consult, eligibility scans/labs, registration, and start of treatment, the referral was a success.

### Facts/Figures

- Center authors named on 6 peer reviewed publications
- 11 grant or contract funding requests submitted, 3 new
- 1 new donor-supported projects awarded utilizing \$80,000 in support from our donors
- 3 awards received from external grants and contracts awarded (includes state, private and federal) totaling \$2,891,477 in total funding
- 161 active clinical trials, 97 completed enrollments
- 34 new clinical trials
- 14 physicians awarded Certificate of Excellence from the National Cancer Institute for clinical trial enrollment
- Second consecutive year award for Platinum Certificate of Excellence, awarded to the highest enrolling NCORP physicians

## CCEPH

### Household transmission surge

CCEPH researchers made crucial contributions to a Centers for Disease Control and Prevention-led study. This study found household spread of flu during the second flu season of the COVID-19 pandemic was more than twice as high as prior to the pandemic. During the 2021-22 season, 50% of household contacts of a patient with flu were themselves infected within seven days after the first person became sick compared with 20% of household contacts during two flu seasons before the COVID-19 pandemic. The secondary spread of household flu estimated during the 2021-22 season also exceeded estimates reported from previous flu household transmission studies. "This study highlights the need for household measures to prevent flu transmission, and the importance of annual flu vaccination to reduce the risk of flu illness," said Research Scientist Huong Nguyen, Ph.D., one of the study's authors and the local principal investigator.

### Cancer study recruitment begins

The CCEPH team started recruitment for the National Cancer Institute Connect for Cancer Prevention Study™ at Marshfield Medical Center-Weston. The health care system is one of nine across the country participating in this cutting-edge research. Together, these health care systems and the NCI seek to recruit 200,000 eligible adults over the next five years to participate in the study. Connect is a long-term study. It takes time to understand the causes of cancer, so participants are asked to take part over many years and to complete online health surveys a few times a year, providing samples every two to three years. Safeguards for privacy and confidentiality will protect participants' data and biological samples.

Interested in becoming a Connect Study participant?

Visit [www.cancer.gov/connect-prevention-study/](http://www.cancer.gov/connect-prevention-study/) to find out how!

### Snowmobile injuries

More than 1,000 people suffered snowmobile-related injuries during a five-year period in northcentral Wisconsin. However, according to a study by CCEPH researchers, the true number of injuries was likely under-reported due to lack of comprehensive reporting from hospitals and clinics,

and snowmobilers' failure to self-report injuries. "We encourage snowmobile operators to enjoy the sport but to operate these large, heavy, fast machines cautiously to protect themselves and other riders from injury," said epidemiologist Jennifer King. "Wear a helmet, follow all rules and regulations for trail use and etiquette, use good judgement on a safe speed for the conditions, and avoid use of substances that may impair judgement or the ability to control the machine when riding a snowmobile."

### Sebold honoree

Jeffrey VanWormer, Ph.D., a research scientist and interim director of CCEPH, was named the recipient of the 2023 Gwen D. Sebold Fellowship. The Gwen D. Sebold Fellowship recognizes an outstanding medical researcher and supports research in his or her chosen field. Since 1988, a financial award and a memorial plaque has been presented by D. David "Dewey" Sebold in memory of his sister, Gwen, who joined Marshfield Clinic as a medical stenographer in 1955 and passed in July 1974. "It's an honor and a great award," Dr. VanWormer said. "There's a lot of great company who have received this fellowship. It's quite the footsteps I'm walking in."

### Trauma Association contributing scientist

A year after joining MCRI, Heather Rhodes, Ph.D., was named one of six American Association for the Surgery of Trauma (AAST) Contributing Scientist members. AAST was established in 1938 to further the study and practice of traumatic surgery in its various departments in the United States and Canada. It is the premier academic trauma surgery organization in the U.S. and has over 1,700 members from 30 countries. The AAST is dedicated to discovery, dissemination, implementation and evaluation of knowledge related to acute care surgery (trauma, surgical critical care, and emergency general surgery) by fostering research, education and professional development.

### Facts/Figures

- Center authors named on 72 peer reviewed publications
- 67 funding requests submitted, 23 new
- 4 donor-supported projects awarded utilizing \$352,247 in support from our donors
- 42 awards received from external grants and contracts awarded (includes state, private and federal) totaling \$12,427,888 in total funding

## NFMC

### A visit from the governor

Wisconsin Gov. Tony Evers met with Farm Medicine scientists and staff during a visit to Marshfield Medical Center. The discussion focused on farmer and rural mental health, including the administration's investments and the Farm Medicine Center's research on this important topic. Evers declared 2023 the Year of Mental Health during his State of the State address. "We appreciate the governor's emphasis on this issue, and his taking the time to come to Marshfield," said Farm Medicine Director Casper Bendixsen, Ph.D. "Mental health care is a major concern for Wisconsin and the U.S. more generally. Within these challenges, there are those that are uniquely detrimental to rural areas."

### National ag centers meet

For three days during National Farm Safety and Health Week in September, scientists from Farm Medicine and its largest program, the National Children's Center for Rural and Agricultural Health and Safety, hosted a series of meetings. These meetings were a collaboration with eight of 12 National Institute for Occupational Safety and Health (NIOSH) Agricultural Centers. Discussion centered on children and youth, technology and engineering, injury surveillance, policy, farm workers, and interdisciplinary and cross-institutional work.

### Children's Center guest edits Frontiers in Public Health

Frontiers in Public Health, a multidisciplinary, open-access journal, has published "Safeguarding Youth from Agricultural Injury and Illness: International Perspectives." This collection of 29 manuscripts includes commentaries representing perspectives from eight countries, plus research from an additional three countries. Guest Editor Barbara Lee, Ph.D., assembled an international editorial team that included several Marshfield-based scientists.

### Rural child care

The research of Florence Becot, Ph.D., and co-investigator Shoshana Inwood, Ph.D. from Ohio State University, is being used in solutions supporting the health, safety and economic viability of the farm population. Their national survey of 860 farm families in 47 states highlighted childcare struggles. Three-quarters (77%) of farm families with children under 18 reported difficulties securing childcare because of lack of affordability, availability or quality.

### Facts/Figures

- Center authors named on 28 peer-reviewed publications
- 38 funding requests submitted, 14 new or competitive
- 4 donor-supported projects awarded utilizing \$282,341 in support from our donors
- 26 awards received from external grants and contracts awarded (includes state, private and federal) totaling \$2,401,367 in total funding



## IRDL

### Careers to celebrate

In 2023, MCRI wished a happy retirement to two of the most dedicated, funny, honest, and compassionate people many of us have ever worked with: Wayne Frome and Tammy Koepel. Frome hung up his lab coat after 56 years. Koepel retired after nearly 29 years.

### Lyme vaccine study

Recruitment and enrollment into the Phase 3 Lyme Disease vaccine clinical trial closed enrollment after successfully recruiting almost 100 participants. This is the only active Lyme vaccine clinical trial in the US and MCHS is the only Midwestern site in the country. This was a great collaboration among multiple centers and offices within MCRI and colleagues at MMC-Weston who helped get the Clinical Research Unit up and running for this (and other projects) on that campus. It has been an amazing example of collegiality and cooperation.



### MCRI Lyme studies enrollment

Active enrollment is in full swing for acute Lyme studies. A primary focus of this research is aimed at addressing poor sensitivity in current testing for early Lyme disease. This year, we continue to represent the Midwest by enrolling participants in the Bay Area Lyme Disease Biobank, CDC Lyme Serum Repository and DiaSorin LymeDetect studies. A collaborative effort between IRDL, FWCCR and CCEPH centers, supports recruitment across seven of our campuses. As of this week, we have enrolled 13 participants across these studies and campuses. A special thank you to our FWCCR and CCEPH research coordinators and IRDL lab staff for their commitment to successful enrollments. We are appreciative of the extra attention to detail that our FWCCR Regulatory staff provide and ORCA's efforts to help us keep our sanity in creating and streamlining resources.

### Facts/Figures

- Center authors named on 8 peer-reviewed publications
- 21 grant or contract funding requests submitted, 9 new
- 2 new donor-supported projects awarded utilizing \$149,889 in support from our donors
- 13 awards received from external grants and contracts awarded (includes state, private and federal) totaling \$7,582,625 in total funding
- 4 active clinical trials, 49 completed enrollments

## Compliance

### Congratulations!

Congratulations to Julie Graves, research billing and auditing specialist, who retired after 44 years with the health system. Thank you for your hard work and dedication!

### AHRPP re-accreditation

Re-accreditation from the Association for the Accreditation of Human Research Protection Programs (AAHRPP) helps ensure organizations conducting human research maintain the highest ethical standards. After a multi-year process of record and document review, MCHS/MCRI's HRPP welcomed AAHRPP site visitors to meet with members across the research institute. Their glowing review commended MCRI's research culture, especially our commitment to research and trials in rural areas. They also complimented our data integration, research protections, security review, and IS expertise in IRB review.

### Ethics Committee support for tough situations

The Marshfield Clinic Health System Clinical Ethics Committee serves as an interdisciplinary group of professionals from Health System hospitals, clinics and administrative offices responsible for developing and updating policies surrounding common medical ethical issues, case reviews and consultations. Common dilemmas include a conflict between the wishes of activated power of attorney and the patient themselves, or the unwillingness of an appointed guardian to consider medical decisions felt best by providers. It also may include general end of life care decisions or conflicts between an older minor child and their parents. No matter the situations, the committee is available as a resource.

### Facts/Figures

- 292 new and continuing reviews completed by the Institutional Review Board
- 66 reviews completed, 37 new & continuing
- 289 unique researchers

## ORCA

### International recognition and user collaboration

REDCap is the premier online survey and database tool for the research community. It uses a secure web application for building and managing online surveys and databases and can virtually collect any type of data, for research studies and operations. Annually, the consortium of REDCap administrators worldwide gathers to network and learn more about the platform's capabilities at a conference known as REDCapCon. Each year this consortium acknowledges a member who has reflected the epitome of excellence by awarding them as the REDCap MVP. This year, acknowledging the innovative strides in sharing knowledge to the millions of users worldwide, Chris Kadolph, software development team lead, was recognized as REDCap MVP, joining MCRI's Leila Deering who was previously honored in 2020.

### Changing course

2023 saw a new electronic medical record (EMR), Cerner, being fully implemented in the acute care and ambulatory setting. With the decommissioning of Cattails, the former, home-grown EMR, the ORCA team worked diligently to ensure a successful research transition. The team's many accomplishments include onboarding and training research staff to ensure users could continue documenting research activities, converting data and data models to guarantee clinical data availability for future research, and integrating of pharmacogenetic alerts to provide unique patient medication conflict information.

Updates in the EMR also improve research tools. The RecruitTracker application, for example, tracks and streamlines recruitment efforts and Clinical Trials Management system, while the Clinical Trials Document System and the Request Tracking System document and manage our Research Analytics data requests for feasibility and study data management/analysis. The new EMR can also collect patient occupation and Military status at time of registration.

### Facts/Figures

- Center authors named on 7 peer-reviewed publications
- 5,380 data requests completed

## ORSP

### A dynamic team

The Sponsored Programs team works within the Office of Research and Sponsored Programs. A diverse set of supports falls under the Office's aegis: scientific writing and publication, research navigation, institutional review board, sponsored programs, and project management. Together these resources ensure the highest quality of regulatory compliance, grant management, ethics, and scientific publications.

### The next generation of researchers

MCRI concluded its 2023 Summer Research Internship Program with a hybrid symposium, featuring the work of five university students from across the nation who are considering careers in research. This program is possible thanks to our generous donors. MCRI has offered summer research internship opportunities to qualified students since 1974. The primary goal of the program is to provide mentored, hands-on research for college undergraduate, graduate, dental, and medical students considering a career in research. In 2023, five additional students completed the program both virtually and in person. They join our very own Marshfield Clinic Health System Interim CEO Brian Hoerneman as a Summer Research Alumni.

### Enjoying retirement

2023 was an exciting year for our good friend and colleague, Cathy Mueller, who completed her last official year of work! We have been blessed with her expertise through many adventures. Thank you, Cathy, for being an amazing colleague and friend.

### Scientific Seminars

Each year MCRI brings scientific leaders in health research to present and discuss projects as a part of the Scientific Seminar series. These seminars highlight important health research being completed around the world. The 2023 Seminars included focuses presentations on Alzheimer's Disease, Social Determinants of Segregation, and Spinal Muscular Atrophy.

Watch for future seminars and prior seminars hosted here: [www.marshfieldresearch.org/2023-scientific-seminar/](http://www.marshfieldresearch.org/2023-scientific-seminar/)

### Facts/Figures

- Center authors named on 7 peer-reviewed publications
- 255 proposals initiated through Sponsored Programs, 117 new or competitive
- 219 requests submitted, 57 for support Marshfield Clinic Health System projects
- 26 new and continuing donor-supported projects awarded totaling \$1,565,061 in work supported by donors
- 140 externally funded grants and contracts received (includes state, private and federal), totaling \$39,774,079, \$7,986,474 in support for Marshfield Clinic Health System projects
- 43 new clinical trial contracts executed
- 57 total clinical trial contracts executed with an anticipated \$5,191,272 in funding to be received





## Research Navigation

### New Project Underway

MCRI always seeks to expand involvement from clinical partners, and the new Small Project Fund facilitates this relationship. This fund will provide direct assistance for filling in funding gaps for smaller projects or newer investigators. Such starting steps, which can be used for small studies and preliminary findings, will be instrumental in building up capacity for larger projects, so stay tuned as the Small Project Fund develops!

### Team expansion

The Resident Research program has played a meaningful role within the Health System for decades. In 2023 the program became an official part of MCRI. The program's adoption brings Brian Finnegan in the role of System's resident research facilitator. Finnegan has worked with the Office of Research and Sponsored programs team in many ways and officially joined the MCRI family in May. Continuing this program under his guidance will empower the success of the next generation of physicians and researchers.

### Mentorship award

Brian Finnegan, resident research facilitator, was pleasantly surprised one morning when a group of Pharmacy residents presented him with their 2022-2023 Research Mentor Award. The award was so unexpected that Brian forgot to take a photo with the group. Nine residents graduated from the pharmacy program this year, and Brian was nominated unanimously for his continuous support and dedication to students in the program.

### Program vision

Steven Theis, our research navigator helps align researchers and clinicians with opportunities that fit their research interests. Guiding projects from start to finish, Steve connects researchers with relevant resources and colleagues to help projects succeed. This help includes project development, proposal completion, project submission to appropriate funding agency, and post-award activities.

### Other ways to become involved

There are many opportunities for Marshfield Clinic Health System providers to participate in research and engage in research activities with the Research Institute:

- Participating in clinical trials as an investigator or subject matter expert
- Conducting an investigator-initiated study
- Mentoring a resident with their research project
- Attending or participate in Scientific Seminars
- Serving as a member of the Institutional Review Board

If you are a provider interested in participating in clinical research, contact Steve Theis, research navigator with the MCRI Office of Research and Sponsored Programs, at 715-389-4496.

### Facts & Figures

- 20 funding requests submitted, 13 new
- 10 resident research projects awarded utilizing \$75,149 in support
- 4 awards received from external grants and contracts awarded (includes state, private and federal) for MCHS clinician projects totaling \$1,238,325 in total funding
- 124 clinician researchers, 33 up to 3% approved sponsored research time

## Journals

### Journal of Agromedicine increases visibility in 2023

The Journal of Agromedicine achieved 110,225 downloads in 2023, a nine percent increase and the most-ever since the National Farm Medicine Center began editing the journal in 2004. Most-read was a special issue dedicated to the "Future of Work in Agriculture." The journal also garnered 643 social media mentions and 131 news and blog mentions according to publisher Taylor and Francis' analytics. The Journal of Agromedicine publishes translational research, reports and editorials related to agricultural health, safety and medicine. It is published quarterly and carries an Impact Factor of 2.4. Its core editorial team consists of Editor-in-Chief Matthew Keifer, Senior Associate Editor Barbara Lee, Managing Editor Scott Heiberger and Editorial Specialist Marie Fleisner. Associate Editors include Cap Bendixsen and Jeff VanWormer. Numerous other MCRI scientists and staff support the journal with article submissions and reviews.

To learn more about the Journal of Agromedicine, or read the latest issue, visit the journal's web site at: <https://www.tandfonline.com/toc/wagr20/current>

### The Research Institute's own clinical medicine journal

First published in 2003, Clinical Medicine & Research continues a long tradition of journal publication by Marshfield Clinic dating back to early 1900s and remains one of only a few indexed medical research journals owned and published by private-health systems. Articles published by Clinical Medicine & Research are cited in top journals, such as New England Journal of Medicine (NEJM), Blood, Journal of Biological Chemistry (JBC), Chest, Proceedings of the National Academy of Sciences (PNAS), Neurology, Circulation, European Heart Journal, British Medical Journal (BMJ), Canadian Medical Association Journal (CMAJ), Cancer Research, Annals of the New York Academy of Sciences, Journal of Thoracic and Cardiovascular Surgery, among others.

To learn more about Clinical Medicine & Research, or read the latest issue, visit the journal's web site at: [www.clinmedres.org](http://www.clinmedres.org)

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## Foundation

### Donations hit \$12 million

Total donations to Marshfield Clinic Health System Foundation reached a record \$12 million in 2023. This includes significant contributions to research funding, driving innovation and progress in cancer treatment.

### Kraemer estate gift

Marilyn and Tom Kraemer left a generous gift in their estate to support cancer research. The Kraemers were entrepreneurs who owned funeral homes in Edgar, Marathon City, and Wausau. Marilyn was a grateful patient, battling multiple myeloma for many years. She benefited from cancer research and clinical trials during her lifetime and always spoke highly of the care she received. The estate trustees, impressed with how our cancer research impacts rural communities, made a charitable distribution from the estate resulting in \$600,000 to support cancer research efforts.

### Golf for Research

Generous supporters of the 24th Golf for Research raised over \$67,000 to help provide essential resources that allow Marshfield Clinic Health System to continue care and access to clinical trials.

### Cruise for a Cause

Linda and Dan Neve presented their largest gift of \$201,000 to support cancer research programs. The funds resulted from their tireless efforts running the Cruise for a Cause annual fundraiser. Dan turned his love for fast Fords into a vocation, raising money to one day cure cancer. Throughout the year Dan, a self-described car show "roadie," travels across the country. He attends several local events that bring attention to his cause, merging a passion for Ford vehicles with the desire for cancer care research.

### Thank you, Dr. Reinhart

The Research Institute received a generous donation of \$50,000 from Dr. Richard Reinhart to advance research and access for our patients. His gift will help offset expenses to keep our clinical research units in Marshfield and Weston operating efficiently and effectively.

### Welcome, Gary Ratts

The MCRI Oversight Board welcomed Mr. Gary Ratts, who is the trustee for the Frank and Betty Koller Trust. Gary shared the story of his dear friends, Frank and Betty. The Kollers were cranberry farmers in Manitowish Waters. Their generous spirit has resulted in more than \$1 million in contributions to the Research Institute since they established their trust. With the annual trust allocations, MCRI has funded post-doctoral positions, purchased new equipment, endowed internally funded research awards, and promoted other important initiatives to advance science and medicine.







# Marshfield Clinic Health System

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