

*Physician in the Community  
Scholarly Project Showcase 2025*



*Wednesday, August 6, 2025  
3:00 pm – 5:00 pm*

*Medical College of Wisconsin – Central Wisconsin  
1900 Westwood Drive, Suite 3100  
Wausau, WI 54401*

## *Our Goal*

All students who train at the Medical College of Wisconsin-Central Wisconsin regional campus will become community-engaged physicians. This means that they will reflect on the impact that the social determinants of health have on their patients' lives and advocate for the overall health of the communities where they choose to practice.

Over the two-year Physician in the Community course, students forge relationships with community members across many professional disciplines and explore local health priorities. In partnership with community mentors, the students identify community needs, collaborate to design and implement a community-engaged scholarly project, and develop presentations to share their results. Many of the students are building upon projects started by previous medical students, and projects will continue to evolve to meet the needs of our Central Wisconsin community.

We would like to thank our many community teachers and community mentors, as well as the Physicians in the Community Advisory Board for their input into the training of our future doctors, many of whom will return to live and work in Central Wisconsin communities.

## *Showcase Program Schedule*

<b>3-4 pm</b>	Student Poster Presentations
<b>4-4:05 pm</b>	Welcome, Opening Remarks, and Presentation of Teaching Pins
<b>4:05-4:55 pm</b>	<p>Featured Project Presentations</p> <ul style="list-style-type: none"><li>➤ <u><b>Hannah Kolarik, Stop the Bleed</b></u></li><li>➤ <u><b>Luke Mueller, Assessing Barriers to Care in Rural Hispanic Populations</b></u></li><li>➤ <u><b>Kia Lor, Factors Influencing Decision to Breastfeed in Hmong Women</b></u></li><li>➤ <u><b>Autumn Capper, Lyme Disease Awareness and Prevention Teaching Model</b></u></li><li>➤ <u><b>Payton Jorgenson, Wausau Free Psychiatry Clinic</b></u></li></ul>
<b>4:55-5:00 pm</b>	Community Engagement Fund Awards and Closing Remarks



## *Student Projects*

- **Nadia Bauman**, The Wausau Free Clinic: An Analysis of the Impact on Medical Students
- **Christopher Benny**, Roots of Resilience: An Evaluation of the Lac du Flambeau Family Circles AODA Traditional Parenting Program
- **Autumn Capper**, Lyme Disease Awareness and Prevention Teaching Model
- **Sindhu Donepudi**, The Effects of Mentorship and ACEs on Student Success
- **Mario Duwe**, Refugee Health
- **Lauren Harrison**, Stop the Bleed – Hemorrhage Control Training in Rural Wisconsin
- **Carley Hintz**, Sparking a Connection: Experiences of Those Living with Dementia and their Caregivers Through the Spark! Program
- **Payton Jorgenson**, Wausau Free Psychiatry Clinic
- **Makaya King**, Caring for our Community Kids
- **Hannah Kolarik**, Stop the Bleed
- **Kia Lor**, Factors Influencing Decision to Breastfeed in Hmong Women
- **Matthew Lukasik**, Water Quality Assessment of Private Well Owners
- **Mae Moris**, Cranium Crew
- **Luke Mueller**, Assessing Barriers to Care in Rural Hispanic Populations
- **Bradley Nagel**, Anaphylaxis Education and Increasing Epinephrine Availability
- **Natasha Neumann**, LENA Start
- **Miriam Sanchez**, Analyzing Differences in A1C Levels in Latinx Free Clinic Patients who have Diabetic Education
- **Marie Schulz**, Cycling Without Age
- **Carolyn Storch**, Women's Health
- **Marin Stowe**, Identifying Type 2 Diabetes and Hypertension in Rural Wisconsin
- **Kouseng Yang**, Advocates in Medicine Pathway



**Medical Student: Nadia Bauman**

**Project Title:** The Wausau Free Clinic: An Analysis of the Impact on Medical Students

**Community Mentor:** Kim Shibilski, Wausau Free Clinic

**MCW-CW Collaborator:** Corina Norrbom, MD

**Purpose:** This study explores how volunteering at the Wausau Free Clinic impacts medical students' understanding of social determinants of health (SDOH) and how it may shape their attitudes toward underserved patient populations.

**Methods:** An anonymous survey was distributed to first, second, and third year medical students at the Medical College of Wisconsin-Central Wisconsin who volunteered at the clinic. The survey included Likert-scale and open-ended questions assessing perceived changes in students' understanding of SDOH, empathy toward patients, and experiences working with interpreters. The questions were developed based on the Jefferson Scale of Empathy. Responses were analyzed using basic descriptive statistics and qualitative analysis.

**Results:** The survey was distributed to 45 students and 20 responses were received. Respondents reported an increased awareness of healthcare disparities, particularly among rural and immigrant populations in Wisconsin. Many students noted a greater appreciation for socioeconomic challenges and their impact health outcomes. Students also emphasized the value of community-based solutions and the role of free clinics in expanding access to healthcare.

**Conclusions:** These findings suggest that volunteering at the free clinic can enhance students' empathy and understanding of SDOH, while fostering a commitment to addressing healthcare inequities. These insights support the integration of community-based clinical opportunities within medical education. Future efforts will focus on promoting sustained student involvement in the Wausau Free Clinic.

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## **Medical Student: Christopher Benny**

**Project Title:** Roots of Resilience: An Evaluation of the Lac du Flambeau Family Circles AODA Traditional Parenting Program

**Community Mentor:** Dr. Brian Jackson, Cultural Connections Coordinator at Lac du Flambeau Public School

**MCW-CW Collaborators:** Amy Prunuske, PhD and Corina Norrbom, MD

**Purpose:** The Lac du Flambeau (LDF) Family Circles AODA Traditional Parenting Program aims to mitigate the prevalent rates of alcohol and drug use within families on the LDF Ojibwe Indian Reservation using a culturally tailored approach. Our quality improvement project evaluated the effectiveness of the program in reducing substance use and its impact on participants' self-awareness and self-esteem.

**Methods:** Pre- and post- program surveys were utilized to capture quantitative data on the program's impact on participants alcohol and other drug use behaviors, cultural knowledge, self-awareness, self-esteem, and cultural engagement. A qualitative focus group further explored the program's influence and identified areas for improvement. A comparative design approach employing descriptive statistics and change score analysis was utilized to analyze quantitative data. A Rapid Qualitative Analysis approach was utilized to analyze qualitative data.

**Results:** 17 adults participated in the Program. Of those, 11 accurately completed both surveys, and 13 took part in the focus group. Quantitative data showed positive shifts in cultural knowledge, self-awareness, self-esteem, and cultural engagement. However, substance use behaviors remained largely unchanged. Qualitative data revealed cultural reconnection, increased emotional resilience, strengthened familial bonds, and reported improvements in sobriety.

**Conclusions:** The program fostered cultural, emotional, and interpersonal growth, even without measurable substance use behavior change. Findings suggest that culturally tailored interventions may prepare participants for recovery and long-term resilience by enhancing cultural identity, treatment engagement, emotional well-being, and self-concept. Future evaluations should consider prioritizing qualitative methods to better capture meaningful change due to the limitations of quantitative standard outcome tools in culturally specific interventions.

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**Medical Student: Autumn Capper****Project Title:** Lyme Disease Awareness and Prevention Teaching Model**Community Mentor:** Glenda Butterfield-Goldig, Bowler School District**MCW-CW Collaborators:** Amy Prunuske, PhD and Corina Norrbom, MD

**Purpose:** Lyme disease is a growing public health concern in Wisconsin, with case rates tripling over the past 15 years. Children and adolescents are among the most at-risk populations, yet there are limited school-based awareness programs. To address this gap, we developed a Lyme Disease Teaching Model for middle and high school students in Central Wisconsin. Our goals were to increase student knowledge of tick-borne illness and prevention strategies and assess whether the program influenced student interest in science or health careers.

**Methods:** The teaching model consists of a one-hour session featuring both didactic and hands-on activities, including tick identification and DNA extraction. Students completed voluntary pre- and post-session surveys assessing their knowledge of Lyme disease and interest in science, medicine, or healthcare careers. Teachers also completed a survey evaluating the effectiveness of the program and their interest in incorporating it into school-wide curricula.

**Results:** Post-session survey data showed that students improved their ability to differentiate between Deer Ticks and Dog Ticks and demonstrated increased understanding of Lyme disease transmission and prevention strategies. However, the session did not significantly impact their interest in science or healthcare careers as much as we hoped for. Teachers reported that the session was beneficial to student learning and expressed interest in implementing the model more broadly.

**Conclusions:** The teaching model effectively improved student understanding of Lyme disease and prevention strategies. Although it did not significantly influence career interests, strong teacher support as well as community need suggests potential for broader school-based implementation and long-term educational impact regarding Lyme Disease prevention and awareness in youth.

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**Medical Student: Sindhu Donepudi**

**Project Title:** The Effects of Mentorship and ACEs on Student Success

**Community Mentor:** Dr. Shannon Young, Wausau School District

**MCW-CW Collaborator:** Jeff Amundson, PhD

**Purpose:** This study examines the impact of mentorship on medical students participating in the Enrich, Excel, Achieve (EEA) Mentorship Program, where they mentor high school students affected by higher-than-average adverse childhood experiences (ACEs). The objective is to assess how these relationships influence mentors' empathy, attitudes, and mental well-being, with an emphasis on personal and professional development.

**Methods:** Medical students from the Medical College of Wisconsin mentored high school students from a non-traditional educational setting for at least 30 minutes monthly over eight months. At the end of the 2023–2024 academic year, all mentors were invited to complete an anonymous survey assessing changes in attitudes, self-perception, and emotional well-being. Of 26 mentors, 18 responded.

**Results:** At the start of the program, 56% of mentors anticipated enjoying the experience, and 50% expected to form a meaningful connection. By year's end, 67% reported enjoying the experience, and 61% felt they had formed strong bonds. Half of respondents reported changes in self-image, and 72% expressed interest in mentoring again. Common challenges included mentee absenteeism and limited training on ACEs.

**Conclusions:** Participation in the EEA Mentorship Program appears to enhance medical student empathy and professional growth. Addressing identified challenges—particularly training and mentee consistency—could improve the mentorship experience. These findings will inform future program development to better support both mentors and mentees.

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**Medical Student: Mario Duwe****Project Title:** Refugee Health**Community Mentor:** Janice Watson, ECDC Multicultural Community Center**MCW-CW Collaborators:** Amy Prunuske, PhD and Corina Norrbom, MD

**Purpose:** The purpose of this project was to address healthcare disparities faced by refugees in Wausau, Wisconsin, by implementing and evaluating a cultural competency training program for medical students. The SMART goal was to increase medical students' communication skills, understanding of refugee healthcare, and overall comfort in assessing refugee healthcare needs. By the end of the year, we aimed to demonstrate measurable improvements in these areas.

**Methods:** The project followed a pre-post intervention design, beginning with a baseline assessment of medical students' knowledge of refugee healthcare, focusing on communication barriers, cultural understanding, and comfort level. The intervention involved a tailored cultural competency training program developed in collaboration with the Ethiopian Community Development Council (ECDC). Following the intervention, the same metrics were reassessed. Surveys and feedback sessions were used, and statistical analysis compared pre- and post-intervention results.

**Results:** Thirty-seven students participated. All metrics evaluated showed significant improvement post-intervention. Medical students reported an increase in their ability to communicate effectively with refugee patients, a deeper understanding of refugee-specific healthcare needs, and heightened confidence in providing culturally sensitive care. Quantitative analysis revealed a significant increase in students' self-reported knowledge and comfort across all outcome measures.

**Conclusions:** Targeted cultural competency training may enhance medical students' ability to deliver refugee-focused healthcare. Integrating this and similar initiatives could foster a more culturally sensitive healthcare workforce. Future plans include expanding the training to practicing physicians at Aspirus and Marshfield Clinic clinics, establishing ongoing cultural competency assessments, and creating a sustainable curriculum for continuous education. These efforts aim to further improve healthcare access, reduce disparities, and promote inclusivity in refugee care across Wisconsin and beyond.

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**Medical Student: Lauren Harrison**

**Project Title:** Stop the Bleed - Hemorrhage Control Training in Rural Wisconsin

**Community Mentor:** Francisco Guerrero, Wisconsin Institute for Public Policy & Service

**MCW-CW Collaborator:** Corina Norrbom, MD

**Purpose:** Uncontrolled bleeding is a leading cause of preventable death following traumatic injury, particularly in rural areas with delayed emergency response. This project aimed to expand access to bleeding control education in Central Wisconsin by partnering with the Hmong and Hispanic Communication Network (H2N) to implement the Stop the Bleed (STB) hemorrhage control training program.

**Methods:** Community Health Workers (CHWs) from H2N were trained as STB instructors and subsequently led bilingual training sessions on local farms, serving primarily Hispanic agricultural workers. Trainings emphasized hands-on skills in wound packing, tourniquet use, and pressure application. Each training site also received a free hemorrhage control kit to be available in case of bleeding emergencies. Post-training surveys were distributed.

**Results:** Post-training surveys revealed a significant increase in perceived preparedness, with 77% of participants reporting feeling very prepared to assist in a bleeding emergency, compared to 33% pre-training. Most had no prior medical experience and strongly supported the availability of bleeding control kits in public spaces.

**Conclusions:** Providing STB training and access to bleeding control resources in rural areas can empower improved community response to bleeding emergencies.

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**Medical Student: Carley Hintz**

**Project Title:** Sparking a Connection: Experiences of those Living with Dementia and their Caregivers Through the Spark! Program

**Community Mentor:** Rachel Hausmann, Leigh Yawkey Woodson Art Museum

**MCW-CW Collaborator:** Corina Norrbom, MD

**Purpose:** Dementia is a term used to describe numerous conditions that result in abnormal brain changes with symptoms that include loss of memory, problem solving, behavioral changes and withdrawal from social activities. In addition, they report depression, anxiety, decreased quality of life (QoL) and social isolation. Often family or friends take on the role of the caregiver, and they report increased challenges in planning for their future, anxiety, depression, and lower QoL. Art therapy has been shown to improve QoL, self-esteem and social connections for those living with dementia. The Spark! Program is a monthly 1.5-hour session designed for those living with dementia and their caregivers to view and discuss the art gallery and participate in a hands-on art activity. The program aims to spark connections and creativity and provide an opportunity for participants to stay connected to the community. The purpose of this project is to determine the impact of the Spark! Program, on those living with dementia and their caregivers.

**Methods:** One-time surveys designed by Spark! Alliance for participants and caregivers were distributed at the conclusion of the program, conducted in dyads, self-completed and anonymous. The survey contained questions regarding demographics, sessions attended, and overall program impressions.

**Results:** 20 surveys were collected. Most participants and caregivers were over 60 years old. Common themes reported were that the program allowed them to have quality time with their partner or family member and encouraged social engagement. Half have participated in the program at least six times. All reported they would participate in the future and recommend it to others.

**Conclusions:** These results show that the Spark! Program has positive impacts on those living with dementia and their caregivers, which highlights the need for local community resources for this population. By understanding the program's impact, we hope to share its benefits in hopes other communities implement similar programs.

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**Medical Student: Payton Jorgenson**

**Project Title:** Wausau Free Psychiatry Clinic

**Community Mentor:** Robert Gouthro, MD, Wausau Free Psychiatry Clinic

**MCW-CW Collaborators:** Amy Prunuske, PhD and Corina Norrbom, MD

**Purpose:** Within Wisconsin, there are over 4,000 people experiencing homelessness, which is intertwined with poorer health outcomes and a lack of access to primary care and preventative resources. People experiencing homelessness are more likely to have shorter life expectancies, more emergency department visits, and more hospital admissions than those in stable housing. Many people who are unhoused in Central Wisconsin have previous mental health diagnoses, and they face significant barriers to medical care (Coombs, et. al. 2025). By establishing a Free Psychiatry Clinic, we aimed to help eliminate the barrier to affordable and accessible mental healthcare in the Central Wisconsin region, as well as assessing how medical students may impact patient care in these experiences.

**Methods:** Following appointments at the Psychiatry Free Clinic, patients were asked to fill out a survey asking about overall ease of appointments, interactions with students, and likelihood of returning to the clinic. Chart review was also used for mental health diagnoses and demographic information.

**Results:** A total of 5 patients filled out the survey, with a total of 8 patient charts reviewed. Patients at the Psychiatry Free Clinic presented with an average of 2.75 mental health diagnoses, with the most prevalent diagnosis being an Unspecified Mood Disorder, including Major Depressive Disorder. Other prevalent diagnoses included Substance Use Disorder, as well as Unspecified Anxiety Disorder, including Generalized Anxiety Disorder.

**Conclusions:** We aim to continue to educate healthcare professionals and medical students on the barriers that people experiencing homelessness and/or who are underinsured face when accessing healthcare. Availability of low barrier mental health care has the potential to significantly improve the health of people who are unhoused in Central Wisconsin.

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**Medical Student: Makaya King**

**Project Title:** Caring for our Community Kids

**Community Mentor:** Gina Lehman, DC Everest School District

**MCW-CW Collaborators:** Amy Prunuske, PhD and Corina Norrbom, MD

**Purpose:** The Caring for our Community Kids professional development day was a conference for the faculty and staff of the D.C Everest Area and the Wausau School Districts focusing on discussing youth mental health, well-being, and the complex issues Wausau area community youth are facing. Using local resources, such as the Marathon County Youth Risk Behavior Survey, conference organizers identified areas where the community youth require extra support (depression, safety, substance use, etc.) With that information they developed sessions for the day that would ideally equip staff members in supporting the needs of their students.

**Methods:** Conference attendees were asked to complete a 3 question post-event survey to assess feelings of confidence in utilizing the tools and information provided during the conference in their everyday interactions with students. Each survey question was assessed on a 4 point scale (1-strongly disagree, 2-disagree, 3-agree, 4-strongly agree) and averages for each response were calculated. Participants were also given the opportunity to leave written feedback on the conference.

**Results:** Most participants agreed or strongly agreed with all three survey statements; additionally, the free comment section indicated a preference for sessions run by external speakers, such as the one's covering relationship-informed teaching and emotional regulation.

**Conclusions:** Participants left the conference feeling more comfortable and having learned new skills for addressing youth mental health and wellness; furthermore, attendees felt the content of the professional development day was representative of the unique issues community youth are facing. These findings point toward the conclusion that district-wide faculty conferences, such as the Caring for Our Community Kids Professional Development Day, can be a valuable resource in addressing the unique mental health needs of today's youth.

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**Medical Student: Hannah Kolarik**

**Project Title:** Stop the Bleed

**Community Mentor:** Amanda Tabin, Aspirus

**MCW-CW Collaborators:** Amy Prunuske, PhD and Corina Norrbom, MD

**Purpose:** In times of critical emergency, bystander first aid can significantly improve patient survival. This is particularly important in rural communities, where longer emergency response times increase the risk of death due to uncontrolled bleeding. Therefore, this project aimed to expand access to bleeding control training through the nationwide “Stop the Bleed” initiative in Central Wisconsin, using a “train-the-trainer” model to enhance community preparedness and reduce preventable blood loss.

**Methods:** Participants who completed a training session were asked to complete both an immediate post-training survey and a follow-up survey months later. Surveys assessed participants’ self-reported preparedness to assist in bleeding emergencies and evaluated the usefulness and real-world application of the training. Demographic information was also collected.

**Results:** A total of 115 post-training and 61 follow-up surveys were completed. Before training, 19% of participants felt unprepared to help a bleeding individual, while 66% felt somewhat prepared and 15% felt very prepared. After training, 80% reported feeling very prepared, and only 1% remained unprepared. At follow-up, 98% felt somewhat or very prepared. Two participants reported using their skills in real-life emergencies. Additionally, 100% agreed that bleeding control equipment should be available in public spaces. Most participants were students (46.9%), and 60% had basic first aid/CPR training.

**Conclusions:** The Stop the Bleed program significantly improved participants’ confidence and preparedness to respond to bleeding emergencies, with sustained results even one year later. Real-world application and strong support for public bleeding control access highlight the program’s life-saving potential. The “train-the-trainer” model ensures sustainable community engagement. Future efforts will focus on continued outreach in underserved communities and additional long-term outcome tracking to assess impact.

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**Medical Student: Kia Lor**

**Project Title:** Factors Influencing Decision to Breastfeed in Hmong Women

**Community Mentor:** Ashley Knox, Marshfield Clinic Health System

**MCW-CW Collaborator:** Corina Norrbom, MD

**Purpose:** Local hospital data shows that Hmong mothers are less likely to breastfeed their babies than other ethnic groups. The purpose of this study was to understand factors in the decision-making of Hmong mothers in their choice to breast or formula feed, with a goal of enabling healthcare professionals to more effectively raise awareness of the benefits of breastfeeding and support Hmong mothers as they make the decision that is best for she, her infant and family.

**Methods:** Hmong women who are currently pregnant or have children and reside in Wisconsin were asked to participate in a recorded zoom interview about their decision-making regarding breastfeeding. Participants were recruited by word of mouth, online using a flyer, and with the help of lactation nurses. Participants (n=11) were asked open-ended questions detailing their experience. Transcripts were evaluated using the interpretative phenomenological analysis approach.

**Results:** The age range of the participants was 33 to 60-year-old with a mixture of them breastfeeding (n=6), formula feeding (n=2), or a combination of both (n=3). The participants spoke about their family, work, support network, as well as barriers. Common themes included a need for improvement of work environments with breastfeeding rooms for lactating mothers and time to pump, lactation class outreach to Hmong communities, and a healthy and supportive environment for Hmong mothers. Although 100% of the participants agreed with the statement that breast milk is the best kind of milk for the infant, many find it difficult to breastfeed due to time demands. Hmong culture also contains many superstitious stories surrounding breastmilk regarding its contents, how sacred it is, and who should or should not be near it.

**Conclusions:** There is a need for improvement of work environments, lactation class outreach to Hmong communities, and for fostering a healthy, supportive, and culturally sensitive educational environment for Hmong mothers. Expansion of this research to include participants from other regions with a dense Hmong population may provide more insight regarding possible community supports. Informing health care providers about results of the research may allow them to better support Hmong women as they decide whether to breastfeed or formula feed.

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**Medical Student: Matthew Lukasik**

**Project Title:** Water Quality Assessment of Private Well Owners

**Community Mentors:** Kirstie Heidenreich, Marathon County Conservation, Planning, and Zoning; Dale Grosskurth, Marathon County Health Department

**MCW-CW Collaborator:** Corina Norrbom, MD

**Purpose:** The purpose of this study is to assess private well owners' perceptions of the health and safety of their own drinking water in Marathon County. The results of this study can provide useful information to both citizens and local government on perception of safe water access among private well owners.

**Methods:** This study was conducted as a side project during Marathon County's Groundwater Update Plan that included surveying well owners and conducting interviews for further discussion regarding well safety. Surveys were distributed via a Qualtrics survey to 637 households who were already a part of Marathon County's free well water testing program. Participants were invited to interview for compensation with a \$25 dollar gas station gift card.

**Results:** A total of 143 responses were gathered for a response rate of 22.4%. Only 10% of respondents indicated having a well water test within the last year and nearly 20% have never had their current well tested. Over half of respondents expressed some concern about contamination in their well water. Reasons for not obtaining the recommended testing include cost and being unaware of the annual testing recommendations.

**Conclusions:** There appears to be a need for improved communication of current well testing recommendations as well as low cost or subsidized well water testing. Next steps may include targeted informational sessions or resources for private well owners as well as the development of low-cost testing to improve accessibility of annual testing.

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**Medical Student: Mae Moris**

**Project Title:** Cranium Crew

**Community Mentor:** Michael Clark, MD, Aspirus

**MCW-CW Collaborator:** Corina Norrbom, MD

**Purpose:** Concussions are a prevalent yet underreported injury in the United States, with over 3 million cases annually and nearly half going untreated. Cranium Crew, a Central Wisconsin medical student initiative, is a community-based education project to address the knowledge gap surrounding concussion awareness, particularly among extreme sport participants. The purpose of this project was to provide active learning educational sessions about concussions to teens and young adults and evaluate for attitude and knowledge changes.

**Methods:** Educational sessions were provided for groups of teens/young adults. Material focused on recognizing symptoms, debunking myths, and encouraging proactive response. Pre/post surveys were administered, and 29 responses were collected.

**Results:** Pre/post surveys (n=29) showed gains in participants' knowledge of concussion causes (+3.00), symptoms (+2.68), and appropriate medical response (+2.60), alongside improved confidence in addressing concussions with others (+1.28) and willingness to seek help (+0.92), all measured on a 10-point scale.

**Conclusions:** These findings suggest that Cranium Crew's active learning model enhanced concussion literacy. Further study may help determine if this education can close the gap in concussion reporting and treatment, particularly in non-traditional sport settings.

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**Medical Student: Luke Mueller**

**Project Title:** Assessing Barriers to Care in Rural Hispanic Populations

**Community Mentor:** Francisco Guerrero, Wisconsin Institute for Public Policy & Service

**MCW-CW Collaborator:** Corina Norrbom, MD

**Purpose:** This study aims to assess barriers to vision care access among high-risk adults in Marathon County, Wisconsin. The goal is to identify prevailing obstacles to follow-up eye care and inform targeted interventions that reduce disparities and prevent avoidable vision loss.

**Methods:** Adults of Hispanic background at risk for vision impairment were identified through free community health screenings across Marathon County, Wisconsin (n=36). High-risk status was based on age  $\geq 60$ , systemic conditions linked to vision loss (e.g., diabetes), prior ocular diagnoses, persistent eye pain, or abnormal visual acuity. Participants completed a vision risk assessment survey from Prevent Blindness Wisconsin. Follow up surveys conducted over the phone to assess rate of follow up with eye care professional, how the visit was paid for (e.g., insurance, out-of-pocket), and perceived barriers to accessing follow-up eye care.

**Results:** 37 individual surveys were completed. Most participants reported lacking vision insurance (89.2%) and being unable to afford eye care without coverage (91.7%). Over half (56.8%) had never received a dilated eye exam, and among those with diabetes, 38.5% had not had an exam in the past year. Additionally, 70.3% reported recent vision changes or eye pain, and 73% expressed discomfort navigating the eye care system.

**Conclusions:** The Hispanic community in Marathon County, Wisconsin, faces significant barriers in accessing vision care. Additional resources are needed to address this gap, including financial assistance and support systems to improve access and navigation within the eye care system.

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**Medical Student: Bradley Nagel**

**Project Title:** Anaphylaxis Education and Increasing Epinephrine Availability

**Community Mentor:** Lenard Markman, DO, Dillon Mueller Memorial Fund

**MCW-CW Collaborators:** Amy Prunuske, PhD and Corina Norrbom, MD

**Purpose:** The mission of the Dillon Mueller Memorial Fund (DMMF) is to improve anaphylaxis preparedness in WI. “Dillon’s Law” is a WI state law which states an individual may participate in a state approved “Anaphylaxis Training Program” and subsequently buy epinephrine from a pharmacy. The primary goal of this project is to help advance the DMMF mission by assessing how effective their training course prepares individuals to handle an anaphylactic reaction, how many class attendees subsequently utilize Dillon’s Law to buy epinephrine, and what barriers prevented individuals from obtaining epinephrine.

**Methods:** A 12-question anonymous Qualtrics survey was distributed via email to all individuals who participated in an Anaphylaxis training program 3 months after the training. A total of 52 surveys were emailed.

**Results:** 33 total survey responses were received. 26/28 individuals reported feeling “very prepared” to help somebody experiencing anaphylaxis after taking the course. None of the respondents obtained epinephrine, and they cited cost as the main barrier. 23/25 individuals reported they would be willing to buy epi if the cost was \$60 or less.

**Conclusions:** The results suggest that the anaphylaxis training course used by DMMF is an effective training course. The results also reveal that cost is currently a major barrier to obtaining epinephrine. These results will be used by the DMMF in their current legal advocacy efforts to put a price cap on epinephrine.

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**Medical Student: Natasha Neumann**

**Project Title:** Exploring Gender Differences in Early Language Development: A LENA Start Analysis of Caregiver-Child Interactions

**Community Mentor:** SAM Steiner, LENA Start Central Wisconsin

**MCW-CW Collaborator:** Corina Norrbom, MD

**Purpose:** The Language Environment Analysis (LENA®) Start program provides caregivers with practical strategies to increase interactive talk and support early brain development. Language development in early childhood is a critical factor influencing cognitive, social, and academic outcomes, with the first three years being especially pivotal. Studies suggest that girls acquire language skills earlier and develop larger vocabularies compared to boys during infancy and toddlerhood. Also, research supports males being at a greater risk for experiencing developmental language disorders. This poster specifically investigates sex-based differences in early language development and caregiver-child interactions.

**Methods:** This study's dataset originated from the LENA Start Central Wisconsin program, encompassing cohorts from 2018 to 2024. Participants completed ten weeks of facilitated group sessions. LENA technology captures a child's natural language environment over a continuous 16-hour period weekly during the LENA Start program by using a secure, wearable vest, and quantifies key metrics such as adult word count (AWC), conversational turns (CT), child vocalizations, and exposure to electronic media, including television.

**Results:** All participants had increased CT and AWC over the 10-week LENA Start program. Trends were identified among CT and AWC baselines and gains, but none of the observable differences were found to be statistically significant between genders.

**Conclusions:** The LENA Start program effectively addresses early language disparities by increasing Conversational Turns and Adult Word Count between caregivers and participating children. Integrating LENA Start referrals into routine well-child visits could increase participation and raise awareness among families about the importance of early language development.

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**Medical Student: Miriam Sanchez**

**Project Title:** Analyzing Differences in A1C levels in Latinx Free Clinic Patients who have Diabetic Education

**Community Mentor:** Jeffery Oswald, MD, Wausau Free Clinic

**MCW-CW Collaborator:** Corina Norrbom, MD

**Purpose:** While diabetes is a growing health concern in the US, studies have shown that it disproportionately affects the Latinx community at higher rates. The Wausau Free Clinic (WFC) in Wausau, WI, has seen a growing number of Latinx patients with diabetes and provides culturally tailored resources, including access to an on-site diabetes health educator. This study evaluates whether diabetes education, with a cultural focus, impacts A1C levels in this population.

**Methods:** A cohort study was conducted with Latinx patients at the WFC with an initial A1C  $>5.7\%$ . Patients were grouped into an experimental group, those who received diabetes education, or a control group, those who did not. Using the mixed-effect model, A1C trajectories were estimated and the average slope for each group was calculated.

**Results:** Of 71 Latinx patients with an A1C greater than  $5.7\%$  who had at least 2 office visits, 34 received at least one diabetes education session. The control group had an average A1C slope of  $+0.24$ , while the interventional group showed a slope of  $-0.7$ .

**Conclusions:** This study showed improved glycemic control among those receiving education, suggesting that culturally appropriate diabetes education may play a significant role in improving A1C outcomes among Latinx patients at a free clinic. These findings highlight the value of tailored interventions in underserved populations and support accessible health education in diabetes management.

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**Medical Student: Marie Schulz**

**Project Title:** Cycling Without Age: Battling Mental Health a Better Way

**Community Mentor:** Kathy Jamison, Cycling Without Age

**MCW-CW Collaborators:** Amy Prunuske, PhD and Corina Norrbom, MD

**Purpose:** Depression has a significant influence on health and mortality increasing all-cause, cardiovascular, and ischemic heart mortality. With greater than 21 million US adults experiencing major depression yearly, emphasis on mental health has become increasingly important. Access to outdoor activities which provide community interaction promote mental wellness, physical well-being, and battle isolation among community members. Cycling Without Age (CWA), a global organization with local community chapters providing trishaw rides to differently-abled community members operated by volunteer “pilots”, is a platform which promotes mental wellness in this fashion. There is a need to evaluate the impact of CWA on those involved.

**Methods:** CWA pilots participating in the Marathon County chapter were surveyed using the Geriatric Depression Scale. Pilots were also surveyed with regards to their personal experience with CWA. The survey results were anonymous, and compiled for evaluation.

**Results:** Of the pilots surveyed (n=21) no participants scored greater than 1, suggesting no presence of depression in this group of people. This compares with 15.5% of Americans aged 65+ currently experiencing depression. Additionally, 68% of participants indicated they believed they knew people who would benefit from receiving rides. 59% of participants indicated they believed they knew people who would benefit from volunteering as a pilot.

**Conclusions:** When compared to a similar United States population, CWA pilots experienced significantly less depression. While no causal relationship can be derived at this time, the study results are suggestive of positive depression scores in the setting of physical, community-engaged activity. Additionally, majority of pilots believe there are additional community members who would benefit from rides, or benefit from piloting.

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**Medical Student: Carolyn Storch**

**Project Title:** Exploring Menstrual Hygiene and Preventative Care in Underserved Populations

**Community Mentor:** Elizabeth Robinson, The Babies' Place

**MCW-CW Collaborators:** Amy Prunuske, PhD and Corina Norrbom, MD

**Purpose:** This study identified women's health knowledge gaps among those visiting The Babies' Place, which provides services to disadvantaged individuals and families in Wausau.

**Methods:** Approximately 200 women who received menstrual products at Babies' Place of Marathon County filled out a voluntary questionnaire about menstruation. The Babies' Place leadership helped develop survey questions. Additionally, demographics were collected to improve service for women in need.

**Results:** Most respondents in this study were White or Hispanic, with 72% using sanitary pads and 39% using tampons, both changing five times a day on average. Despite helping reduce infectious consequences, women lack sufficient menstrual products without depleting already limited funds. Among patients aged 55 and older, 42% have never had a mammogram, while 36% have never had a Pap smear. Non-recipients of preventive healthcare indicated they were unaware of free services in the community. The number of respondents who wanted more information about preventative health services, menstrual product hygiene, and STDs was 56%.

**Conclusions:** The Babies Place is establishing a healthcare information station, offering informational cards on STDs, menopause, and menstrual hygiene, and support for scheduling reduced-cost/free women's health screenings in response to survey results. As part of the incentive, the Community Engagement Award funded supplies for 100 women's healthcare kits. This initiative aims to enhance knowledge and access to health resources.

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**Medical Student: Marin Stowe****Project Title:** Identifying Type 2 Diabetes and Hypertension in Rural Wisconsin**Community Mentor:** Julie Bunczak, Wisconsin Institute for Public Policy and Service**MCW-CW Collaborator:** Corina Norrbom, MD

**Purpose:** Rural areas have a higher prevalence of type 2 diabetes mellitus and hypertension compared to their urban counterparts. Rural Americans face significant barriers in accessing preventative care which can lead to delays in seeking care and seeking care at a more advanced stage of disease. Through this project, we aim to make diabetes and blood pressure screening more accessible, build an understanding of the importance of preventative care for detection of chronic diseases such as hypertension and diabetes, and connect people to primary care.

**Methods:** Medical students and faculty developed protocols for free blood pressure and point of care hemoglobin A1C screenings in rural community settings. Events were planned and staffed by community health workers from the Hmong and Hispanic Communication Network (H2N) at farms, churches and other venues. The number of screenings and result categories were recorded via a Qualtrics tool. People with a borderline or abnormal test were advised to have a recheck with their primary care doctor. If they had no doctor, they were given primary care options. Health Navigators are available to assist. Follow-up phone calls were made to assess whether the person had follow-up care and what barriers existed. People were asked if they needed further assistance.

**Results:** 105 blood pressure screenings and 92 hemoglobin A1C screenings were done. 30% of A1C screenings were pre-diabetic, and 8% were in the diabetic range. 21% of blood pressure screenings were borderline, and 30% were elevated. 35 people provided their name and phone number for a follow-up phone call. 19 people were reached, and 3 scheduled appointments at the Wausau Free Clinic.

**Conclusions:** People with undiagnosed abnormal hemoglobin A1Cs and elevated blood pressure readings were found during community screenings. We hope that increasing education about the importance of preventative care and Health Navigator assistance will result in people being connected to a primary care doctor to reduce risks for chronic diseases.

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**Medical Student: Kouseng Yang**

**Project Title:** Advocates in Medicine Pathway

**Community Mentor:** Nicole Thill, North Central Wisconsin Area Health Education Center

**MCW-CW Collaborators:** Amy Prunuske, PhD and Corina Norrbom, MD

**Purpose:** Recognizing the challenges faced by students from rural and underserved backgrounds, the AMP 2.0 program sought to recruit students from marginalized backgrounds to help matriculate them into medical school. The MCAT was an identified barrier of entry. We assessed the impact of the AMP 2.0 (2024-2025) MCAT preparation program on student preparedness and anxiety levels related to the MCAT exam.

**Methods:** The first AMP 2.0 cohort, composed of 10 students, was included in this study. They were surveyed via Qualtrics prior to the start of the MCAT preparation program for baseline testing anxiety using the Westside Test Anxiety scale. Following the completion of the preparation program, the survey was re-administered. Pre- and post-program scores were calculated and compared.

**Results:** Initial results reveal the following baseline anxiety data using the Westside Test Anxiety scale: 1 extremely high test anxiety, 4 high test anxiety, 1 moderately high test anxiety, 2 high normal test anxiety, and 2 comfortably low test anxiety. Post MCAT preparation results reveal the following anxiety data: 2 extremely high test anxiety, 2 high test anxiety, 3 moderately high test anxiety, 1 high normal test anxiety, 1 normal test anxiety, 1 comfortably low test anxiety. Two students dropped out of the program due to the demands of the program.

**Conclusions:** At baseline, the AMP 2.0 cohort had above-normal test anxiety. There was a non-specific shift in test anxiety scores post-program, but a majority of the participants either agreed or strongly agreed that this program helped build confidence around taking the MCAT. Resignation of students provided insight into the rigor of the preparation program with consideration that the results may have varied based on individual perception of the program's intensity level. Future efforts should be aimed toward continuing to provide resources to these pre-medical students, especially MCAT preparation, while re-evaluating methods annually to improve outcomes.

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## *Community Engagement Awards*

The Community Engagement Award was established to help the students invest in the community through their projects and has been generously supported by Dr. David and Mary Ann Lillich, Incredible Bank, and the Dan Storey Foundation. This fund will help support the following projects in the upcoming year:

- John Fox
- Karly Kostman
- Rhiley Maguire
- Gabrielle Richardson
- Mallory Rudolph
- Benjamin Zimmer

## *Physician in the Community Advisory Board*

We would like to thank our many community partners, teachers and mentors, as well as the Physicians in the Community Advisory Board for their time and input!

### **Physicians in the Community Advisory Board:**

- Sarah Beversdorf – Aspirus
- Tara Glodowski – Community Partners Campus
- Cari Guden – Edgar School District
- Francisco Guerrero – HOLA, Inc
- Brian Gumness – BA & Esther Greenheck Foundation
- Erin Jacobson – DC Everest School District
- Dakota Kaiser – Tall Pines Behavioral Health
- Sheng Khang – Wisconsin Institute for Public Policy and Service
- Kris Lahren – Medical College of Wisconsin – Central Wisconsin
- Brittany Mews – Clark County Health Department
- Courtney Tvedten – Marathon County Health Department

## *Teaching Pins*

MCW Teaching Pins recognize excellent teachers that advance medical students' learning and support the core missions of teaching and engagement in the community. The following outstanding medical student teachers have been recognized by the MCW Curriculum and Evaluation Committee for this past academic year.

- Laura Hunt
- Timothy Oudenhoven

## *Student Project Support*

If you would like to contribute to the Community Engagement Fund to assist future students with their community engagement projects, please contact:

Karen Ropel  
Director of Development  
Medical College of Wisconsin  
kropel@mcw.edu  
414.955.4739

## *Thank you for your support!*

Matthew Hunsaker, MD  
Campus Dean

Lisa Grill Dodson, MD  
Founding Campus Dean and Professor Emeritus

Corina Norrbom, MD  
Course Director

Terri Walkush  
Course Coordinator

