



Annual Report
FY 2025



CONCUSSION CENTER
UNIVERSITY OF MICHIGAN

Letter from the Director

This past year marked a period of incredible momentum, innovation, and impact for the University of Michigan Concussion Center. Our dedicated faculty, staff, and trainees have tirelessly advanced our mission of transforming concussion care through research and clinical excellence, while sharing our knowledge with communities in Michigan, the country, and the world. We hope our work helps improve the lives of individuals and families around the world.

In a powerful new collaboration, the mural expresses the voices of individuals recovering from concussion, using participant-driven color, movement, and symbolism to capture the nonlinear, deeply personal path of healing.

In 2025, our faculty continued to grow as we welcomed an outstanding senior scholar to the U-M community. Dr. Jonathan Lifshitz, a national leader in neurotrauma research, brings a remarkable track record of work on the fencing response, domestic violence-related brain injury, veteran health, and youth safety. As our new Associate Director for the Engagement & Education Core, Dr. Lifshitz is already expanding how we connect science to the people who need it most—from clinicians to communities.

We were also thrilled to award our inaugural Zatkoff Graduate Student Fellowship for Concussion Research to Elizabeth Metzger, a doctoral student in Epidemiology at the U-M School of Public Health. Elizabeth's work focuses on the long-term brain health effects of repeated low-level blast exposures in U.S. service members—an urgent area of study that bridges military health, neuroscience, and public health. Her background as both

a military health researcher and military spouse enriches her work with deep purpose and perspective.


In a powerful new collaboration, the Concussion Center partnered with Ypsilanti-based artist Avery Williamson to create a mural that brings concussion recovery to life. With support from the U-M Arts Initiative and the School of Kinesiology, the mural can be seen on the Concussion Center's walls. It expresses the voices of individuals recovering from concussion, using participant-driven color, movement, and symbolism to capture the nonlinear, deeply personal path of healing. This installation reminds us that concussion is not just a medical condition, but a human experience that touches entire communities.

As we look ahead, I remain inspired by the creativity, compassion, and scientific excellence of our growing community. Thank you for being a part of this important journey with us.

Warm regards,
Steven Broglio, PhD
Director, Michigan Concussion Center



Bringing art and science together: Dr. Steven Broglio, mural artist Avery Williamson, and Dean Lori Ploutz-Snyder celebrate the Concussion Center's new mural at the University of Michigan School of Kinesiology building.



Through movement and expression, U-M School of Music, Theater, and Dance (SMTD) student Caitlyn Wade (Class of 2025) danced in front of the Concussion Center mural to reflect her personal recovery journey.

“I have not experienced a concussion, so it was very important for me to listen to the stories of patients, and allow them to guide this mural. What I heard is that their concussions have profoundly shaped how they relate to their own minds and bodies. A universal response was that recovery was not linear: there were ups, downs, reversals, big leaps, and standstills.”

— Avery Williamson, Mural Artist

Research Core

Led by Drs. James Eckner, Phil Veliz, and Katharine Seagly, the Research Core fosters and conducts collaborative concussion research from cells to systems.

Advancing Brain Health Across the Lifespan

This year, a team led by Dr. Eckner (Associate Professor of Physical Medicine & Rehabilitation, Michigan Medicine) and Dr. Eleanna Varangis (Assistant Professor of Movement Science, School of Kinesiology) was awarded a seed grant from the Brain Injury Association of America to launch *The University of Michigan Alumni Brain Health Study: Blood Biomarker Addition*. This innovative project expands our understanding of long-term brain health outcomes in individuals with a history of traumatic brain injury (TBI) and repeated head impacts—shifting the research lens beyond professional athletes to more diverse populations. The long-term prospective monitoring of concussion as a disease process benefits all who are at risk or who have experienced a concussion.

“The Concussion Center’s dedicated research coordination has been essential in moving our vestibular intervention study forward—turning an innovative idea into a project that could transform concussion care.”

—DEVIN MCCASLIN, PHD, CLINICAL PROFESSOR OF OTOLARYNGOLOGY-HEAD AND NECK SURGERY, AUDIOLOGY MEDICAL DIRECTOR, MICHIGAN MEDICINE

Using Data to Predict and Prevent Concussions

Supported by the U.S. Department of Defense (DoD), Dr. Eckner and Dr. Mariel Lavieri (Associate Professor of Industrial & Operations Engineering, School of Engineering), are leading a three-year project to create personalized concussion risk models for cadets and midshipmen at U.S. service academies. By leveraging pre-season baseline data, the research aims to identify those most at risk and improve safety protocols in high-risk military training environments.



Members of the The Assessing Traumatic Brain Injury with Neurocognitive Approaches (ATHINA) Lab, directed by Dr. Eleanna Varangis (second from the left), at the University of Michigan.

Optimizing Personalized Concussion Care with Blood-Based Biomarkers

Over the last three years, Dr. Katharine Seagly (Associate Professor of Physical Medicine & Rehabilitation, Michigan Medicine) has overseen outcomes assessment for DoD research, led by Dr. Fred Korley (Professor of Emergency Medicine, Michigan Medicine). Using blood-based biomarkers, they have optimized concussion and brain injury diagnostics in the Emergency Department here at Michigan Medicine and improved resource allocation. With their recently funded DoD Program Focused Award, they are continuing this important work with expansion to multi-center implementation with the goal of spurring widespread adoption of TBI blood-based biomarkers and aiding care providers in delivering more precise, personalized care for TBI patients across diverse military and civilian settings. Dr. Seagly leads the outcomes research for the study, focusing on using the new National Institute of Neurological Disorders and Stroke Clinical, Biomarker, Imaging, and Modifiers (CBI-M) approach to create a framework for classifying TBI. Their goal is to assess how accurately this framework predicts long-term recovery for patients with less severe TBIs.

Strengthening Industry Collaborations

The past year also marked a growth in industry-sponsored research led by the Center faculty:

- Dr. Ingrid Kraus Ichesco (Clinical Assistant Professor of Pediatrics, Michigan Medicine) is contributing to a multi-center trial evaluating the safety and effectiveness of the Pro-2-Cool device—a head and neck cooling system used after mTBI in youth athletes ages 12–21 (NCT06929923).
- Dr. Devin McCaslin is partnering with Vivonics to study a novel vestibular intervention using a portable electrical stimulator, aiming to improve balance and spatial orientation after concussion.

Together, these efforts highlight the Center's commitment to sharing dedicated space and personnel to accelerate concussion research, translating discovery into real-world impact, and shaping evidence-based solutions for patients.

“With the Concussion Center’s research coordination team handling logistics and site support, I can focus on what matters most—advancing our multi-center trial to improve recovery for youth athletes after concussion.”

—INGRID ICHESCO, MD, CLINICAL ASSISTANT
PROFESSOR, PEDIATRICS, MICHIGAN MEDICINE

Clinical Core

Led by Drs. Andrea Almeida, Matthew Lorincz, and David Millward, the Clinical Core unites clinical teams, patients, and researchers to advance and deliver world-class concussion care.

Expanding Access to Specialized Concussion Care

Our commitment to interdisciplinary, patient-centered care is exemplified by the specialized services provided by our clinician members through both the NeuroSport and Brain Injury Rehabilitation Program at Michigan Medicine. Together, these nationally recognized programs delivered expert concussion evaluation and treatment to patients ranging from elite collegiate athletes to everyday individuals recovering from head injury. In support of our Learning Health System goals, Center faculty and clinicians are actively collaborating to align clinical programming and documentation templates across NeuroSport, Physical Medicine & Rehabilitation (PM&R), University Health and Counseling, and Michigan Athletics, enabling consistent care, tracking, communication, and longitudinal analysis of concussion care outcomes across the health system.

“Our partnership with the Michigan Concussion Center allows Athletic Medicine to provide the most up-to-date clinical care to our 900+ varsity athletes.”

— DARRYL P. CONWAY, EXECUTIVE SENIOR ASSOCIATE ATHLETIC DIRECTOR AND CHIEF HEALTH & WELFARE OFFICER, UNIVERSITY OF MICHIGAN ATHLETICS

Championing Inclusive Care for Adaptive Athletes

In a groundbreaking partnership with Dr. Melissa Tinney (PM&R, U-M Adaptive and Inclusive Sports Experience, Michigan Medicine), the Center supported the first-ever college-level concussion baseline testing for adaptive sports athletes at U-M. This work was made possible through a partnership with the U-M Injury Prevention Center, which funded a summer student intern to assist in the design and implementation of the testing program. Together, this collaborative effort ensures that adaptive athletes—often excluded from traditional concussion protocols—receive the same standard of care, reinforcing our commitment to inclusive and equitable brain health.

Innovating Beyond the Sidelines: Concussion Care for Performing Arts

While return-to-play protocols for athletes are well-established, performing arts students and staff recovering from concussion have long lacked similar clinical guidelines. This year, the Concussion Center helped close that gap. Alumnae Dr. Allyssa Memmini (U-M Kinesiology '22) and Center faculty member Dr. Kristen Schuyten (SMTD) pioneered a return-to-performance protocol tailored to dancers, musicians, and other performing artists. Their work garnered national attention, and Dr. Schuyten was honored with the American Physical Therapy Association Orthopaedic Section's Innovative Practice Award for Q1 2025.

From elite athletes to adaptive sports participants to performing arts students, the Clinical Core continues to redefine what inclusive, individualized concussion care looks like. Our expertise in one domain informs care and recovery in the next, such that our faculty can innovate faster to improve outcomes from concussion.



A glimpse from the Concussion Center's Research Jam in Spring 2025, where clinicians and researchers came together to explore infrastructure, share ideas, and spark future collaborations.



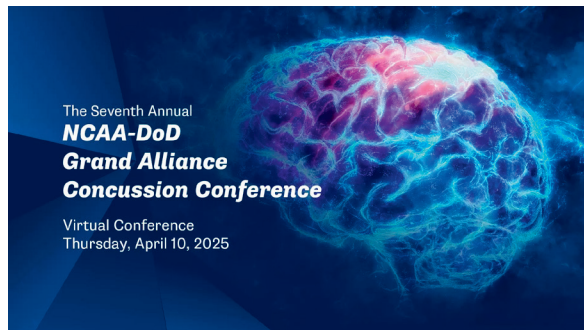
From research to practice: Dr. Kristen Schuyten (SMTD, second from the left), Dr. Allyssa Memmini (U-M Kinesiology '22, second from the right), and Cindy Munday, PT, MPT (Concussion Center/NeuroSport), present their work at a national conference.

Engagement & Education Core

Led by Drs. Andrew Hashikawa, Jonathan Lifshitz, and Douglas Wiebe, the Engagement & Education Core empowers stakeholders through partnership, education, and advocacy by co-creating concussion solutions.

Uniting Experts Through Global Conferences

In April 2025, the Concussion Center once again co-hosted the Seventh Annual NCAA-U.S. Department of Defense Grand Alliance Concussion Conference in partnership with the NCAA Sport Science Institute and the Big Ten Conference. This premier virtual event brought together more than 1,000 participants — including clinicians, athletic trainers, researchers, and administrators — from across the globe to explore the latest concussion research and share emerging data and best practices.



Driving Community Education and Awareness

Over the past year, the Center hosted a series of virtual and in-person events featuring leading voices in concussion research and care. Notably, Dr. Kent Werner from the Walter Reed Sleep Disorder Center shared groundbreaking insights on the intersection of traumatic brain injury and sleep health. These events drew more than 300 participants, expanding access to emerging research and reinforcing the Center's role as a trusted national thought leader in concussion education.



Kent Werner, MD, PhD, Director of Research at the Walter Reed Sleep Disorders Center, speaks at the Concussion Center Speaker Series on the intersection of traumatic brain injury and sleep health.

concussionnavigator.org



Launching Tools That Empower Families and Clinicians


With generous support from the Toyota Way Forward Fund, Center members are advancing innovative tools that make concussion care more accessible, personalized, and equitable. This year, the Center and its national collaborators launched the Concussion Navigator—a user-friendly, evidence-based digital platform designed to support families, educators, and care providers throughout the concussion recovery journey. Developed in partnership with the U-M Injury Prevention Center, the National Association of State Head Injury Administrators (NASHA), the Center of Brain Injury Research and Training (CBIRT), and the Brain Injury Association of Michigan (BIAMI), the app offers step-by-step guidance for symptom tracking, accessing specialist care, and safely

returning to school and play. Most importantly, it connects users to certified providers to support timely, informed recovery. The Toyota Way Forward Fund also supports the HeadStrong Community Project, led by the Yale School of Medicine, with U-M collaborators Dr. Nate Hunt (Clinical Assistant Professor, Emergency Medicine), Dr. Alex Rogers (Division Chief, U-M Pediatric Emergency Medicine), and Dr. James Eckner. This project reimagines how community paramedicine—using EMS providers to deliver in-home care—can close gaps in local health infrastructure and extend concussion support to underserved communities. Together, these initiatives reflect a shared mission: to meet families where they are, reduce barriers to care, and build a more responsive, community-centered concussion care system.

Expanding Safety for Young Children and Families

The Pop-Up Safety Town initiative—spearheaded by Dr. Hashikawa (Clinical Professor of Emergency Medicine)—continues to make a powerful impact in underserved communities. In FY2025, the program hosted events in nine locations across Michigan, including Ypsilanti, Flint, Hamtramck, Pine Creek Reservation, and more. With the support of more than 170 volunteers, the team fitted 1,000+ helmets for young children while delivering hands-on injury prevention education. With donor support from U-M School of Kinesiology, we also distributed Pop-Up Safety Town kits to nine preschool lending libraries across Michigan, including sites in the Upper Peninsula and Northern Michigan. The kits allow preschool and early-care educators to integrate injury prevention into their everyday curriculum. Backed by new funding from the AAA Auto Club Group Foundation and programmatic support from the American Academy of Pediatrics, Pop-up Safety Town will expand in the coming year to additional locations in Michigan, as well as communities in Florida, Georgia, and South Carolina.

Together, these outreach efforts reflect the Center's commitment to translating science into action, engaging communities where they are, and ensuring that concussion education, prevention, and care are accessible to all. As the Engagement & Education Core expands its reach in the coming year, we remain focused on building partnerships, amplifying patient voices, and empowering the public with the tools and knowledge needed to support brain health across the lifespan.



“Attending Pop-up Safety Town for the first time was a fantastic experience. The event featured different well-organized stations, each offering valuable information. Despite the variety, it was very organized, making it easy to navigate even for kids like my 3-year-old daughter. She had no trouble following along with the activities!”

- DESTINY J. ORMSBEE, PARENT,
HURON POTAWATOMI PINE CREEK
RESERVATION



Foundational Partners

Biosciences Initiative
School of Kinesiology
Department of Neurology
Department of Physical
Medicine and Rehabilitation

External Partners

Brain Injury Association of
Michigan
Detroit Public Schools
Community District
Michigan Department of Health
and Human Services
Michigan High School Athletic
Association
Michigan Athletic Trainer's
Society
National Association of State
Head Injury Administrators
The Center on Brain Injury
Research & Training
Concussion in Sport Group

2024-2025 U-M Collaborators

Michigan Athletics
College of Engineering
College of Literature, Science,
and the Arts
Eisenberg Family Depression
Center
Human Performance & Sport
Science Center
Injury Prevention Center
Institute for Healthcare Policy
and Innovation
Michigan Medicine
Michigan Neuroscience Institute
Michigan NeuroSport
Office of Vice President for
Research
School of Education
School of Nursing
School of Public Health
Student Life - University Health
& Counseling Service
Center for Academic Innovation
Michigan Brain Bank
Michigan Alzheimer's Disease
Center
School Department of Music,
Theatre, and Dance
Kresge Hearing Research
Institute

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