Institute for Clinical and Translational Research
UNIVERSITY OF WISCONSIN–MADISON

2024 in review

1,500+
Research projects supported

45+
Institutional collaborators

25+
Wis. counties reached

140+
Scholars served or trained

Investing in Wisconsin Research

The **UW Institute for Clinical and Translational Research (ICTR)** improves the health of communities across Wisconsin by helping researchers turn discoveries into real-world health solutions. Supported by the flagship NIH Clinical and Translational Science Award (CTSA) Program, we provide tailored services, training programs, and funding to help researchers successfully advance their work and careers. Our support for researchers includes:

- Expert guidance in research design and development.
- Tools and technology for efficient operations and data management.
- Guidance to ensure research meets community needs and is shared in ways people can use.
- Institutional partnerships that enable collaboration and scalability.
- Career development programs that promote rigorous, evidence-based research.

Real World Impacts

Faster treatments and injury prevention in rural communities

Game-changing help for fungal disease. Rural Wisconsin is the global hotspot for blastomycosis, a life-threatening fungal infection. Yet current tests for this disease are difficult to run in rural clinical labs. This delays treatment, which can lead to worse outcomes for patients. Researchers from UW–Madison and the Marshfield Clinic Research Institute used ICTR research funding to develop **new tests that are cheaper, easier, and safer to run**, expanding access to critical diagnostics. The new testing method reduces the time to results from an average of **6 weeks to 1-3 days,** allowing patients to seek specialized treatment sooner. Researchers, recognizing the potential for widespread adoption in similar settings, will teach clinical labs across Wisconsin about this new testing method, bringing better health care to rural communities.

Researchers, firefighters, and farmers team up. People employed in agriculture face significant risks for injuries and fatalities, which cost communities across the U.S. billions of dollars each year. Researchers found that farmers trust rural firefighters to provide safety advice. The RF-DASH program is a train-the-trainer program that equips first responders with agricultural health and safety knowledge to prevent farm injuries and improve emergency preparedness in rural communities. With ICTR's support, RF-DASH doubled the program's size in Wisconsin, **extending its reach to volunteer firefighters throughout the state**. To date, RF-DASH has directly **trained more than 250 first responders and others from 17 U.S. states and 5 Canadian provinces**. Additionally, RF-DASH created an online course that utilizes 360-degree imagery to increase the program's dissemination and impact.

Increased screenings to prevent blindness. Approximately 423,000 Wisconsinites have been diagnosed with diabetes. This condition can lead to eye disease that, if left untreated, may result in preventable blindness. Yet fewer than 70,000 receive the recommended yearly eye screening which can reduce the risk of blindness by over 90%. With the help of funding from ICTR, researchers were able to expand a program called I-SITE, which helps primary care clinics integrate preventative screening into their daily work. The program has been implemented in **13 health systems across 8 states, including 20 primary care clinics**. Additionally, the implementation guide has been downloaded **over 100 times**.

Technology and data for customized care

Using AI to prevent opioid misuse. ICTR's Learning Health System program, together with UW Health colleagues, developed an artificial intelligence (AI) screening tool that successfully identifies hospitalized adults at risk for opioid use disorder. The tool alerts providers to recommend a referral to inpatient addiction specialists. Use of the tool reduced hospital readmissions and resulted in health care savings. Compared to patients who received provider-initiated consultations, patients identified for addiction medicine referrals by AI screening and who received consultations had **47% lower odds** of being readmitted to the hospital within 30 days after their initial discharge. The team calculated that each readmission avoided saved about **$6,800 in health care costs** during the study period, an estimated total of **$108,800 in health care savings** for the eight-month study period. The team's research has been published in the journal *Nature Medicine*.

Using AI to enhance patient visits. ICTR worked with UW Health to evaluate the use of Ambient AI software during outpatient visits. This new technology makes notetaking easier for doctors, improving clinician well-being and creating a better patient experience. Since 2024, **over 550 providers have used the Ambient AI software** to take notes. Providers have shifted away from Virtual Scribe, dropping from 250 to 35 providers, **cutting costs by $4.4M**. To help others follow suit, researchers recently published a practical playbook in the *New England Journal of Medicine* to help integrate Generative AI tools into health care workflows.

New imaging technique for liver disease. Fatty liver disease, associated with metabolic dysfunction and obesity, poses major health challenges and leads to further liver injury in many patients, including fibrosis, cirrhosis, liver cancer, and liver failure. Currently 2 billion people globally and 100 million people in the U.S. are affected. Accurate, non-invasive tests are needed to enable diagnosis, staging, and treatment monitoring. A new MRI technique developed by ICTR-supported researchers offers unprecedented precision to quantify fatty liver disease while also allowing patients to breathe freely during the imaging process. Not only does breathing freely benefit patient comfort, it is necessary for those unable to hold their breath for a prolonged time. Since 2024, **nearly 1,000 patients have been scanned** using this new method at UW Hospitals. Researchers are actively working with GE HealthCare, other makers of MRI equipment, and clinicians across multiple institutions to spread this technique more widely.