



Department of Family Medicine and Community Health

UNIVERSITY OF WISCONSIN

SCHOOL OF MEDICINE AND PUBLIC HEALTH

Madison and Baraboo Family Medicine

Residency Programs

Scholarly Projects and Community Health Learning Experiences

From the Class of 2023

Yusuf Abdullah, DO

Projects Completed During Residency:

Scholarly Project:

What is the Most Effective Type of Therapy for PTSD in Refugee Populations?

Community Health Learning Experience:

Resettlement of Afghan Refugees in Wisconsin:

I appreciated the opportunity to contribute my lived experiences, skills, and healthcare knowledge in helping with resettlement of refugees from Afghanistan in Wisconsin after they arrived at Fort McCoy. I was able to work with partners from Southwest Coalition Against Poverty (SWCAP), Unified Community Services, WI DHS, and CDC by providing information on background of refugees from Afghanistan in addition to helping determine areas of healthcare needs for this population. My goal is to continue to use my background and experiences in support of these efforts at local, state, and national levels.



Yusuf Abdullah, DO is drawn to family medicine because of the comprehensive care he witnessed family medicine residents provide to his family. Yusuf was born in Afghanistan and spent his early years there and in Moscow before moving with his

family to Waukesha, WI. Yusuf earned his undergraduate degree in biology from Carroll University. Prior to starting medical school, Yusuf worked as a CNA at a Wisconsin nursing home; this experience helped solidify his commitment to patient care and medicine. He earned his medical degree from A.T. Still University – School of Osteopathic Medicine in Arizona. While in medical school, Yusuf served in student government as a Senator for Activities and organized events like the school formal and Halloween costume contest. He also was a Student Ambassador and participated in applicant interviews. His interests in family medicine include preventative, hospital, and sports medicine, patient education, and osteopathic manipulative treatment. As a life-long learner, Yusuf is excited to provide care across the lifespan and for people of all backgrounds. Yusuf enjoys reading and writing poetry, learning how to cook new dishes, and participating in and watching mixed martial arts. He also enjoys spending time with his family and friends in Waukesha.



I owe so many people for the support and encouragement that I received along the way over the last three years. First and foremost, I would like to thank my family, my wife, Katie, and her family for providing me with unconditional love and support throughout residency. I would like to thank all of my co-residents for the fun and inclusive environment that they have created. I appreciate the comradery that we have built over the years, and I know that I have made friends for life. I would like to extend thanks to residency faculty and all of the program staff for working so hard to support us and help us grow as learners. Thank you so much for all that you do.

What is the Most Effective Type of Therapy for PTSD in Refugee Populations?

Yusuf Abdullah, DO

Evidence-Based Answer

Both cognitive behavioral therapy (CBT) with a trauma-based focus and eye movement desensitization and reprocessing (EMDR) are effective for treatment of PTSD in refugee populations, with CBT appearing to be more effective than EMDR. (Strength of Recommendation [SOR]: **A**, network meta-analysis of randomized controlled trials [RCTs]). Narrative exposure therapy (NET), a sub-type of CBT, is the most effective treatment of PTSD in high income countries. (Strength of Recommendation [SOR]: **A**, meta-analysis of randomized controlled trials [RCTs].)

Evidence Summary

Over 27 million people were displaced in 2021 based on data from the United Nations High Council on Refugees (UNHCR)¹. Up to 36% of these refugees are expected to experience symptoms of PTSD.² A 2021 systematic review and network meta-analysis of 23 randomized controlled studies evaluated effectiveness of different treatment modalities in refugee and asylum-seeker populations³. The treatment modalities included cognitive behavioral therapy (CBT), eye movement desensitization and reprocessing (EMDR), narrative exposure therapy (NET), cognitive restructuring, exposure therapy, stress inoculation training, stabilization therapy, stress management, coffee and family education and support, and Self-Help + (the World Health Organization's 5-session stress management course for large groups), in addition to supportive and trauma counseling. This meta-analysis included over 2300 participants from both high- (2/3 of studies) and low-income countries (1/3 of studies) with the primary outcome being presence of PTSD symptoms following implementation of these interventions. Outcome measures included the Clinician-Administered PTSD Scale (CAPS-5); if not available, the Harvard Trauma Questionnaire (TAQ) or other PTSD rating scales based on DSM or ICD criteria were used. The interventions were compared against waitlist (WL, 11/23 studies), treatment as usual (TAU, any intervention that reflects the usual care in each treatment setting, 9/23 studies), or no treatment. Measurement of post-intervention outcomes took place after at least 4 months in 17 out of 23 studies. Participant regions of origin included Africa, the Middle East, and the Balkans, with a smaller segment coming from Asia. Eleven studies also included contemporaneous pharmacological interventions. Because the studies in this network meta analysis used different rating scales, standardized mean differences (SMDs) were used for outcomes. The more negative the SMD, the more effective a particular treatment was at lowering the score on an outcome measuring tool. In network meta-analysis, the SMDs for CBT, EMDR, and TAU were -1.41 (95% CI -2.43 to -0.38), -1.30 (95% CI -2.40 to -0.20), and 0.11 respectively when compared to waitlist. Most of these studies were deemed to be low risk of bias based on the Cochrane risk of bias tool although heterogeneity was high.

According to a 2017 systematic review and meta-analysis of 12 randomized controlled trials⁴ (n=543), narrative exposure therapy (NET), a derivative of CBT, was considered the best supported approach in high income countries. Notably, there was significant overlap (10/23 studies) between this meta-analysis and the 2021 meta-analysis described above. However, the 2017 systematic review focused strictly on refugees resettled to high income countries. This systematic review showed that all psychosocial interventions (NET, EMDR, CBT, etc) were effective in decreasing PTSD

symptoms compared to inactive controls (SMD -1.03, 95% CI - 1.55 to -0.51), with magnitude of effect equaling NNT of 4.4. The primary outcome measured was the mean PTSD symptom ratings scale (using CAPS-5 and HTQ) after implementation of these treatment modalities compared to TAU or wait list as control groups. Five out of 12 studies included outcomes before 4 months (at 2 or 3 months), and 7 out of 12 studies measured outcomes at or greater than a 4-month interval (with most measurements taking place after 6 months). Average number of in-person sessions for a participant in these studies was 17, with a range of 3 to 25 sessions. NET with a trauma focus was the best supported modality based on 5 RCTs (n = 187), with SMD of -0.78 (95% CI, -1.18 to -0.38; I2=37%; NNT=6.7).

1. Refugee statistics. USA for UNHCR.
<https://www.unrefugees.org/refugeefacts/statistics/#:~:text=By%20the%20end%20of%202021,53.2%20million%20internally%20displaced%20people>.
2. Turrini G, Purgato M, Ballette F, Nosè M, Ostuzzi G, Barbui C. Common mental disorders in asylum seekers and refugees: umbrella review of prevalence and intervention studies. *Int J Ment Health Syst.* 2017;11:51. Published 2017 Aug 25. doi:10.1186/s13033-017-0156-0
3. Turrini G, Tedeschi F, Cuijpers P, et al. A network meta-analysis of psychosocial interventions for refugees and asylum seekers with PTSD. *BMJ Glob Health.* 2021;6(6):e005029. doi:10.1136/bmjgh-2021-005029
4. Nosè M, Ballette F, Bighelli I, et al. Psychosocial interventions for post-traumatic stress disorder in refugees and asylum seekers resettled in high-income countries: Systematic review and meta analysis. *PLoS One.* 2017;12(2):e0171030. Published 2017 Feb 2. doi:10.1371/journal.pone.0171030

Estefan Beltran, MD

Projects Completed During Residency:

Community Health Learning Experience:

Enhancing Representation to Improve our Community's Health (EnRICH): A Comprehensive Mentorship Pathway Program to Improve Diversity in our Workforce

Scholarly Project:

EnRICH: a URM Pathway Program to Increase Provider Diversity:

This poster presentation was given at the 2023 STFM Annual Spring Conference. We presented on the development of a comprehensive mentorship program aimed to improve diversity in the workforce in family medicine.



Estefan Beltran, MD is drawn to family medicine because it allows him to engage with and serve his community. He is driven to explore how the medical community can advocate for and empower underserved communities. Estefan is from Germantown,

MD and earned his undergraduate degree in Biology from the University of Maryland – College Park. After graduating from college, Estefan taught high school biology in Miami Gardens, FL through Teach for America. While a teacher, he saw firsthand the negative health outcomes that were caused by disparities and violence and he was compelled to help his community as a doctor and advocate. He moved to Chicago to earn a Master of Science in Biomedical Sciences and medical degree from Rosalind Franklin University. While in medical school, Estefan's interest in providing quality care for the underserved led him to serve as the Executive Officer of Community Outreach for the student-run clinic, where he was in charge of community outreach, patient education, and the referrals process. Estefan is interested in developing and strengthening health professional pipeline programs and he founded an outreach program in which health professional students mentored and taught high school students, who then taught fourth grade students. Estefan enjoys playing team sports, R&B, NeoSoul, and Afrobeats music, food – both cooking and eating, and watching TV.



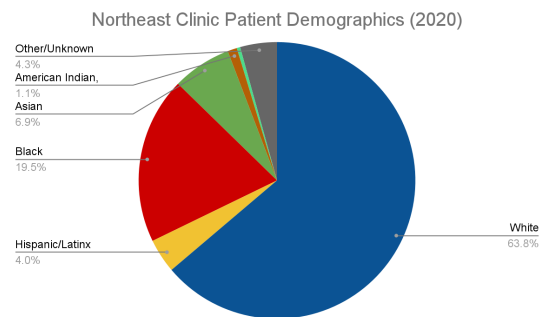
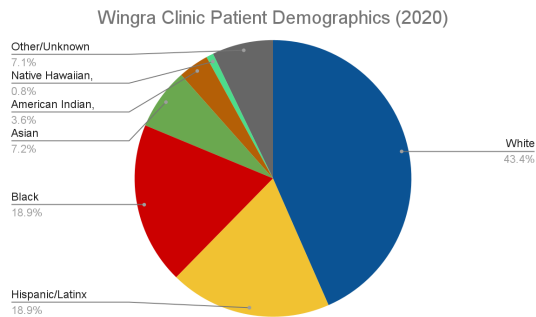
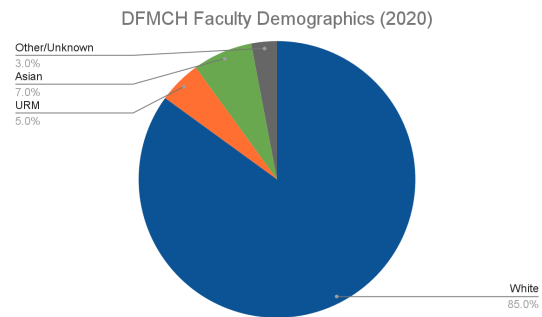
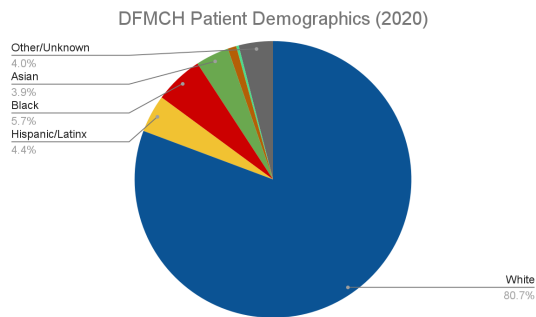
Thank you to my wife who has supported me throughout the entirety of my pursuit of medicine since before medical school. There is no way I would've made it through residency without her. Also, a huge thank you to my family - I had the lucky privilege to be the youngest and reap all of the benefits of having my older siblings support me like second parents.

Enhancing Representation to Improve our Community's Health (EnRICH): A Comprehensive Mentorship Pathway Program to Improve Diversity in our Workforce

BACKGROUND

It is widely accepted that significant health disparities exist between different socioeconomic groups. Even when these differences (*income, insurance status, etc*) are accounted for, significant health disparities persist for certain racial and ethnic groups. In 2003, the Institute of Medicine (IOM) released the *Unequal Treatment* report, which advocated for the recruitment of people of color as healthcare policymakers, administrators, providers, educators, and students.¹ Despite various efforts and initiatives, provider-to-patient populations remain largely asymmetric throughout the country.

In our local community, 73.6% of Madison residents identify as white and 14.6% identify as a race/ethnicity that is considered underrepresented in medicine.² The University of Wisconsin Department of Family Medicine and Community Health (DFMCH) currently operates a total of 14 clinics in Dane County and one clinic each in Columbia County (Portage), Dodge County (Beaver Dam), and Jefferson County (Fort Atkinson). The demographics of these patients largely mirror the demographics of Madison with 80.7% of patients identifying as white and 11.4% identifying as a URM race/ethnicity. Unfortunately, DFMCH faculty demographics further demonstrate incongruence with only 5% identifying as URM and 85% identifying as white. It should be mentioned that these numbers likely underestimate the asymmetry present at the individual DFMCH clinics that are physically located in the more diverse areas of Madison (*ex. Wingra and Northeast Clinics, see below*).



DFMCH falls short even in comparison to national family medicine departments, further demonstrating the lack of diversity within our department. According to the AAMC, 14% of family medicine department faculty nationally identified as URM in 2020.³ This eclipses the 5%

of DFMCH faculty that identify as URM. The gap widens even further when comparing DFMCH residents to their national counterparts. In 2019-2020, 20.6% of US family medicine residents (2019-2020) identified as URM⁴ compared to 3% of DFMCH residents. This is particularly concerning for the future of the diversity of the department, as 50% of current faculty completed their residency here at UW-Madison. This number increases to 68% of residency faculty if we include those who either attended medical school or residency here. Given that 33% of the entering UW-SMPH class identifies as URM, now is the perfect time for our department to strategically make efforts to engage with the undergraduate and medical school students to help increase the future diversity of our department. While both UW-SMPH and DFMCH have made tremendous steps to tackle the need for diversity (*ex. BEAM mentorship, changes in residency recruitment file reviews*), there remains a need to provide family medicine/primary care-specific opportunities and mentorship for underrepresented students.

OBJECTIVES

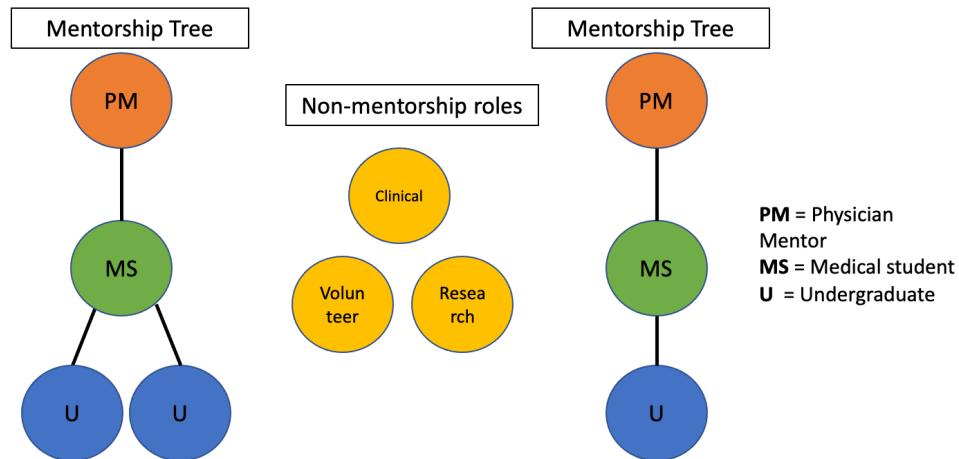
Our proposed mentorship pathway aims to increase the diversity of the DFMCH provider demographics and contribute to the representation of URMs in the physician workforce nationally. By identifying specific physician (and medical student) mentors for each level of the physician pathway and utilizing residency program resources/networks, we aim to:

- Encourage medical students and undergraduates to consider family medicine as a career, particularly training at the UW-Madison FM program
- Increase the sense of belonging among URM students in the medical field
- Prepare pre/medical students to become competitive applicants for medical school/residency through a comprehensive mentorship experience including advising, shadowing, and networking
- Provide extensive shadowing experiences to expose URM premedical and medical students to primary care centered on diverse patient populations
- Establish a replicable format that may be implemented across other specialties of interest and other programs across the country.

METHODS

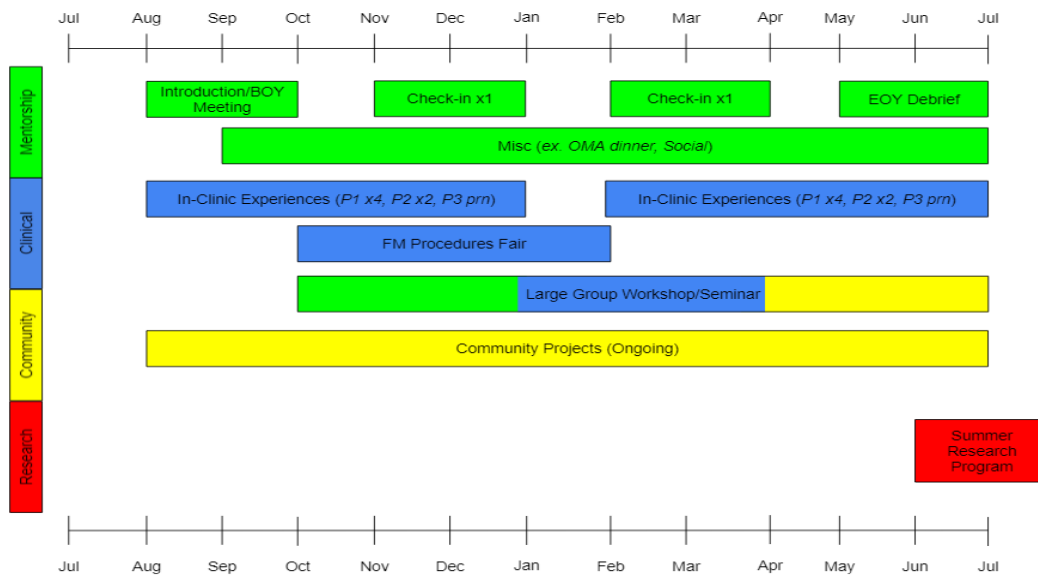
Structure

The structure for EnRICH follows a “mentorship tree” format, adapted from the framework set by Dr. Renee Crichlow’s “The Ladder” program in St. Paul, Minnesota.³ Starting at the premedical level, students will be matched with the medical student mentor. At the next level, each medical student will be matched with a resident/faculty mentor. Faculty/residents will indirectly serve as mentors for the premedical students of their mentees (*figure below*). Each mentor may have up to 1-2 mentees.



Proposed Curriculum

It is expected that mentor-mentee pairs meet at least once quarterly. Mentors are provided a “Mentorship Guide” to help facilitate meetings and discuss topics relevant to the student’s current stage of training. In addition to regular check-ins, students are provided clinical experiences to work with diverse patient populations along with community outreach opportunities throughout the year. We will also have research opportunities available for students and have large group social events.



Recruitment

In the first years of the program, focus will be on medical students from UW-SMPH. After the program becomes further established, there are plans to expand to the premedical student level. Mentors were recruited via email as volunteers. Medical students were recruited through the Office of Multicultural Affairs by email and through informal in-person presentations at cultural organization meetings (ex. SNMA, LMSA, etc).

Evaluation

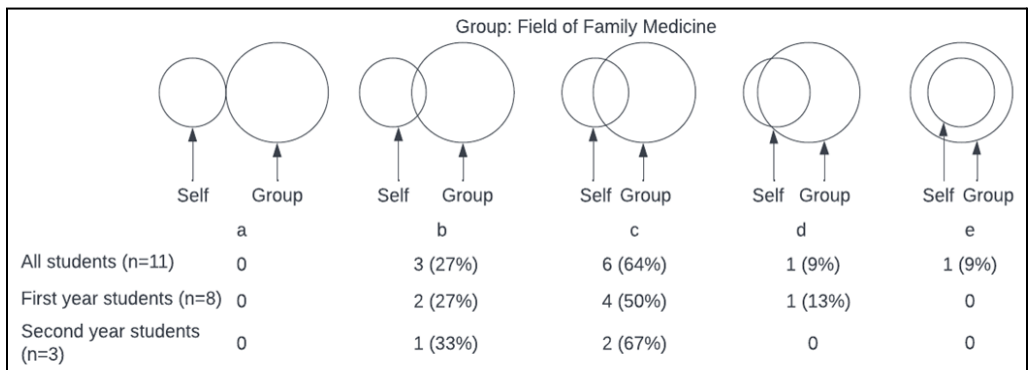
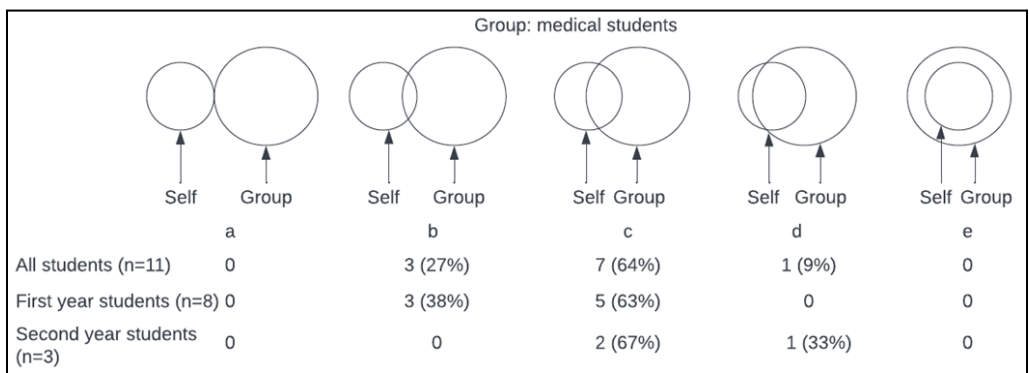
Pre- and post-surveys were and will be administered to participants. The survey was developed based on literature review of various diversity initiatives and tools created to measure belonging and social integration among students of color at the college, medical school, and residency levels. Our questions are focused on evaluating self-esteem and sense of belonging in the medical field, family medicine, and at the UW-SMPH community. This survey will be repeated yearly and at graduation from the program.

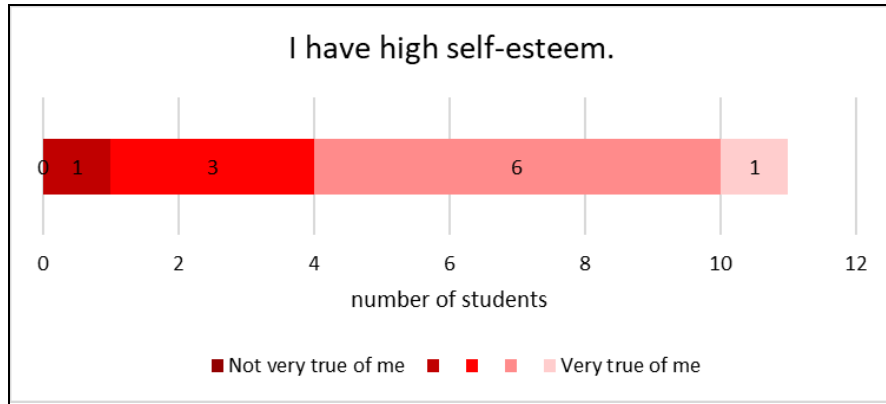
RESULTS & FUTURE DIRECTIONS

The proposal for EnRICH was originally created in 2020 by myself and Morgan White, MD. It was brought to Thomas Hahn, MD and Patricia Tellez-Giron, MD for further collaboration and faculty support. We have gathered support from both UW-SMPH and DFMCH, and EnRICH officially launched in the academic year of 2022-2023 with 11 mentees (8



MI, 3 M2) and 17 mentors (with 3 additional students added throughout the year). The initial survey results showed average/incomplete identity congruence with their personal perceptions of self vs “medical student” and self vs “family medicine,” and slightly above average self-esteem ratings.





Group mean: 3.6

Interpretation: Self-esteem is moderate to high in this group of students.

Their reflections regarding Peer-Group Interactions and Institutional and Goal Commitments are also shown below.

Subscale I: Peer-Group Interactions	Mean
Total scale score	25.4
The student friendships I have developed in the University of Wisconsin-Madison medical school have been personally satisfying.	4.0
My interpersonal relationships with other students have had a positive influence on my intellectual growth and interest in ideas.	4.0
Since enrolling in the University of Wisconsin-Madison medical school I have developed close personal relationships with other students.	3.8
My interpersonal relationships with other students have had a positive influence on my personal growth, attitudes, and values.	3.8
Most of the students I know would be willing to listen to me and help me if I had a personal problem.	3.6
It has been difficult for me to meet and make friends with other students. (R)	3.0
Most students in this program have values and attitudes different from my own. (R)	2.9

numbers closer to 5 indicate greater levels of agreement; (R) indicates reverse scoring

Subscale V: Institutional and Goal Commitments	Mean
Total scale score	23.4
It is important for me to graduate from medical school.	5.0
It is important to me to graduate from the University of Wisconsin-Madison medical school.	5.0
It is likely that I will return as a medical student at University of Wisconsin-Madison next fall.	4.9
I am confident that I made the right decision in choosing to attend the University of Wisconsin-Madison medical school.	4.6
Getting good grades is important to me.	4.6
I feel confident in the medical specialty I will choose.	3.8

numbers closer to 5 indicate greater levels of agreement

While mean scores of 26.6 (*Peer-Group Interactions*) and 24.4 (*Institutional and Goal Commitments*) were associated with college freshmen who persisted in their studies without dropping out, it should be noted that this study administered their survey at the end of the year of faculty and peer engagement.⁴ It is our hope and expectation that we see improvement at both the individual and cohort level at the end of the year as our programming continues to improve.

These past three years have been spent building the foundation of EnRICH. Over this time, we have secured funding through the Brillman Fund to hold large group activities and provide research stipends and scholarships to attend relevant conferences. We have also partnered with the Phase 1 Preceptorship Program (P1PP) to try to match phase 1 students with family preceptors who can double as their EnRICH mentor. We are currently working with the Access Community Health Clinics to expand opportunities for our medical students to work with a diverse patient population.

Since our launch, there has been a feeling of togetherness and bonding just by being in a room filled with people who share some of the same values and background experiences. Yet, there is still much room to be done in the coming years. As we close our first year and enter into year two of the program, we will now have mentees who can serve as informal mentors for underclassmen and eventually for premedical students. With this program, in addition to other global departmental and university efforts, it is our hope that we can increase the retention of future physicians from underrepresented backgrounds in the Madison area.

ACKNOWLEDGEMENTS

Thomas Hahn, MD; Patricia Tellez-Giron, MD; Morgan White, MD; Amanda Keenan; Sarah Hohl, MPH, PhD; Mark Beamsley, MD; Christa Pittner-Smith, MD; University of Wisconsin – Department of Family Medicine and Community Health; University of Wisconsin – School of Medicine and Public Health; Access Community Health Centers; Brillman Fund

REFERENCES

1. Institute of Medicine (US) Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care, Smedley BD, Stith AY, Nelson AR, eds. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. Washington (DC): National Academies Press (US); 2003.
2. U.S. Census Bureau (2019). Population Estimates Program (PEP) Madison, Wisconsin. Retrieved from [Link](#)
3. The Ladder for America. Lift As You Climb - Build As You Grow. <https://theladderforamerica.org/>
4. Pascarella ET, Terenzini PT. Predicting Freshman Persistence and Voluntary Dropout Decisions from a Theoretical Model. *The Journal of Higher Education*. Jan-Feb 1980; 51 (1) pp 60-75. <https://www.jstor.org/stable/1981125>

André Biscaye, MD

Projects Completed During Residency:

Scholarly Project:

Does Naltrexone Cause Elevated Liver
Transaminases in Patients with Alcohol Use
Disorder?

Community Health Learning Experience:

Opioid Use Disorder in Dane County Jail:

For my community health learning experience, I wanted to better understand the systems in place that affect people with opioid use disorder (OUD) in Dane County Jail. Recently, Dane County improved access to allow patients to continue previously unavailable medications for OUD while in jail. I met with a peer support counselor whose organization Safe Communities partners with the jail to provide resources and support to people struggling with addiction. I learned about recovery coaching and sought to explore how this organization developed a relationship with the jail to connect patients with treatment in the community.



There are a lot of people I want to thank! Shout out to my wife Emily - woohoo we made it! Thank you to my family for loving and supporting me. Thank you to my co-residents for helping me laugh through busy times. Thank you to the many wonderful faculty, especially at Northport, for being role models and mentors.



André Biscaye, MD is devoted to creating longitudinal relationships with his patients. He claims Denver, CO as his hometown, and has also lived in Mauritania, Senegal, Burkina Faso, and Cambodia. He earned his undergraduate degree in Biology at Westminster

College of Salt Lake City and his medical degree at the University of Rochester. Between his 3rd and 4th years of medical school, he lived in Lima, Peru, and learned about the treatment of drug-resistant tuberculosis in the city's most impoverished areas. This deepened his passion for serving underserved and Spanish-speaking patients. In Rochester, André served as a student leader of a smoking cessation group and saw firsthand the difficulties of overcoming addiction and the importance of patient-centered, shared decision making. From his experience in caring for people with mental illnesses, he sees every person as having a hidden story just waiting to be heard by an understanding, compassionate ear. He approaches his patients with love and kindness and works with patients to help them uncover what makes life meaningful, even in the face of devastating illness. André is interested in addiction medicine, global, behavioral, and women's health, and palliative care. André enjoys climbing, drumming, cooking, reading graphic novels, and playing with his black lab.

Does Starting Naltrexone in a Patient with Alcohol Use Disorder and Elevated Baseline Liver Transaminases Cause Further Liver Injury Compared to Acamprosate and Gabapentin?

André Biscaye, MD

Evidence-Based Answer

There is limited data for naltrexone safety in patients with cirrhosis and most studies exclude patients with elevated liver enzymes greater than 3 times the upper limit of normal. Available RCTs suggest that naltrexone does not cause hepatotoxicity in patients with liver enzyme elevation less than 3 times the upper limit of normal or when compared to acamprosate, while retrospective cohort studies suggest that naltrexone is similarly safe compared to gabapentin and acamprosate. (SOR B, two RCTs, two retrospective cohorts)

Evidence Summary

A 6-month, double-blind, randomized controlled trial (n=624, 64% male and median age 44) who met diagnostic criteria for alcohol use disorder (AUD) and had at least 2 days of heavy drinking per week sought to assess hepatic safety of monthly injectable naltrexone (XR-NTX)¹. The researchers measured monthly ALT, AST, GGT and bilirubin while study participants received high (380 mg, n=205) or medium (190 mg, n=210) doses of XR-NTX, or placebo injection (n=209) over the 6 months treatment period. Patients with AST or ALT greater than 3 times the upper limit of normal (> 3xULN) were excluded. After the 6-month treatment period, there were no significant differences between the study groups and median ALT, AST or bilirubin at any lab visit or the number of patients with treatment-emergent liver enzyme elevation (similar among the 380mg XR-NTX (9% 17/193), 190mg XR-NTX (12%, 24/193), and placebo (15%, 29/198) groups).

A 2006 randomized controlled trial (n = 1383) sought to identify a cumulative benefit of various AUD treatments and reported adverse events related to hepatic safety². The study excluded patients with liver enzyme levels > 3xULN and measured liver enzymes monthly during the 16-week treatment period with primary endpoint of percent days abstinent from alcohol and time to first heavy drinking day. Patients were treated with medication management using naltrexone (309), acamprosate (303), acamprosate and naltrexone (305) with or without Combined Behavioral Intervention (CBI) vs placebo (309). While all study groups showed substantial reduction in drinking and naltrexone therapy in particular reduced risk of heavy drinking (97.5% CI 0.53-0.98, P=0.02), twelve patients in the medication group experienced treatment-emergent liver enzyme elevations > 5xULN of normal (naltrexone (6), acamprosate (1), naltrexone + acamprosate (5)) compared to zero in the placebo group (P<0.02). All but two patients (1 did not return for repeat testing, 1 continued to heavily drink) had normalization of their liver enzymes on follow-up. Patients received an average daily dose of 88 mg of naltrexone and 2537 mg of acamprosate during the treatment period.

A 2022 retrospective cohort study (n = 160) followed liver enzymes in patients treated with oral or injectable naltrexone for AUD (100 of which had liver disease and, of those, 47 had cirrhosis) during a 4-year period³. The cohort with liver disease saw a decrease in mean liver enzymes before/during/after treatment, respectively: ALT 39/32/28 IU/L (P=0.01 and P<0.001, respectively) AST 59/46/39 IU/L (P=0.001, P<0.001), total bilirubin (Tbili) 0.86/0.82/0.56 mg/dl

($P=0.54$, $P=0.003$). A similar pattern was observed in patients with cirrhosis: ALT 39/32/28 ($P<0.001$, $P<0.001$), AST 80/49/47 ($P<0.001$, $P<0.001$) and Tbili 1.25/1.01/0.87 ($P=0.18$, $P=0.01$).

A larger retrospective cohort study ($n = 9635$) analyzed 3906 participants that underwent pharmacologic treatment, including 1135 participants with alcohol-associated liver disease and followed them for an average of 9.2 years⁴. The researchers sought to answer the question of whether or not alcohol associated liver disease progressed after initiation of medications for AUD treatment. Compared to non-pharmacologic treatment, medications used for AUD were associated with a decreased incidence of ALD (adjusted odds ratios 0.37, 95% CI 0.31-0.43; $P<0.001$). The association was seen with naltrexone (aOR 0.67, 95% CI 0.46-0.95; $P=0.03$), gabapentin (aOR 0.36 95% CI 0.30-0.43; $P<0.001$), topiramate (aOR 0.47, 95% CI 0.32-0.66; $P<0.001$) and baclofen (aOR 0.57, 95% CI 0.36-0.88 $P=0.01$). Furthermore, there were lower rates of hepatic decompensation in patients with cirrhosis who were treated with naltrexone (aOR 0.27, 95% CI 0.10-0.64; $P=0.05$) and gabapentin (aOR 0.36, 95% CI 0.23-0.56; $P<0.001$).

References

1. Lucey MR, Silverman BL, Illeperuma A, O'Brien CP. Hepatic safety of once-monthly injectable extended-release naltrexone administered to actively drinking alcoholics. *Alcoholism: Clinical and Experimental Research*. 2008;32(3):498-504. (STEP 2)
2. Anton R. Combined Pharmacotherapies and behavioral interventions for alcohol dependence: The Combine Study: A randomized controlled trial. *JAMA*. 2006;295(17):2003-2017. (STEP 2)
3. Ayyala D, Bottyan T, Tien C, et al. Naltrexone for alcohol use disorder: Hepatic safety in patients with and without liver disease. *Hepatol Commun*. 2022;6(12):3433-3442. (STEP 3)
4. Vannier AG, Shay JE, Fomin V, et al. Incidence and progression of alcohol-associated liver disease after medical therapy for alcohol use disorder. *JAMA Network Open*. 2022;5(5). (STEP 3)

Adam Cordum, MD

Projects Completed During Residency:

Community Health Learning Experience:

Chop Chop Cooking Classes

Scholarly Project:

What Factors Increase the Risk of Persistent Postconcussion Syndrome in Children and Adolescents?:

We conducted a literature review to write an FPIN HelpDesk to answer this question. Many factors increase the risk of persistent postconcussion syndrome in children in adolescents. These include female gender, adolescent age (11-18 years), children from families with poor family function, and a preceding history of emotional distress (anxiety/depression).



Adam Cordum, MD is passionate about the relationships he forms with his patients and his teammates. Adam grew up in Edmond, OK and earned his undergraduate degree in psychology and his medical degree from the University of Oklahoma in Norman, OK. While in

medical school, he worked extensively with a free clinic in Oklahoma City that served the uninsured, predominantly Latino, population in the area. He also served on the executive committee for the OU Community Health Alliance, which coordinates the partnership between local free-care clinics and the medical school, facilitating both medical student volunteering and ongoing financial support through fundraisers, donations, and university support. As a co-intramural chair, he helped organize sporting events and recreation league participation for his medical school class. Adam loves family medicine's broad focus on prevention and community involvement in health and wellness. As a family physician, he strives to make a powerful impact by advocating on patients' behalf, working alongside them to see the entire picture of their health and integrating all contributing factors into a care plan. He is specifically interested in sports medicine. Outside of medicine and community involvement, Adam is interested in board games, taking his puppy on walks, fitness, and all recreational sports, especially soccer.



I have the utmost gratitude for the support from my incredible wife Sam, who always spurs me toward the best version of myself.

Chop Chop Family Cooking Classes

Adam Cordum, MD

Background

Chop Chop helps connect children and their caregivers with educational materials around healthy nutrition and safe kitchen skills. Children and families can greatly benefit from these classes by teaching self-efficacy as children prepare large portions of the meal as well as leadership skills as the children guide their family through the recipe each session. These sessions were held at The East Madison Hospital Learning Kitchen and the Badger Prairie Needs Network's commercial kitchen, allowing us to serve a wide array of the greater Madison area.

Objectives

We wanted to create a healthier relationship with food and cooking for these children and their families. Fundamentally, as we were restarting these classes after the pandemic, we were hoping to show proof of concept with good participation across both of our kitchen sites.

Methods

We utilized UW Health Marketing to create marketing materials. We also utilized the trove of Chop Chop materials from their seasonal magazines for our recipes and activities during classes.

Results

Each session, the children and their families always leave having learned something new, trying something new, or both! Families that repeated classes reported, multiple times, their home attempts on previously taught recipes, showing lasting knowledge and skills gained.

Conclusions

Chop Chop classes are a fun, valuable opportunity to intersect with families in our community to promote healthy relationships with food and cooking. The classes are geared toward children of all ages, allowing for diverse experiences during the same class based on age and kitchen skill comfort.

Acknowledgments

Allison Couture, DO; Luke Ragon, MD; Badger Prairie Needs Network; The East Madison Hospital Learning Kitchen; Chop Chop Magazine.

Jeffrey Daniels, MD

Projects Completed During Residency:

Scholarly Project:

For MAT Treatment for OUD, Does Socioeconomic Status Affect Relapse Rate?

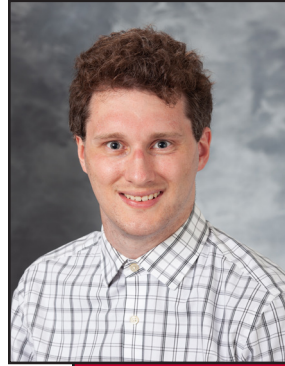
Scholarly Project:

Evaluation of Preventative Care Metrics Using Built-In Tracking Software in Epic EMR and Effects on Primary Care:

The electronic medical record is a key component providing effective care to patients today. Newer developments now allow for regular tracking of markers pertinent to a family doctor's goals in preventative care. This data was utilized on three fronts (Colorectal cancer screening, tobacco screening, breast cancer screening) where percentage following standard guidelines was obtained. Following this starting point, my staff and I made an effort to encourage patients to follow through on these particular topics. After a 3 month period, these were reviewed and percentage of compliant patients was noted to be higher in all 3 fields of study.



Thank you to my wife Wabida and my parents, who have always supported me and made these last few years possible. Thanks as well to my co-residents and my attendings on their ability to make this medical journey interesting and worthwhile. I have learned so much while here, and I am excited to continue learning in the future, to learn and grow from the people around me, patients and colleagues both.



Jeffrey (Jeff) Daniels, MD was born and raised in Cedar Falls, IA. He earned his bachelor's degree in Biomedical Engineering from Washington University in St. Louis and his medical degree from the University of Iowa Carver College of Medicine. While in medical

school, Jeff worked with the Iowa Harm Reduction Coalition to foster health equity in communities through advocacy, education, and acceptance, and work against stigma. This strengthened Jeff's commitment to reaching out to people where they are and providing care and support in an environment where they feel comfortable to share their experiences and improve their livelihoods. Jeff also volunteered at the student-run free clinic and provided care in underserved Hispanic and homeless communities. He was also involved with a women's health rotation quality improvement project to develop and implement changes for both patient experience and clinical education for his peers. Jeff is interested in full spectrum integrative primary care and obstetrics and is passionate about building long-lasting relationships with his patients and their families. Jeff enjoys spending time with his friends playing baseball, basketball, golf, volleyball, board games, and tabletop RPGs. He also can be found writing, playing piano, and cheering on the St. Louis Cardinals.

For MAT Treatment for OUD, Does Socioeconomic Status Affect Relapse Rate?

Jeffrey Daniels, MD

HDA Question

In patients treated medically for opioid use disorder is there a correlation between relapse rate and socioeconomic status?

Evidence-Based Answer

No, based on limited available evidence. There does not appear to be a significant difference in retention with bup/nx treatment between those of high-SES and those of low-SES (SOR C, retrospective cohort study). Patients in areas of higher deprivation showed similar relapse rates from buprenorphine and methadone compared to those in areas of lower deprivation (SOR C, case series). More studies need to be performed to explore this relationship.

Evidence Summary

A retrospective chart review and cross-sectional telephone interview study from 2010 (N = 176) investigated the long-term outcomes of office-based treatment with buprenorphine/naloxone (bup/nx) maintenance therapy for opioid use disorder with emphasis on the impact of socioeconomic status among other patient-specific factors over an 18-month period. The study was split into two separate groups, a high socioeconomic status (SES) group and a low SES group on the basis of comparing outcomes of those with full self-pay and/or private insurance (high SES) and those with no insurance or indigent (low SES). Treatment was divided into “primary phase” where patients were followed by an investigator and an “outpatient phase” where patients were referred to a primary care clinic for follow-up. Treatment consisted of 23-48 hour inpatient admission for induction, 5 weeks of intensive outpatient therapy, and 12 weeks of weekly aftercare sessions. This was followed up by primary office-based treatment with monthly visits and ongoing 12-step meeting attendance. Full adherence for each level of treatment was required where non-adherence or substance use resulted in referral back to the next highest level of care. As above, 176 patients were inducted and eligible for follow-up of which 110 completed telephone interview follow-up. At follow-up, 77% of these subjects reported continuously remained on bup/nx. Continued bup/nx patients were significantly less likely to report using any substance ($\chi^2 = 6.26$, $p = 0.012$) and less likely to report using heroin ($\chi^2 = 8.1$, $p = 0.004$). SES sub-group analysis showed high-SES subjects were more likely to be from minority background ($\chi^2 = 6.82$, $p = 0.009$) and more likely to have a significant other ($\chi^2 = 12.36$, $p = 0.0004$). High-SES subjects were more likely to be employed at baseline but not at follow-up ($\chi^2 = 4.84$, $p = 0.028$). Low-SES subjects were more likely to report still being on bup/nx at time of follow-up, although there was more substance use at follow-up in low-SES subjects ($\chi^2 = 4.09$, $p = 0.0432$). Overall, slightly more low-SES patients remained on treatment and demonstrated similar improvements in quality of life measures compared to their high-SES counterparts. None of the low-SES patients could afford either the medications for treatment nor the costs of treatment at entry. As such, treatment for those in the low-SES group were publicly funded and those individuals were required to undergo 4-8 weeks of half-way house treatment not provided to insured (high-SES) counterparts. Regardless of SES, the results indicate that there are benefits of sobriety and improved quality of life for both the low-SES and high-SES group.

A study reviewing Medicaid claims data of patients treated newly with methadone (n=212) and buprenorphine (n=972) examined the predictors of adherence, differences in adherence to each medication, and specifically the relationship between adherence and ED nonfatal drug-related overdose. There was also a cost of care analysis performed that was not particularly relevant to the question at hand. Medication adherence was measured for six months after starting treatment where methadone was administered directly by clinic-based providers and buprenorphine was prescribed as oral medication to be taken daily. Measurements included time to non-adherence along with whether or not members continuously adhered for 6 months after initiation of treatment. The sample analyzed was limited to members who were treatment naive for at least 3 months of membership prior to medication start and had at least 6 months of membership available after medication start. Other variables monitored included age (>40<), county of residence, gender, race (white vs other), number of unique prescriptions filled in prior 3 months, diagnosis of serious mental illness (SMI), and whether or not adherence took place for 6 months. ADI, or area deprivation index, a composite of socioeconomic factors, was also used as a variable, and is the most important variable for the purposes of this review. High ADI indicated an area of higher socioeconomic deprivation. A statistically significant ($p=0.026$) difference was found between low and high ADI groups and six-month adherence. For those living in an area with high ADI, there was no difference in adherence for methadone and buprenorphine (n=111, n=553 respectively). However, those in low ADI areas showed a significant difference between the two treatments (55% vs 40%), which showed an association that in lower ADI areas, those on methadone were more likely to adhere to treatments than buprenorphine. They also observed an association between living in an area with high socioeconomic deprivation and adherence to MAT. In studying the risk of nonfatal overdose, the study found individuals with high ADI were less likely than low ADI (OR=0.66, $p=0.028$). Overall, regardless of ADI, adherence to MAT decreased risk of overdose by over 3.5 times.

References

1. T.V. Parran, C.A. Adelman, B. Merkin, M.E. Pagano, R. Defranco, R.A. Ionescu, A.G. Mace, Long-term outcomes of office-based buprenorphine/naloxone maintenance therapy, *Drug and Alcohol Dependence*, Volume 106, Issue 1, 2010, Pages 56-60, ISSN 0376-8716 [STEP 3]
2. Suzanne Kinsky, Patricia R. Houck, Kristin Mayes, David Loveland, Dennis Daley, James M. Schuster, A comparison of adherence, outcomes, and costs among opioid use disorder Medicaid patients treated with buprenorphine and methadone: A view from the payer perspective, *Journal of Substance Abuse Treatment*, Volume 104, 2019, Pages 15-21, ISSN 0740-5472 [STEP 4]

Charissa Etrheim, MD

Projects Completed During Residency:

Community Health Learning Experience:

Increasing Access to Pre-Exposure Prophylaxis (PrEP) at the Northport Family Medicine Clinic

Scholarly Project:

Actinomycosis Case Report:

Actinomycosis is a rare bacterial infection caused by Actinomyces. Our case report describes a 78-year-old white male who presented to the clinic two days after noticing a painless, non-bleeding mass eroding from his hard palate that was concerning for malignancy. After a diagnosis was made, he received six months of antibiotics with resolution of symptoms.

Actinomycosis can spread through anatomical defects, causing abscess, sinus tracts, and fistulas. We present an unusual presentation of Actinomycosis to increase clinician awareness of the condition to prevent complications and delays in treatment.



Charissa Etrheim, MD hails from Brandon, SD. While earning her undergraduate degree in Biology and Spanish from Augustana University, Charissa coached Girls on the Run, a program that taught elementary-aged girls how to lead a physically, socially, and emotionally healthy

lifestyle. She attended the University of South Dakota Sanford School of Medicine and served as a committee member and volunteer for the student-run free clinic. While in medical school, Charissa participated in a medical trip to San Lucas Tolimán, Guatemala, where she provided medical care in rural villages and was able to gain experience with global medicine, including the importance of learning about the people and culture of the patients she serves. Charissa's rural family medicine rotation deepened her love of full scope family medicine by instilling in her the responsibilities communities expect from a small-town doctor. Charissa is drawn to family medicine because of the variety of care she is able to provide and the opportunities to build relationships with patients from all walks of life. Her medical interests include women's health, geriatrics, global health, and preventative and sports medicine. Charissa can be found running, camping, snowshoeing, exploring the outdoors, reading, spending time with friends and family, and cheering for the US Women's National Soccer Team.



Thank you to my husband Justin for your support, love and encouragement throughout my journey to becoming a family medicine physician. To my parents, thank you for always being there for me for years on end and all that you have done to support me along the way. And finally, thank you to my co-residents. Residency was much more fun with you all, and I am grateful for the friendships Madison has brought me. Graduating medical school, moving, and starting residency amid a pandemic was a crazy experience, and it's exciting to see us here on the other side!

Increasing Access to Pre-Exposure Prophylaxis (PrEP) at the Northport Family Medicine Clinic

Charissa Etrheim, MD

Background

When searching PleasePrepMe.org, an online website and database to help connect people to clinics that prescribe PrEP, there are only five clinics within a 40-mile radius of Madison, WI that advertise availability of PrEP online¹. Additional data was gathered using Aidsvu.org, a website presented by Emory University's Rollins School of Public Health in partnership with the Center for AIDS Research at Emory University. This showed the numbers of new HIV diagnoses and PrEP users at the state level in Wisconsin. Most prescriptions are currently provided through the UW Infectious Disease Clinic. When looking at the breakdown of new diagnoses of HIV in 2020, 57% of new diagnoses occurred in people who identified as Black or Latinx/Hispanic. Although Black and Latinx populations are experiencing higher rates of HIV, only 14.2% of PrEP users from the research provided by Emory University were Black or Latinx².

UW Northport Clinic was chosen as the primary site for this quality improvement project due to its long history of providing care to LGBTQ+ and gender diverse individuals and its location on the northeast side of Madison to help expand geographic accessibility for PrEP. The target population for this intervention was the patients receiving medical care at the Northport clinic. This effort was led by the LGBTQ+ Health Fellows Dr. Margaretta Gergen and Dr. Muhammad Duad, Katie Childs APSW (UW PrEP Navigator), and the UW Infectious Disease clinic. The team sought to increase patient awareness and accessibility of PrEP and increase provider knowledge and comfort about prescribing PrEP in primary care.

Methods

To increase patient awareness, posters obtained from the UW PrEP It Up Campaign were placed in all exam rooms at Northport Clinic. The posters had a QR code linked to the UW PrEP It Up Campaign website providing information about PrEP and ways to access it in the community. Additionally, to increase provider knowledge and comfort about providing PrEP, there were two educational sessions held to discuss current PrEP prescribing, barriers to access, and information about the medications used for PrEP and the appropriate monitoring labs for patients while on PrEP. These sessions were held in March of 2023 and consisted of a one-hour virtual case-based lecture for providers and a lunch-and-learn lecture session open to all clinical staff. A pre- and post-quantitative survey was administered immediately before and after each learning session.

Results

The pre- and post-survey was completed by seven and eight Northport physicians, respectively. Prior to the information lecture about PrEP, six physicians felt neutral or slightly uncomfortable with their knowledge of PrEP and with discussing PrEP with patients while only one felt very comfortable. The lecture was successful in increasing comfort and knowledge about providing PrEP as demonstrated by seven providers who answered that they felt 'somewhat comfortable' and one felt 'very comfortable' discussing PrEP. This project is still ongoing with efforts to increase patient

awareness using posters in all patient rooms with a QR code that will take them to the UW PrEP It Up Campaign website.

Conclusion

Overall, we learned that access to PrEP has been mainly siloed through the UW Infectious Disease clinic and there is a great opportunity to educate and offer PrEP to patients receiving routine care at Northport Clinic. This pilot demonstrated that clinician knowledge and comfort around PrEP could be improved in a single teaching session. Next steps could be to assess impact upon patient uptake of PrEP such as: tracking QR code usage in Northport Clinic rooms; quantifying the number of PrEP prescriptions provided through Northport Clinic before and after a study period; and conducting focus groups with patients on the Northport Patient and Family Advisory Council about current strategies used. We would also recommend engaging community stakeholders outside of UW Health that may want to partner with this project to expand information about PrEP and how to access it in the community. Finally, if this quality improvement project shows improvement in provider awareness of PrEP and increased PrEP prescriptions through Northport, this project should expand to include all four Madison family medicine residency clinics.

Citations

1. *Please PrEP Me*. PleasePrEPMe. (n.d.). Retrieved April 22, 2023, from <https://www.pleaseprepme.org/>
2. *View local HIV data for the State of Wisconsin on aidsvu*. AIDSVu. (2021, May 12). Retrieved May 4, 2023, from <https://aidsvu.org/local-data/united-states/midwest/wisconsin/>

Nathan Gorman, DO

Projects Completed During Residency:

Scholarly Project:

Implementing and Evaluating a Resident-Led Point-of-Care Ultrasound (POCUS) Curriculum

Community Health Learning Experience:

Basic Obstetrics Skills Training for Rural Emergency Medical Services (EMS) in Wisconsin:

Obstetrical knowledge and skills are vital for EMS personnel. Even though out-of-hospital deliveries are infrequent, they are associated with an increased risk of maternal and neonatal morbidity and mortality. Through an interactive presentation, Stefanie Sippl, MD and I aimed to augment the obstetrical education of rural EMS crews in Iowa County. Post seminar, participants endorsed a universal increase in their comfort triaging and managing obstetrical emergencies. Our project offers a sustainable community intervention for improving EMS crews' confidence in managing obstetrical care that could be built upon and expanded across Wisconsin.



As a military child, Nathan Gorman, DO spent his childhood moving around the country (Delaware, Colorado, Kansas, Virginia, Alabama, and Missouri) and world (Russia) but calls Kansas City, MO his hometown. He earned his undergraduate degree in Exercise Science and

played four years of college football at Truman State University before earning his medical degree from Rocky Vista University College of Osteopathic Medicine. While in medical school, he developed a novel way of quantifying osteopathic manual therapy with ultrasound and presented his findings at the national Student American Academy of Osteopathy Convocation. Nathan is most motivated by working directly with patients and seeing each of his colleagues develop a unique style to connect with patients and deliver high quality care. Nathan's interest in family medicine comes from his desire to be dynamic and innovative in his approach to healthcare, allowing him to create a practice that follows his passions: osteopathic manual therapy, bedside ultrasonography, obstetrics, and inpatient medicine, all within a holistic clinical model. When he is not in the clinic or hospital, Nathan enjoys being outside: backpacking, backcountry skiing, fishing, golf, and playing basketball.



First, I want to thank my parents, not only for the support that they have provided me but also for the role models they are that has allowed me to be in the position I am today to pursue a career in medicine. Additionally, I want to thank my in-laws for all their support both within the medical field and supporting our family through the process of medical education. Most importantly I want to thank my wife, who has traveled this journey with me while pursuing her own career to become an anesthesiologist. Lastly, I want to thank my son, Owen, who joined us this year to brighten each and every day and bring countless smiles.

Implementing and Evaluating a Resident-Led Point-of-Care Ultrasound (POCUS) Curriculum

Nathan Gorman, DO

Purpose

Point-of-Care Ultrasound (POCUS) training is being adopted by a growing number of family medicine residency programs and is now a recommended competency for graduating residents, according to the ACGME and AAFP. Implementation of POCUS training in residency may be limited by factors such as time constraints and access to skilled faculty preceptors. Hypothesizing that a resident-led learning opportunity could bridge the gap to implement these new recommendations, we planned a monthly resident-led POCUS session and evaluated its impact on residents' image interpretation skills.

Methods

Study design: Single-site curriculum development and quality improvement study.

Participants: 26 R1-R3 family medicine residents at the University of Wisconsin, Madison, Department of Family Medicine and Community Health volunteered to participate in this extracurricular POCUS opportunity.

Intervention: 1 hour, resident-led, combined didactic and hands-on POCUS workshops. The intervention occurred over a 6-month period (August of 2022 - January of 2023) at the University Hospital, Madison, WI. A total of 4 sessions were offered at a frequency of once every one to two months.

Measures: Using online pre- and post-session assessments consisting of 3-8 questions (accompanied by POCUS images for review), we evaluated residents' ability to correctly identify common normal and abnormal ultrasound findings. To limit confounding variables, pre- and post-session assessments used identical questions. 26 residents participated in at least one learning session and all participants completed pre- and post-session assessments for each session they attended. Shapiro-Wilk normality test suggested normality could only be assumed for the pre- and post-test distribution of responses from the lung scanning results. Therefore, the Mann-Whitney U-Test was used for analysis of all other results.

Results

Initial data analysis suggests a statistical improvement from pre- and post-test means for all scanning sessions other than the DVT session. After adjusting for multiple comparisons with the Benjamini-Hochberg adjustment, only results from the lung scanning session showed statistical improvement from pre- to post-test.

Conclusion

This resident-led POCUS learning opportunity improved residents' ability to correctly identify common normal and abnormal lung ultrasound images. With this small cohort, no improvement

was seen for image interpretation with DVT or AAA scanning. Limitations include small sample size and inability to pair individual participant's pre- and post-test results due to study blinding which may have led to low statistical power to detect differences in pre- and post-test results. Interest groups like this one may help in achieving new ACGME and AAFP recommendations for basic POCUS competency as well as implementation in family medicine residency training. Additional research is needed to examine the effect of resident-led POCUS sessions on residents' image acquisition skills, ability to identify appropriate use of ultrasound in the point of care setting and the potential for impact on clinical implementation and decision making.

Caroline Hensley, MD, MPH

Projects Completed During Residency:

Community Health Learning Experience:

Clinic-Based Food Pantry Implementation in a Residency Clinic with High Food Insecurity Rates

Scholarly Project:

But How Can I Help?: Caring for Patients Seeking Care Before or After Medication Abortion in Post-Roe Wisconsin:

Recently, state level legislation has impacted the provision of abortion care across Wisconsin. Health care team members in our state are still experiencing confusion and misinformation about how to care for and support patients who are considering or have had a medication abortion. To provide clarity in these situations for health care team members at all levels in Wisconsin, we created a workflow for patients who are either considering medication abortion or who present to the healthcare system after medication abortion. In doing so, we hope to offer clear guidelines regarding how best to support patients pursuing abortion care outside of our state. This workflow has been published internally at UW Health and will be presented at the Wisconsin Public Health Association Annual Conference in May 2023. Thanks to Jess Dalby and Ashlyn Brown for their collaboration on this work.



Caroline Hensley, MD, MPH hails from Wheaton, IL, and spent many of her formative years in Cincinnati, OH. Caroline is committed to learning the story of each of her patients – how they live, work, and play – to provide care that is tailored to each person. She earned

her undergraduate degree in Spanish and Biology, her Master of Public Health degree, and her medical degree from the University of Cincinnati. She has a strong commitment to caring for underserved populations. Caroline has conducted research related to the social determinants of health and the structural barriers patients face as they seek quality medical care. This research led her to develop and lead programs to address the social needs of patients at a local federally qualified health center. Caroline evaluated the need for and established a student run free clinic for the uninsured in Cincinnati; her success solidified her motivation to creatively address health disparities and advocate for the needs of communities. In addition to her interests in health equity and care for vulnerable populations, Caroline is also interested in maternal-child health. Caroline enjoys gardening, yoga, and spending time outdoors.



Thanks to my husband, family, co-residents, and countless mentors over the years for their endless support and love. Most importantly, thank you to my patients and community for all you have taught me.

Clinic-Based Food Pantry Implementation in a Residency Clinic with High Food Insecurity Rates

Caroline Hensley, MD, MPH

Background

Food insecurity can have serious health effects across the lifespan (Morales 2016, Madzia 2021, Liu 2021, Gyasi 2022). Studies suggest intervening on food insecurity in the health care setting can improve a variety of health outcomes (Watt 2015, Merchant 2023, McKay 2022). Furthermore, systematically addressing and intervening on the social determinants of health has increasingly been determined to be within the scope of family physicians. However, a disconnect exists between community based organizations such as food banks and primary care organizations where family physicians work (Runkle 2021). We partnered with Second Harvest Foodbank of Southern Wisconsin and University of Wisconsin Health Nutrition to replicate the hospital based process of screening for food insecurity and brief intervention to the primary care setting.

Objectives

We implemented a clinic-based food pantry to increase clinic identification of and intervention for food insecurity. We expected this to be a proof of concept prior to expanding to more complex distribution models to incorporate patient preferences and to distribute non-shelf stable food items such as fresh produce. Likewise, we anticipated an increase in patients' access to community-based services.

Methods

We utilized a two question, validated food security screening already built into Epic (primarily used in the inpatient setting) to screen families seen in our clinic for food insecurity. If a family screened positively for food insecurity based on these questions or a need was later identified during the visit, any team member could distribute a food box and refer the patient to our clinic social worker. Each box of food was pre-packaged by Second Harvest Foodbank of Southern Wisconsin with shelf stable items. Each box included resources and information related to food pantries local to the patient and contact information for Wisconsin's 211 hotline, a resource for navigating social needs. Following the visit, our clinic social worker called the patient to follow up on the status of the food obtained and inquire about additional community-based services that the patient had engaged with or would like help engaging with since the visit.

Results

We noted increased screening for food security in our patient population and increased engagement by clinic staff in discussing food security with patients. However, we were limited in our ability to pull data on which individual patients received food boxes. We had a difficult time standardizing how staff documented to whom a box of food was distributed in a trackable way. All food boxes received by our clinic were distributed over a one year time period. Since the initial implementation of this program, the pre-packaged food boxes have become unavailable due to funding changes following the end of the pandemic. However, our relationship with Second Harvest Foodbank of Southern Wisconsin remains and our clinic is now exploring other formats

for distributing food to our families - produce box distributions, drive-thru distributions, and individual food item distributions. These other distribution models pose new challenges for labor of distribution, food storage, and timing of distribution. More importantly, these new models pose a unique opportunity to allow for further patient choice in the food items they receive and increase the nutritional value of food distributed.

Additionally, a new paper screening questionnaire for well child checks has been implemented at our clinic that includes the standard two questions about food insecurity. This has increased identification of families experiencing food insecurity and poses opportunity for further brief interventions.

Conclusions

Partnership with a local food bank was successful in establishing a clinic based screening and intervention for food insecurity. Pre-packaged shelf stable food boxes was a low effort initial form of food distribution to pilot this program and work towards establishing this relationship. It is prudent to acknowledge the cultural diversity of our clinic population and that food that may be easily available for distribution (the pre-packaged shelf stable food boxes) may not match the foods our families typically eat or prefer. Thus, future interventions must balance labor of distribution, food storage, timing of distribution with ability to customize food interventions for individual families. Finally, our tracking of families who received food boxes did not allow for easy review of data and thus limited reflection on who was receiving the intervention. Standardization of where staff members document food distribution will be key. In summary, much opportunity lies in the future food security interventions now possible through forging this relationship with a local food bank: specifically, future food security interventions that center patient choice and increase the nutritional value of food distributed - two key pieces in creating a more effective and equitable intervention (An 2019, Mirsky 2021)

Acknowledgments

Thank you to the team at Second Harvest Foodbank of Southern Wisconsin, Cassie Vanderwall, Brian Arndt, Mary Vasquez, Abigail Liedl, Stacey Baik, and Jonas Lee.

References

- 1) Morales, Mary E., et al. "Peer reviewed: Food insecurity and cardiovascular health in pregnant women: Results from the Food for Families Program, Chelsea, Massachusetts, 2013–2015." *Preventing Chronic Disease* 13 (2016).
- 2) Madzia, Juliana, et al. "Influence of gestational weight gain on the risk of preterm birth for underweight women living in food deserts." *American Journal of Perinatology* 38.S 01 (2021): e77-e83.
- 3) Liu, Yibin, and Heather A. Eicher-Miller. "Food insecurity and cardiovascular disease risk." *Current Atherosclerosis Reports* 23 (2021): 1-12.
- 4) Gyasi, Razak M., et al. "Food insecurity and geriatric functional limitations: Observational analysis from the AgeHeaPsyWel–HeaSeeB Survey." *Experimental gerontology* 160 (2022): 111707.
- 5) Beck, Andrew F., et al. "Forging a pediatric primary care–community partnership to support food-insecure families." *Pediatrics* 134.2 (2014): e564-e571.

- 6) Watt, Toni Terling, et al. "A primary care-based early childhood nutrition intervention: evaluation of a pilot program serving low-income Hispanic women." *Journal of racial and ethnic health disparities* 2.4 (2015): 537-547.
- 7) Merchant, Tazim, et al. "Healthcare-based interventions to address food insecurity during pregnancy: a systematic review." *American journal of obstetrics & gynecology MFM* (2023): 100884.
- 8) McKay, Fiona H., et al. "Systematic Review of Interventions Addressing Food Insecurity in Pregnant Women and New Mothers." *Current Nutrition Reports* 11.3 (2022): 486-499.
- 9) Runkle, Nicole K., and David A. Nelson. "The silence of food insecurity: disconnections between primary care and community organizations." *Journal of patient-centered research and reviews* 8.1 (2021): 31.
- 10) An, Ruopeng, et al. "A systematic review of food pantry-based interventions in the USA." *Public Health Nutrition* 22.9 (2019): 1704-1716.
- 11) Mirsky, Jacob B., et al. "Massachusetts general hospital revere food pantry: Addressing hunger and health at an academic medical center community clinic." *Healthcare*. Vol. 9. No. 4. Elsevier, 2021.

Clinic-based food pantry implementation in a residency clinic with high food insecurity rates

Caroline Hensley, Abigail Leidl, Mary Vasquez, Cassandra Vanderwall, Shelly Shaw, Brian Arndt

Background

11.8% of households in our county identify as food insecure

More likely to be households

- **Identifying as Hispanic**
- **Identifying as non-Hispanic black**
- **Led by a single mother**
- **With a disabled person**
- **Living below federal poverty level**

Food security has serious health effects across the lifespan

Our clinic was **NOT** routinely screening or intervening on food security

Methods

Identified successful screening & brief intervention in hospital setting

Established relationships to replicate this process in clinic setting

Measures

- #** of patients screened
- #** of food boxes administered

Screening

Responses: Often true / Sometimes true / Never true

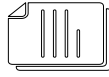
1. We worried whether our food would run out before we (I) got money to buy more
2. The food that we bought just didn't last and we (I) didn't have money to get more

+ screen: "Often true" or "Sometimes true" to one or both questions

Intervention



3-5 day emergency food supply



written local pantry information



referral to social work

Process

- Food boxes ordered by social worker at least monthly
- Food boxes delivered by community partner at least monthly
- 1** During visit rooming process, all patients screened for food security
- 2** All patients with **+ screen** receive food box based on household size
- 3** Referral for social work follow-up placed by provider

Factors for Success



Existing community partnership
Proven hospital process
Boxed food in the time of covid

Limiting Factors



No refrigerated space
Staff capacity & availability
Virtual staff and patients
Lack of patient choice

Next Steps



Finalize food storage plans
Clearance from legal
Start screening & intervening!

References

1. Hickman, Nick. "Hunger & Food Security in Wisconsin and Dane County." Accessed from <https://www.pubstatehhs.wisc.edu/documents/foodsecuritywhitepaper.pdf>. Published 2016.
2. Madira, Juliana, et al. "Influence of Gestational Weight Gain on the Risk of Preterm Birth for Underweight Women Living in Food Deserts." *American journal of perinatology* (2020).
3. Underweight for Gestational Weight Gain and Risk of Preterm Birth: A Systematic Review for Evidence-Based Practice. *Perinatal Journal of perinatology* (2020).
4. De Marchis, Emma H, et al. "Identifying food insecurity in health care settings: a systematic scoping review of the evidence." *Family & community health* 42.1 (2019): 20-29.



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Brian Kenealy, MD, PhD

Projects Completed During Residency:

Community Health Learning Experience:

Opioid Use Disorder Treatment in the Rural Jail Setting

Scholarly Project:

Is Buprenorphine “Microinduction” a Safe and Effective Method of Medication Initiation for Opioid Use Disorder?:

Yes. Buprenorphine microinduction seems at least 74–88% effective at transitioning patients from full opioid agonists and is typically associated with minimal or mild withdrawal symptoms (SOR: B, cohort study and systematic reviews of case reports/series).



Much appreciation to Dr. Jillian Landeck for her mentorship and support on this CHLE project; she has a truly impressive drive and creative energy in her quest to improve the health of patients with substance use disorders. I would also like to thank Dr. Melanie Biegler, and Hazel Behling for joining us and creating a consistent working group. Much gratitude to Dr. Allison Miller for sharing her expertise. This CHLE would not be possible without the hard-working and kind-hearted staff members at Green County jail and Green County Human Services. Sincere thanks to the Honorable Faun Phillipson for allowing us into her court to observe the unique environment of a drug court session. Most of all I am thankful to Allie Valitchka for her constant love and support of my seemingly never-ending education and being the glue to keeping us and the kids sane, well fed, and taken care of.



Brian Kenealy, MD, PhD is a native Madisonian, having grown up in the Monroe Street neighborhood. He attended the University of Wisconsin – Madison, where he earned his bachelor’s degree in Molecular Biology and his doctorate in Endocrinology and Reproductive

Biology. He attended medical school at the Medical College of Wisconsin. In medical school, Brian participated in the Health Systems Management and Policy Pathway, which exposed him to ways in which systems can be leveraged to improve health and wellness, such as advocacy at Doctor Day at the Capitol. He also participated in leadership, teaching, and mentorship activities and is committed to medical student education. Drawing on his research training, he conducted research on how psychosocial determinants affect diabetes and how fat cells regulate cholesterol. He also used his research skills to inform community projects and mentor the next generation of medical professionals and scientists. Brian is committed to caring for patients across their lives and medical conditions. He is interested in obstetrics, chronic disease management, shared decision making, and community-focused preventative care. Brian finds joy in spending time with his wife and daughter, walking his dog and tending to his backyard chickens, indulging in science fiction, and playing ultimate Frisbee and basketball.

Opioid Use Disorder Treatment in the Rural Jail Setting

Brian Kenealy, MD, PhD

Background

The purpose of this learning experience is to increase access to medications for opioid use disorder (MOUD) and improve care of patients with substance use disorders who are in the rural jail system. The incarcerated population overall has worse health outcomes and those with opioid use disorder are at high risk of overdose and death upon discharge from jail. These health disparities are more pronounced in rural communities where access to AODA and mental health services are limited. Patients who are in jail lose their insurance as they enter the jail system and MOUD is often stopped while incarcerated. This is due to several reasons, including misunderstanding or misconceptions of MOUD therapies by jail administration, cost cutting, staffing shortages, or limited medication administration times. This is a longstanding project spearheaded by Dr. Landeck with primary partnerships with the Green County jail and Green County human services. This work was in part supported by a State Opioid Response Grant from the Wisconsin Department of Health Services in tandem with Dr. Allison Miller who conducted work in the Dane County and Columbia County jails. Prior to my involvement, work supported by this grant supplied a laptop computer with purpose of enhancing telemedicine capabilities and ability to provide counselling to patients while in the Green County jail and helped to improve discharge care coordination in the Dane County and Columbia County jails.

Objectives

My objectives were several-fold:

1. To learn about MOUD management in a rural jail setting
2. Improve access to MOUD for people who are incarcerated specifically to work towards improving re-entry and access to primary care with the goal of establishing protocols to connect with PCPs immediately upon release
3. Disseminate the work to a larger audience

Methods

In order to achieve objective 1, we continued our discussions with Green County jail staff and specifically gathered information on their current med pass protocols. We also attended a drug court session in Monroe, WI, to learn more about the support systems available through this unique legal system program. To achieve objective 2, we began meeting regularly on the first Monday of every month. We expanded our team to include our rural health equity coordinator. We continued to periodically engage with our community partnerships with Green County human services (GCHS) and the Green County jail. Through this partnership we have created/identified a staff member at GCHS to be a jail liaison. We are in the process of working with Green County jail to come up with protocols to help connect people in jail who could benefit from an enhanced contact through the jail liaison. We also sought out and explored a possible partnership with Southwest Community Action Program, as well as met with several other community stakeholders including a discussion on how to include patient voices in the process of change. To achieve objective 3, I helped research and publish an FPIN article on low dose buprenorphine induction strategies (Boland, Kenealy, and Landeck, 2022). It serves as my closely related scholarly project. We are

currently in the process of writing a manuscript and reporting data collected as part of the State Opioid Response grant with the MOUD population in Dane and Columbia County jails.

Results

The project has met several challenges and was adversely affected by the COVID-19 pandemic. A big challenge has been implementation in Green County jail despite having engaged and willing nursing and jail staff partners and support from the Green County sheriff's office. MOUD has not been consistent within the jail due to staffing limits to medication pass once daily and the jail nurse being part time. Additionally, Green County jail has been in-between a permanent medical director which has put on hold discussion of potential policy changes and implementation of protocols. Our discussion with Southwest Community Action Program was informative and perhaps in the future may open opportunities for collaboration. Attending drug court was a personal highlight of residency: positive, fulfilling, and an informational experience. An experience that should be expanded for any interested residents to attend in the future. The FPIN article (Boland, Kenealy, and Landeck, 2022) demonstrates that a low dose buprenorphine strategy is both effective and safe based on available low to medium quality evidence. Finally, a protocolized approach to re-entry including touch points prior to release from jail and family medicine primary care providers (n=30) increased both initial follow up (93%) and retention on MOUD therapies (67%) over 3 months despite 40% homelessness in this population (manuscript preparation in process).

Conclusions

Family medicine doctors and primary care providers play a unique role in our ability to support vulnerable patients including those that are or have been incarcerated. We are uniquely stationed to help patients with substance use disorders as we treat the whole patient. This work directly supports the importance of this patient-primary care provider (PCP) relationship as demonstrated that close follow up and establishing with PCP care increases retention on MOUD and ultimately improves the health of those we serve. We continue to be persistent; however, change happens slowly and in fits and spurts. The next step will be to connect our jail coordinator and create a protocol for identifying people who are incarcerated who would benefit from re-entry coordination with the Green County jail. The natural progression will be to expand this to other county or local jail systems and apply what we have learned to be able to provide improved support for patients in the legal system in the greater Wisconsin state population.

Acknowledgements

Much appreciation to Dr. Jillian Landeck for her mentorship and support; she has a truly impressive drive and creative energy in her quest to improve the health of patients with substance use disorders. I would also like to thank Dr. Melanie Biegler and Hazel Behling for joining us and creating a consistent working group. Much gratitude to Dr. Allison Miller for sharing her expertise. This CHLE would not be possible without the hard-working and kind-hearted staff members at Green County jail and GCHS. Sincere thanks to the Honorable Faun Phillipson for allowing us into her court to observe the unique environment of a drug court session. Most of all I am thankful to Allie Valitchka for her constant love and support of my seemingly never-ending education and being the glue to keeping us and the kids sane, fed, and emotionally and physically taken care of.

Andrea Kratzke Nelson, MD

Projects Completed During Residency:

Scholarly Project:

Addressing Substance Use Disorder in Global Health Education

Scholarly Project:

Providing Educational Clarity through the Creation of a Comprehensive Resident Handbook:

As chief residents, my co-chief and I saw a gap in the orientation and education materials provided to new residents. Because of this, resident and attending expectations differed. Previously, a handbook had been provided that talked through these expectations, but it had not been updated since the residency schedule and expectations had been restructured. With the help of my co-chief and APD, we updated and rewrote the handbook to provide guidance to future residents and attendings.



Thank you to my husband, family, and co-residents who somehow kept me sane throughout the insanity of residency.



Andrea Kratzke Nelson, MD enjoys family medicine for both its broad scope of care and its focus on forming lasting relationships with her patients. Andrea is originally from Edina, MN and earned her undergraduate degree in biology from St. Olaf

College. After graduating from college, Andrea volunteered with the Federal Emergency Management Agency's "AmeriCorps/FEMA Corps" in Public Assistance and Disaster Relief. While there, she earned the Administrator's Award for Innovation for her work with endangered species impacted by the Hurricane Sandy relief effort. Andrea earned her medical degree from Rush Medical College. In medical school, Andrea co-led a homeless shelter clinic, where she saw the power of partnering with her colleagues across allied health professions to support a community that is often overlooked and forgotten. In her final year of medical school, she worked at the Centers for Disease Control and Prevention (CDC) through the Epidemiology Elective Program. At the CDC, she originally worked with the Office on Smoking and Health, where she discovered an interest in epidemiology, and learned that people succeed best in their health goals when they receive support from their community. Andrea also had the opportunity to work with a CDC international task force on the response to the COVID-19 pandemic. In addition to community health, Andrea has medical interests in rural health, psychiatry, especially mood disorders, and education. Andrea relaxes by baking, knitting, painting, writing, sewing, hiking, and reading.

Case: A Middle-Aged Man with Confusion

Developed By: Andrea Karin Kratzke Nelson, MD; Ann Evensen, MD

Edited By: Colleen Fant, MD MPH

Ideal Emotional Response DURING the Case

Frustration: I know what can be done for this disease and public health resources that can be provided for individuals with substance-use disorders, but I, as a single, foreign provider am unable to implement systems-level changes.

Floundering: I can recognize and know the steps that I would take to treat alcohol withdrawal in my home environment, but struggle to identify and intervene in a resource-limited setting.

Ideal Emotional Response AFTER the case

Adjustment/Humility: I can acknowledge my motivation to provide my ideals of medical care and interventions but acknowledge local expertise, differences, and capabilities.

Awareness of Resources: I am able to utilize available resources in a setting I am unfamiliar with to treat this disease condition.

Supplies

Adult Mannequin

Thermometer

Blood pressure cuff

Labeled bag of isotonic IV fluids

IV start kit (catheter, tubing, tourniquet)

Vial of phenobarbital 130mg/mL

Syringe/vial of thiamine 100mg

Syringe/bag of ceftriaxone 2000mg

Urine dipsticks (3)

Gabapentin 300mg oral tablets

Keys to Reaching Desired Emotional Response

- Allow the case to mimic a slower pace often found in resource limited settings. Obtaining equipment and resources can take time.
- Allow ample time for participants to overcome obstacles by problem solving and resist the urge to prompt solutions if possible.
- Have an actor/confederate play the initial role of either medical assistant or nurse to facilitate medical management and realism.
- Have an actor/confederate play the role of a family member to provide limited/delayed patient history and information.

Ideal Medical Objectives

By the completion of this case, the trainee will

- Develop a differential diagnosis for altered mental status
- Demonstrate a stepwise approach to altered mental status considering cost and logistic limitations
- Initiate treatment for alcohol withdrawal
- Identify outpatient treatment resources available to patients in low and middle income countries

Ideal Case Flow

First State

Trainee is asked to see patient who is presenting with confusion. Medical Assistant/Nurse informs trainee that they had heard that he and his family were recently forced to leave their home and have been traveling for a few days.

- Trainee assess patient. At previous clinic, a blood sugar was checked and was “normal.” Trainee should describe diagnostic considerations and how they might evaluate them.

Second State

Patient develops more specific signs and symptoms – tachycardia, headache, agitation, tremors, hallucinations.

- Trainee can request certain tests to be run, and Medical Assistant/Nurse provides logistic barriers around cost or availability. Normal CBC and BMP can be provided if asked for. UA strips can be used, with normal results. Other diagnostic tests are not available. Family member arrives and gives additional history about alcohol use – ideally once asked by trainee.

Third State

Patient continues to show symptoms of withdrawal until treated by trainee. Potential for patient to have withdrawal seizure if there is a delay in diagnosis or treatment.

- Trainee proposes treatment options for alcohol withdrawal, determines correct dosing (phenobarbital for management of acute delirium tremens).

Fourth State

Improvement in alcohol withdrawal and preparation for discharge.

- Trainee develops a discharge plan with patient and family re: alcohol use. Gabapentin may be prescribed for outpatient withdrawal or craving management.

Key Medical Management Reminders

- Alcohol is the 7th leading cause of death globally.
- Care of patients with alcohol withdrawal includes monitoring for progressive symptoms, use of benzodiazepines, barbiturates, or gabapentin to control withdrawal, safety measures in case of seizure and thiamine/folate for repletion.
- Diazepam dosing for EtOH withdrawal 5-20mg q6-12 hours (IV preferable to IM). Diazepam is not offered in this case to push trainees to consider other treatment options but is none the less an important treatment that trainees should be aware of.
- Phenobarbital dosing for EtOH withdrawal 130-260mg IV loading dose then 130mg q15-30min (up to TID). Maximum total dose 30 mg/kg. IM should be used if IV access is not available. Oral forms are also available and can be used for inpatient tapering, but caution should be used as phenobarbital has a long half-life.
- Phenobarbital is not recommended in outpatient treatment without very close follow up, as phenobarbital and alcohol together can cause respiratory depression and death.
- Gabapentin dosing for EtOH withdrawal (for CIWA 10-18) 300mg-400mg three times a day on days 1-3, then twice a day on day 4. After that, gabapentin can be stopped or maintained for management of cravings. Gabapentin alone IS NOT recommended for management of delirium tremens.
- Thiamine dosing 100mg IV, IM or oral daily for prevention of alcohol related thiamine deficiency. Higher doses should be used if there are concerns for ongoing severe deficiency (Wernicke's encephalopathy). Absorption of oral thiamine is very limited and therefore not recommended to treat acute thiamine deficiency.

Case Presentation

Introduction: "You are asked to assess a patient who is brought over for further evaluation from a pop-up migrant clinic."

CC: Confusion and hallucinations for 1 day

HPI: 52yoM has been "off" all morning. He has been anxious and irritable. He was reporting headache and nausea and felt "pins and needles" sensation on his extremities and seems to be responding to things that aren't in the room.

Social History: Nonsmoker. Used to drink "some" with his friends. Denies other drug use. (When family arrives they report heavy alcohol use but he has not had anything to drink in the past few days).

PMHx:

Diabetes

No known hx of psychiatric problems

Medications:

Metformin

Allergies:

None

Initial vitals

T 37.8, HR 120, RR 18, BP 162/96, SpO2 97%

Vitals after progressive agitation:

T 37.8, HR 130, RR 20, BP 170/96, SpO2 94%

Vitals after seizure (if this occurs):

T 38, HR 150, RR 18, BP 180/100, SpO2 92%

Vitals after initiation of appropriate interventions:

T 37.2, HR 110, RR 18, BP 150/92, SpO2 97%

Vitals after stabilization and preparation for discharge:

T 37.0, HR 90, RR 16, BP 145/92, SpO2 97%

Pertinent Positives on Exam (assume normal if not noted):

Patient is diaphoretic and restless, oriented to self and location, confused about how long he has been in the hospital. Moist mucus membranes, mildly enlarged liver, fine tremor in hands, otherwise normal Neuro exam.

Potential Interventions & Obstacles

Expected Intervention	Obstacles	Possible Solutions	Outcomes
Trainee takes a history and performs exam	History is vague and patient is only able to partially participate	Serial assessments, seek collateral information	Trainee creates stepwise approach to rule out etiologies; appreciation of changing exam
Trainee orders labs, imaging	Limited/delayed availability on site Cost to family (must pay prior to obtaining imaging)	Trainee explains risks and benefits of tests to patient's family	Trainee creates a plan to prioritize high yield/intervenable interventions
Assess Hallucinations	Unknown history, limited access to labs/imaging	Serial exams to identify findings that are specific to EtOH withdrawal	Trainee comes to presumptive diagnosis
Treatment of EtOH dependence	Trainee is unfamiliar with local support structures	Trainee seeks guidance from local health worker re: current practices and resources	Trainee creates a plan for patient and family

STOP the case when the following are true:

Trainee has identified and treated alcohol withdrawal in this patient and considered what local resources can be provided to the patient for alcohol dependence. AA is available internationally:
<https://www.aa.org/find-aa>

Bibliography

American Society of Addiction Medicine (ASAM). The ASAM clinical practice guideline on alcohol withdrawal management. *J Addict Med.* 2020;14(3S)(suppl 1):1-72. doi:10.1097/ADM.0000000000000668 [PubMed 32511109]

Preusse M, Neuner F, Ertl V. Effectiveness of Psychosocial Interventions Targeting Hazardous and Harmful Alcohol Use and Alcohol-Related Symptoms in Low- and Middle-Income Countries: A Systematic Review. *Front Psychiatry.* 2020 Aug 7;11:768. doi: 10.3389/fpsy.2020.00768. PMID: 32903779; PMCID: PMC7438922.

Kelly JF, Humphreys K, Ferri M. Alcoholics Anonymous and other 12-step programs for alcohol use disorder. *Cochrane Database Syst Rev.* 2020 Mar 11;3(3):CD012880. doi: 10.1002/14651858.CD012880.pub2. PMID: 32159228; PMCID: PMC7065341

Kane Laks, MD

Projects Completed During Residency:

Scholarly Project:

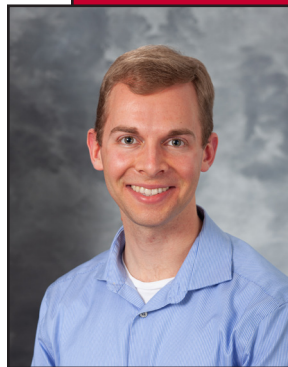
Evaluating an Urban Residency Program's Rural Training Outcomes

Community Health Learning Experience:

Health Care Presentations at Community Senior Centers:

Background: Interest was expressed in providing presentations at the Sugar River Senior Center.

Objectives: Goals were to foster connections with and provide education on relevant health care topics for members of senior centers. Methods: I used connections with community partners to find senior centers that were interested. Results: I gave a single presentation at the Sugar River Senior Center on advance care planning and two presentations at the Waunakee Senior Center on substance use in older adults and men's health, respectively. Conclusions: We experienced the challenges of coordinating multiple schedules with community partners.



Kane Laks, MD is from Hannibal, MO. Kane studied Biology and French at Saint Louis University and earned his medical degree from the University of Missouri – Columbia School of Medicine. Kane is committed to providing care for underserved and rural populations: in

medical school, he volunteered at the student-run free clinic in Columbia, MO and rotated at the Menominee Tribal Clinic in Keshena, WI. Kane is also interested in academic medicine; as a medical student, he worked with his junior peers to teach them how to develop differential diagnoses, interpret lab results, and explore treatments. Kane is drawn to family medicine because the variety allows him to care for patients in clinics and hospitals and ranges from obstetrics to psychiatry to palliative care. His passion for working with underserved populations and his drive for life-long learning combine to create an evidence-based, nuanced approach to medicine that places the patient and the community at the center. Kane enjoys playing the clarinet and saxophone, learning more about the French language and culture, following the Oscars, reading fantasy and thriller novels, and cooking Indian food.



Thank you to my girlfriend, family, and best friends for all their support throughout my journey of residency. I could not have made it through the countless hours of work without the support of my loved ones, and I am thrilled to finally start my next chapter as academic fellow and attending.

Evaluating an Urban Residency Program's Rural Training Outcomes

Kane Laks, MD

While recent literature has examined factors that influence physician placement and retention in rural practice, little attention has been given to the role of specific curricular components including leadership, advocacy, and community health training on rural practice. The University of Wisconsin-Madison Family Medicine Residency has a long history of promoting rural training opportunities in residency education and has recently added additional targeted training programs with the goal of increasing rural placement and training rural physician leaders.

Established in 2017, the Rural Health Equity Track (RHET) emphasizes full-spectrum training, rural advocacy, and community engagement through individualized rotations, resident-led health equity seminars, national conference attendance, and community partnerships. Two first-year residents are selected from each class of 16 in the predominantly urban-based Madison program and complete the requirements of the track throughout their 3 years of family medicine residency training. RHET residents are based out of the rural continuity clinic in Belleville and complete all core inpatient ACGME requirements at Madison-based hospitals, in addition to a variety of rotations at other rural hospitals and clinics throughout Wisconsin. Since the inaugural class began training in 2017, there have been 3 classes of RHET graduates thus far. In 2019, a rural pathway option was added, which offers similar opportunities for additional rural rotations and seminar participation, but on a more limited scale. Residents can apply for the rural pathway by submitting a proposal in their R1 year.

In contrast to RHET and the rural pathway, the University of Wisconsin's Baraboo Residency Program is a more traditional 1-2 rural training track, with residents based predominantly in Madison for their first year of training and in rural Baraboo for both inpatient and outpatient rotations in their second and third years. Established in 1996, this program also has 2 residents per class. The Baraboo Program has a strong history of graduates continuing to practice in rural communities upon graduation. Highlights of the program include strong maternity care and procedural training, as well as opportunities for unique electives in addiction medicine, C-section training, and tribal health. The program also has osteopathic recognition.

This poster presentation will present graduate survey data from the 2019-2022 graduating classes of the RHET, rural pathway, and Baraboo programs. We will present respondent characteristics including rural background, practice scope, and practice location, as well as the perceived impact of various curriculum components (rural rotations, health equity workshops, leadership experiences, advocacy training, and community health experiences) on preparation for rural practice. We will present information on graduate engagement in leadership, advocacy work, and community health work since graduation. Lastly, we will also present narrative responses with recommendations for program improvement and identified gaps in training.

Given the compelling rural primary care physician shortage, we aim to present survey data that will provide an opportunity to discuss the strengths and limitations of various rural residency training track and pathway models and the role of specific curricular components in training rural physician leaders.

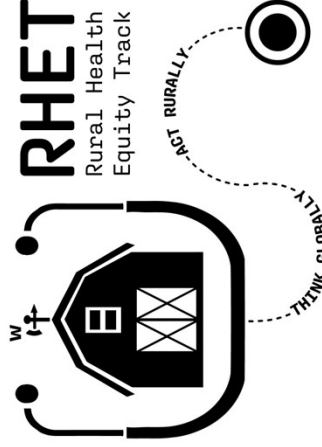
PURPOSE

- Urban residency with long history of required rural rotation in main residency program and separate Rural Training Track
- Recently added new Rural Health Equity Track (2017) and Rural Pathway (2019) with goal of increasing rural placement and training rural physician leaders
- Evaluate impact of specific curricular components including leadership, advocacy, and community health training
- Examine other strengths and limitations of various rural residency training track and pathway models

BACKGROUND

- Rural Health Equity Track (RHET)**
 - Established in 2017 with 2 first-year residents selected from each class of Madison-based program
 - Emphasizes rural advocacy and community engagement through individualized rotations, resident-led health equity seminars, national conference attendance, and community health
 - Rural continuity clinic in Belleville
 - Residents complete all core inpatient ACGME requirements at Madison-based hospitals, in addition to 22+ weeks of rotations at other rural hospitals and clinics throughout Wisconsin
- Rural Pathway**
 - Created in 2019 by a resident from main Madison program
 - Main program residents apply by submitting a proposal in R1 year
 - offers 17+ weeks of rural rotations and similar experience including rural seminar and conference participation, but on a more limited scale
- Baraboo Rural Training Track (RTT)**
 - Established in 1996 with 2 residents per class
 - Traditional 1-2 rural training track
 - Residents based in Madison for R1 year and in rural Baraboo for R2-R3 years
 - Highlights include strong maternity care and procedural training, opportunities for unique electives in addiction medicine, C-section training, and tribal health

University of Wisconsin



METHODS

- A Qualtrics survey was created and distributed to graduates of the 3 rural programs from the graduating classes of 2020, 2021, and 2022
- Respondents consisted of 5 RHET graduates, 2 rural pathway graduates, and 6 Baraboo Rural Training Track graduates (93% survey completion rate)

RESULTS

Are each of the following included in your current practice scope?

Outpatient primary care	83.33%	10
Urgent care	33.33%	4
Adult inpatient	66.67%	8
Pediatric inpatient	50.00%	6
Prenatal care	50.00%	6
Vaginal deliveries	41.67%	5
Surgical obstetrics	16.67%	2
Nursing home	41.67%	5
Home visits	25.00%	3
Point of care ultrasound	25.00%	3
Medications for Opioid Use Disorder (Buprenorphine or IM Naltrexone)	75.00%	9

Rural Background

- 10 out of 12 respondents report spending the majority of their life living in a rural area prior to starting medical training
- 9 out of 14 respondents were involved in some sort of formal rural training track in medical school
- 7 out of 12 respondents completed rotations at their current medical practice prior to completing residency training

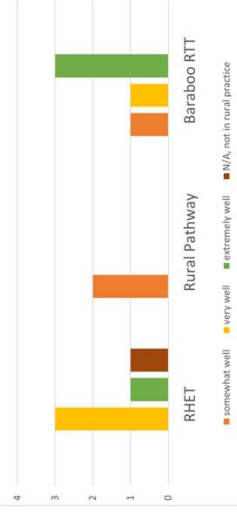
Strengths of the 3 Rural Programs

- High rate of graduates practicing in rural areas: 10 out of 12 respondents (83%) spend the majority of their current medical practice in rural area(s)
 - 60% of RHET respondents and 100% of rural pathway and Baraboo RTT respondents
- Top 3 factors for choosing rural practice: rural rotations, relationships and networking with rural mentors, and leadership training
- Majority of graduates report being very well or extremely well-prepared for rural practice
 - Wide variety of practice scope for graduates

Challenges/Areas for Improvement

- Gaps in training including urgent care, newborn resuscitation, splinting/casting, and wound care experiences
- For graduates not currently practicing in rural areas, spouse's training/career was the most commonly cited factor

How well did your rural training prepare you for the challenges of practicing in a rural area upon completing your residency program?



Selected Quotes

- "Having strong mentors model how to manage challenging patients with limited resources was important for me. Learning how to balance family life with work in a small community was important as well."
- "Allowed me to learn about the work flow and resources available in my current community. It made me think more about things I needed to prepare for after residency."



CONCLUSION

- High rates of residents coming from rural areas and going into rural practice from all 3 programs
- Strong networking opportunities with many residents rotating at their future practice site prior to graduating
- Programs well-reviewed by graduates, majority of whom feel well-prepared for rural practice
- Next steps include expanding rural recruitment prior to residency and adding training in areas including urgent care, newborn resuscitation, splinting/casting, and wound care experiences

Stephanie Liu, MD

Projects Completed During Residency:

Scholarly Project:

Orofacial Actinomyces Eroding Through Hard
Palate: A Case Report

Community Health Learning Experience:

Increasing Access to Pre-Exposure Prophylaxis
(PrEP) at the Northport Family Medicine Clinic:

The options to access PrEP (HIV pre-exposure prophylaxis) medication in Madison, WI are limited. Most PrEP prescriptions are currently provided through UW Infectious Disease. In conjunction with the UW LGBTQ+ health fellows Drs. Daud and Gergen, we worked to increase provider knowledge and comfort in prescribing PrEP at the UW Northport Drive clinic through educational sessions and to increase patient awareness of PrEP through posters with QR codes in exam rooms at the clinic.



Stephanie (Steph) Liu, MD approaches medicine with an awareness that patients place an extraordinary amount of trust in their doctors by sharing deeply personal stories and moments. She loves developing meaningful, long-lasting relationships with her patients of all

ages. Steph is originally from Ann Arbor, MI and earned her bachelor's degree in Neuroscience from the University of Michigan. She earned her medical degree from the Western Michigan University Homer Stryker MD School of Medicine. While in medical school, she helped develop a curriculum for teaching health literacy in partnership with a local agency that teaches adults who struggle with reading. This experience gave her an appreciation for the obstacles faced by patients with low health literacy and strengthened her commitment to patient education. She has interests in behavioral health, OMT, integrative health, and weight-loss counseling. As a family physician, she is committed to being present for her patients, providing quality care, and helping them improve their health and their lives. Outside of medicine, Steph likes cooking and trying new recipes, listening to music, watching TV and movies, going to the gym, trivia, and pop culture.



Thank you to my parents for all of their unconditional love and support during this journey! I could not be here without all of the sacrifices they have made, and I am so grateful. Thank you to all the faculty, PSRs, lab techs, LPN/MAs, and RNs at the Northeast/Northport clinic who have taught me everything I know about how to be a good doctor! Thank you to all my incredible friends and co-residents in Madison who have made my time here so much better than I could have ever imagined. I am so lucky to know all of you!

Orofacial Actinomycosis Eroding through Hard Palate: A Case Report

Stephanie Liu, MD

Abstract

Introduction: Actinomycosis is a rare, chronic, progressive bacterial infection caused by *Actinomyces* species with a reported incidence of 1 in 300,000. Actinomycosis has variable presentations and is commonly mistaken for malignancy and other infections, leading to delays in diagnosis and appropriate treatment. *Actinomyces* is a commensal bacteria found in the mouth, gut, and genitourinary tract. Actinomycosis tends to take advantage of anatomical defects for contiguous spread and can cause fistulas, sinus tracts, abscesses, and IUD-associated infections.

Case presentation: A 78-year-old white male with known dental caries came to primary care clinic two days after noticing a painless, non-bleeding mass eroding from the hard palate. After a tissue biopsy of the mass showed a diagnosis of Actinomycosis and advanced imaging showed no intracranial involvement, he was treated with a six-month course of antibiotics including oral amoxicillin, oral amoxicillin-clavulanate, and intravenous ertapenem with complete resolution of symptoms.

Discussion: There are several case reports of Actinomycosis with variable presentations, such as cutaneous nodules and sinus tracts, oral nodules, and pelvic infections. These cases are frequently associated with dental infections and procedures, trauma, oral surgery, or prior head and neck radiation. The condition is often mistaken for other infections or malignancy which can delay appropriate treatment and increase the risk of complications.

Conclusion: Actinomycosis is a rare bacterial infection with variable presentations occurring in the head, neck and abdomen. Actinomycosis is frequently misdiagnosed, leading to delays in appropriate treatment.

Case Synopsis

A 78-year-old male with a history of hypertension presented to the primary care clinic with concerns of painless mass eroding from his hard palate. He had no known allergies and was not taking any medications on a regular basis. He first noticed a dangling piece of tissue emerging from a hole in his right hard palate about two days earlier. He had no recent dental procedures and denied any significant trauma or injuries to the oral cavity. The patient reported otherwise feeling well except for mild decreased energy and appetite over the previous month. He was not experiencing any associated bleeding, drainage, pain, fevers or difficulty swallowing. Of note, his dentist had recently recommended extraction of tooth #1 where he had been experiencing mild pain. Additionally, the patient had been seen one week prior in the primary care clinic for dizziness and subtle facial drooping. At the time of the previous visit for dizziness, no obvious mouth abnormalities were noted, and he was sent to the emergency room for a stroke workup that was negative, including a fast brain MRI that did not show any acute abnormalities.

On examination, the patient overall appeared well. His vital signs were normal, including his temperature. His speech sounded normal. In his mouth, he had multiple cavities and a visible hole in the right side of the hard palate with a white, soft lesion emerging into the oral cavity [Figure 1]. The lesion and hard palate were not tender to touch. For diagnostic purposes, the lesion was truncated by excising the accessible portion with scissors. This was sent for surgical pathology evaluation. The patient had no bleeding or discomfort when the lesion was cut, and he did not require local anesthesia. There was some initial concern for cancer given the cavitory nature of the lesion. The subsequent histopathology report returned with clumped colonies of actinomyces sulfur granules.

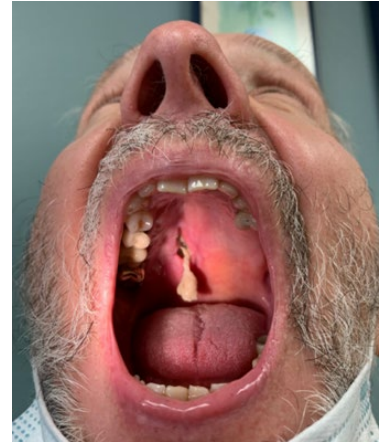


Figure 1

The patient was referred to the Infectious Disease clinic for further evaluation and management of his orofacial actinomyces infection. CT maxillofacial imaging with contrast demonstrated asymmetric enlargement of the right greater palatine foramen with a defect in the right palatine with abnormal soft tissue attenuation in the right pterygopalatine fossa. An MRI brain with and without contrast was then performed to rule out intracranial involvement. This demonstrated an ulcerative lesion of the right hard palate and

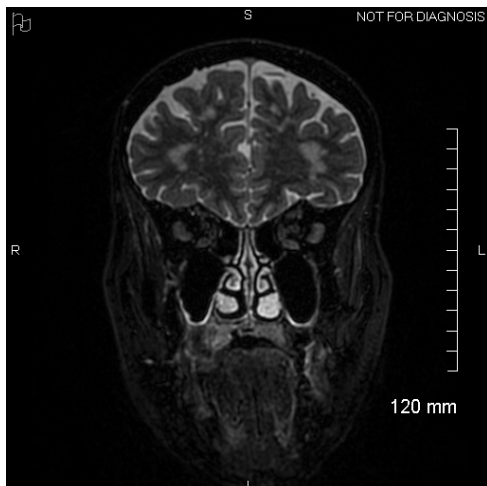


Figure 2

contiguous inflammatory changes in the right maxillary alveolus, right greater palatine canal, and right pterygopalatine fossa without extension into the orbit, central skull base, or brain parenchyma [Figure 2]. He was also evaluated by an ear, nose, and throat (ENT) specialist for the possible need for surgical intervention. The ENT specialist performed a punch biopsy at the base of the cavitory lesion to rule out malignancy. This biopsy was benign and showed squamous mucosa with evidence of inflammation. After reviewing the images, the ENT specialist did not feel the need for surgical intervention.

Per infectious disease recommendations, the patient was initiated on amoxicillin 500 mg and amoxicillin-clavulanate 875/125 mg every 8 hours which served as a bridging therapy for 3 days until treatment with intravenous

ertapenem was able to be coordinated in the outpatient setting. He completed three weeks of intravenous ertapenem, 1 gram every 24 hours and was then transitioned to a regimen of amoxicillin-clavulanate acid and amoxicillin for an additional four weeks. On repeat evaluation after seven weeks of antimicrobial therapy, the defect in the hard palate had healed, and he was transitioned to single agent amoxicillin 1g every 8 hours to complete a total of six months of treatment. During his treatment course, he had dental extraction of tooth #1 that had been causing pain and was thought to be the inciting factor for the actinomyces infection.

At the six-month follow-up visit, the patient had complete healing of the defect in the right hard palate [Figure 3]. He was recommended by Infectious Disease to have a follow up MRI to confirm eradication of the deep infection, however the patient declined the recommendation for MRI as he was feeling well. Since the patient had demonstrated an initial rapid response to antibiotic therapy with complete healing of the hard palate, he was discharged from Infectious Disease care with guidance on monitoring for relapse of symptoms.



Figure 4

Actinomyces are nonmotile, filamentous, Gram-positive, non-acid fast and obligate anaerobic bacteria found as a commensal organism of the oropharynx, gastrointestinal tract, genitourinary tract, and skin.¹ Actinomycosis is a rare, progressive, chronic granulomatous disease that can occur in cervicofacial, thoracic, abdominopelvic, cerebral and other forms.¹⁻³ *Actinomyces israelii* is the most encountered species, but many different species have been described to cause infections in various anatomical sites.⁴ Peak incidence occurs in the fourth to fifth decade of life, with males more commonly affected than females in a 3:1 ratio.⁵ Risk factors for actinomycosis include dental caries, infections of erupting teeth, gingivitis, dental extractions, the presence of intrauterine and intravaginal devices, diabetes, alcohol use disorder, malnutrition, and malignancy.⁶

Actinomycosis can directly spread into adjacent tissue by taking advantage of defects in anatomic barriers to form abscesses, sinus tracts, necrosis, fibrosis and fistulae. Actinomycosis presents in a variety of forms and can easily mimic other infections and neoplasms, leading to misdiagnosis or delay in diagnosis. Cervicofacial actinomycosis is the most common clinical presentation and is often described as “lumpy jaw syndrome”, with a tendency to affect the upper and lower mandibles.^{6,7} This patient had a history of known dental caries that had been recommended for extraction, which was performed during his antibiotic regimen.

The most accurate method of diagnosis is made via isolation of *Actinomyces* species on cultures of clinical specimens. *Actinomyces* species are slow growing in nature, so cultures should be observed for up to 21 days to allow time for adequate detection. Diagnosis can also be made on histological sections with the presence of characteristic yellow “sulfur” granules, although granules are not consistently seen on all clinical specimens. Species specific monoclonal antibody staining has been shown to improve identification of various *Actinomyces* species.³ Molecular techniques using 16s rRNA gene probes have also recently assisted greatly in the diagnosis of actinomycosis.⁸ In this patient’s case, a diagnosis was able to be made with histopathology.

Actinomycosis is typically treated with high dose penicillin G, with amoxicillin, amoxicillin-clavulanate and doxycycline used as alternatives. Actinomycosis has historically been treated with prolonged antibiotic courses up to one year in duration, with shorter treatment courses of 1-4 weeks described in more recent reports.^{9,10} Of note, actinomycosis infections can respond temporarily to shorter courses of broad-spectrum antibiotics prescribed for presumed odontogenic bacterial infections. This can lead to repeated short courses of antibiotics, promoting chronicity and formation of woody induration and fibrosis that can mimic malignancy. Increased clinician awareness of this condition can help to prevent misdiagnosis and delays in treatment.

This patient was treated with oral amoxicillin, amoxicillin-clavulanate, and intravenous ertapenem per infectious disease recommendations. While IV penicillin is typically the agent of choice for actinomycosis, ertapenem was chosen over penicillin by Infectious Disease due to the invasive and erosive nature of this patient's actinomycosis infection.

Conclusion

This case report discusses a patient with a white mass eroding from his hard palate that was found to be a rare infection. This case adds to the limited literature describing various clinical presentations of actinomycosis affecting different organ systems. This case highlights how Actinomycosis can invade through structures and mimic malignancy and other disease processes. Actinomycosis is often associated with dental infections and can take advantage of defects in anatomical barriers to spread and form abscesses, sinus tracts, and fistulas. Increased clinician awareness of the condition and appropriate methods of diagnosis can help prevent delays in treatment and complications from spreading infection.

Acknowledgements

We thank our infectious disease and ENT colleagues for their assistance in the care of this patient. The patient described in this report has provided written signed consent to use his photos, radiographic images, age, and demographics for the creation of this case report.

References

1. Li J, Li Y, Zhou Y, Wang C, Wu B, Wan J. *Actinomyces* and alimentary tract diseases: A review of its biological functions and pathology. *BioMed Research International*. 2018;2018:1-8. doi:10.1155/2018/3820215
2. Gajdacs M, Urbán E, Terhes G. Microbiological and clinical aspects of Cervicofacial *Actinomyces* infections: An overview. *Dentistry Journal*. 2019;7(3):85. doi:10.3390/dj7030085
3. Smego, Jr. RA, Foglia G. Actinomycosis. *Clinical Infectious Diseases*. 1998;26(6):1255-1261. doi:10.1086/516337
4. Bonnefond S, Catroux M, Melenotte C, et al. Clinical features of actinomycosis. *Medicine*. 2016;95(24). doi:10.1097/md.0000000000003923
5. Bennhoff DF. Actinomycosis. *The Laryngoscope*. 1984;94(9). doi:10.1288/00005537-198409000-00013
6. Sharma S, Hashmi MF, Valentino DJ. Actinomycosis. In: *StatPearls*. Treasure Island, FL: StatPearls Publishing; 2023.
7. Ferry T, Valour F, Karsenty J, et al. Actinomycosis: Etiology, clinical features, diagnosis, treatment, and management. *Infection and Drug Resistance*. 2014:183. doi:10.2147/idr.s39601
8. Kuyama K, Fukui K, Ochiai E, et al. Identification of the *Actinomyces* 16S ribosomal RNA gene by polymerase chain reaction in oral inflammatory lesions. *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology*. 2013;116(4):485-491. doi:10.1016/j.oooo.2013.06.027
9. Moghimi M, Salentijn E, Debets-Ossenkop Y, Karagozoglu K, Forouzanfar T. Treatment of cervicofacial actinomycosis: A report of 19 cases and review of literature. *Medicina Oral Patología Oral y Cirugía Bucal*. 2013. doi:10.4317/medoral.19124
10. Könönen E, Wade WG. *Actinomyces* and related organisms in human infections. *Clinical Microbiology Reviews*. 2015;28(2):419-442. doi:10.1128/cmr.00100-14

Eleanor Meisner, MD, MS

Projects Completed During Residency:

Scholarly Project:

Does Bright Light Therapy (BLT) Reduce the Incidence of Delirium in Patients with Dementia?

Community Health Learning Experience:

Addressing Isolation and Health Equity for Older Adults Community Outreach to Senior Centers:

Accessibility to healthcare in the aging population is limited due to factors such as affordability, transportation, health literacy, and older individuals' physical, mental, and psychologic abilities to engage in the healthcare system. Therefore, many communities have invested in supports to address these social determinants including senior centers, which serve as a beacon of community resources amongst older adults. The goal of our outreach was to establish a closer relationship between the communities' senior population and primary care providers for the purpose of identifying perceived needs of this population to their health-specific and emotional/spiritual wellbeing. Residents of the Belleville clinic attended the local senior center for educational presentations on a variety of health-related topics. Results of the outreach excursions included a greater sense of understanding of health-related issues prioritized by seniors. The experience was appreciated by the seniors and provided a sense of connection to the community for the residents.



Thank you to my faculty advisor, Billy Michael, for all of your guidance through the past 3 years. To my partner, Jamie, for your unending support in the form of copious amounts of dal and understanding. And to my parents for lending their loving ears. And to my fellow residents, who I could not have gotten through residency without.



Eleanor (Elle) Meisner, MD, MS hails from Richmond, IL and received her bachelor's degree in Molecular and Cellular Biology from the University of Illinois Urbana-Champaign. While in college, Elle volunteered at the refugee center in Urbana and provided afterschool educational activities for first generation and immigrant children. Elle went on to attend the University of Illinois College of Veterinary Medicine and earned a master's degree in Comparative Biosciences. Prior to starting medical school at the University of Illinois College of Medicine – Rockford, she studied the role of exposure to endocrine disrupting chemicals during early development in animal models and developed a passion for the crossover between basic science and clinical research. While in medical school, she volunteered in the homeless department at the underserved clinic in Rockford and saw firsthand the impact of social determinants of health, poor environments, and economic difficulties on patients' lives and healthcare. This experience deeply impacted her career choice and she is focused on advocacy, health communication, evidence-based medicine and research, and geriatric, palliative, and preventative medicine. When she is not serving her community, Elle enjoys being outdoors, skiing, biking, hiking, yoga, and trail running. She also enjoys experimenting with new recipes and traveling.

Does Bright Light Therapy (BLT) Reduce the Risk of Delirium in Patients with Dementia?

Eleanor Meisner, MD, MS

Evidence Based Answer

In a single RCT, bright light therapy, utilizing a 14,000-lux lamp for 30 minutes each morning, significantly improved delirium in patients with Alzheimer's Disease (SOR B).

A single center RCT (n = 69) measured the effectiveness of light therapy on suppressing delirium in patients with Alzheimer's Disease (AD).¹ The study included patients with a diagnosis of AD and delirium as determined by Confusion Assessment Method (CAM) scoring (≥ 22 indicating delirium, 20-22 indicating possible delirium, and ≤ 19 indicating no delirium). The mean age of the patients was 75.94 ± 9.47 years in the treatment group (n=35) and 73.04 ± 9.34 years in the control group (n=34). The 4-week study's intervention group received light therapy from a 14,000-lux light fixture at no more than 50 cm for 30 minutes each morning, while the control group received the same protocol utilizing a 50-lux lamp. The primary outcome measure was CAM scoring between the two groups. Secondary outcomes were Neuropsychiatric Inventory (NPI) scoring to assess frequency, severity, and degree of distress due to dementia with higher scores indicating more significant degree of distress, and Zarit Caregiver Burden Interview (ZBI) scores to assess caregivers' burden, with higher scores indicating higher burden. At 4 weeks, bright light therapy resulted in significantly reduced CAM scores (29.82 ± 3.79 to 17.65 ± 3.47 ; $P < 0.001$), NPI scores (41.50 ± 6.96 to 3.65 ± 2.09 ; $P < 0.001$) and ZBI scores (19.41 ± 7.31 to 2.44 ± 1.52 ; $P < 0.001$).

A 2013 case series of patients (n=228) admitted to a 5-bed delirium management unit (the Geriatric Management Unit or GMU) that was part of an inpatient center, enrolled 228 patients older than 65 (mean age = 84.2 years, SD 7.4) over the course of 21 months that had delirium as determined by CAM scoring.² Patients with a diagnosis of dementia (n=174) represented 76.3% of the total enrollees but were not included in separate statistical analyses. In addition to the GMU's protocol to reduce delirium risk, patients were administered light therapy (2,000 to 3,000-lux) every evening from 6-10pm from an overhead source. The primary endpoints in this study were outcomes of cognition, functional determinants and sleep. Secondary end points were use of chemical restraints and benzodiazepines. Cognition, as determined by the Chinese Mini Mental State Exam (CMMSE), a validated, culturally adapted form of the MMSE, did not demonstrate a significant improvement. Functional performance, per the Modified Barthel Index (MBI), a 100-point scale based on performance of ADLs and a higher score indicative of greater independence, improved from admission to discharge (29.1 to 47.8; $P < 0.05$). Sleep parameters, as assessed by nursing logs, improved from admission to discharge with increased total sleep time (7.1hrs to 7.7hrs; $P < 0.01$), increased length of first sleep bout (5.3hrs to 5.9hrs; $P < 0.01$) and fewer number of awakenings (0.7 to 0.6; $P = 0.03$) all showing significant improvement. There was a statistically significant decrease in chemical restraint use (39.5% decrease; $P < 0.001$), but benzodiazepine use (24.6% decrease; $P = 0.23$) did not reach statistical significance.

References

1. Zou C, Mei X, Li X, Hu J, Xu T, Zheng C. Effect of light therapy on delirium in older patients with Alzheimer's disease-related dementia. *J Psychiatr Res.* 2022;149:124-127. (SOR B).

2. Chong MS, Tan KT, Tay L, Wong YM, Ancoli-Israel S. Bright light therapy as part of a multicomponent management program improves sleep and functional outcomes in delirious older hospitalized adults. *Clin Interv Aging*. 2013;8:565-572 (SOR C).

Ana Pearson, MD

Projects Completed During Residency:

Community Health Learning Experience:

Capital High Parenting Program Classroom
Education

Scholarly Project:

Does Turmeric Supplementation Reduce
Osteoarthritis Pain?:

For my scholarly project I reviewed the current evidence for treating osteoarthritis with turmeric supplements and compiled my findings into an FPIN HelpDesk article. Curcumin (the active ingredient in turmeric) supplementation is more effective than placebo and as effective as NSAIDs in reducing osteoarthritis pain. Doses range from 40 mg to 2,000 mg per day, and effects may be seen after 6 to 12 weeks of therapy. Turmeric supplementation has a lower risk of adverse events compared to non-steroidal anti-inflammatory drugs (NSAIDs).



Ana Pearson, MD is from Hudson, WI and earned her undergraduate degree in Neuroscience from the University of Pittsburgh. While in high school and college, Ana worked as a certified nursing assistant at an assisted living facility, where she developed a passion for

forming relationships with patients. In college, she worked on a research team that studied mental health in women and children; this fueled her interest in mental health and women's health and how families and communities can impact individuals' health. She also participated in a research trip to Bolivia to study mental health in the Quechua culture; she gained an immediate appreciation for the importance of incorporating patients' backgrounds into their care plans. Ana attended the University of Wisconsin School of Medicine and Public Health and she served as the volunteer clinic coordinator at the Share the Health free women's clinic in Madison. She also volunteered at the Wil-Mar Neighborhood Center and in her community garden. Ana's medical interests also include pediatrics, gender-affirming care, and providing care to the underserved. When Ana is not in the clinic or working in the community, she can be found gardening, cooking and baking, learning about film, watching Survivor, and reading good books.



Thank you to all the residency faculty for their teaching and guidance over these past few years, especially to my mentor Dr. Sean Duffy. The biggest thank you to my husband, Ben, for his unwavering support through my medical training.

Capital High Parenting Program Classroom Education

Ana Pearson, MD

Background

This project is a partnership with the Capital High Parenting Program, an alternative high school program for students who are pregnant or who are parents. Once a month, I presented in the classroom about common health-related topics and served as a resource for support and information for the students.

Objectives

- Provide information about pregnancy, parenting and general health to teenage students who are pregnant and/or parents
- Empower students as patients to have ownership and understanding of their health
- Empower students as parents and encourage healthy parenting practices
- Provide general support to students as they navigate the healthcare system

Methods

Once per month I presented at Capital High Pregnancy and Parenting classes. I gave presentations about common health topics related to women's health, pregnancy, mental health, and pediatric health. I led classroom discussions about health topics the students brought forth and invited students to share their personal experiences. I also shared resources for reliable information about the topics discussed.

Results

During classroom sessions, we often discussed the unique challenges the students faced as parents/patients who are in high school, living in multigenerational homes, and the challenges of navigating the healthcare system as a teenager. We had discussions about how to make decisions for their health and for their children's health. I presented on topics such as vaccines, breastfeeding, birth control, mental health, common pediatric illnesses, and safety. I provided clarification on topics that they were unable to discuss in-depth during routine healthcare appointments. Some of the most impactful time in the classroom was during the open discussion time when students shared their concerns and frustrations as a patient/parent and were able to hear about classmates' shared experiences. The goal of each session was to empower students to make decisions about their health, to be effective and responsible parents, and to feel confident asking questions/navigating the healthcare system.

Conclusions

Throughout the course of this project, I found that students were most engaged during freeform Q&A-type sessions rather than more formal presentations on pre-determined topics. One challenge I faced was variable attendance and engagement of students. I found taking the time to engage each student individually about the things they were going through that week was a much more effective

way to provide support. Engaging in this way also yielded more participation of all the students as they would all share their experiences, success, and struggles around the topics that came up organically. The most rewarding part of this experience was watching the students gain confidence as parents as they juggled many responsibilities and life stressors unique to being a parent in high school.

Frankly, the biggest challenge I faced with this project was scheduling time to be present in the classroom. It was difficult to meet residency scheduling requirements while also trying to be present in the classroom regularly during the school day. My biggest takeaway from this is that residents involved with this project need to engage with the scheduling team early in the academic year to find appropriate dates to schedule time away from clinical duties.

Acknowledgments

Thank you to Jessie Loeb from Capital High Parenting Program for welcoming me into the classroom and for her dedication to the students of Capital High. Thank you, Dr. Lee Dresang, who serves as faculty mentor for this project. Thank you to the previous residents who led this project: Dr. Melanie Hellrood, Dr. Laura Shingleton, Dr. Andrea Suarez, and Dr. Paula Goldman.

Melissa Ricker, MD

Projects Completed During Residency:

Community Health Learning Experience:

Preventative Healthcare Presentations at the Verona Senior Center

Scholarly Project:

In Patients with Behavioral and Psychological Symptoms of Dementia (BPSD) Does Deprescribing Antipsychotic Medication Result in Worsening Symptoms?:

Antipsychotic medications have many potential risks in the elderly, so my Evidence Based Practice article examined the literature regarding the effects of deprescribing antipsychotic medications. Some studies did show that for subgroups of patients with more severe baseline BPSD symptoms, deprescribing antipsychotics led to worsening symptoms. However, a Cochrane systematic review of randomized controlled trials showed that deprescribing antipsychotic medications does not worsen BPSD symptoms in most patients. An additional systematic review of randomized controlled trials also showed that deprescribing antipsychotics does not result in a statistically significant difference in BPSD symptom severity. This suggests that deprescribing antipsychotics may be possible for patients with less severe BPSD symptoms.



Thank you to my parents, Ben, grandparents, and brothers for always encouraging and believing in me- words can't say how much I appreciate you all. Thank you to my co-residents who have also become family- I can't wait to see where the next years take us! Thank you to Dr. Julia Lubsen for being a wonderful mentor for my scholarly project and my pursuit of a geriatrics fellowship. And finally, thank you to Dr. Brian Arndt and the Verona Clinic- I'm so grateful that a fortuitous elective rotation helped me find my passion for Family Medicine!



Melissa (Mel) Ricker, MD is from Green Bay, WI. She attended the University of Notre Dame and earned her bachelor's degree in Science Pre-Professional Studies and Psychology. While in college, Mel worked as a certified nursing assistant, where she realized her love of

working with geriatric patients, and learned the importance of doing all jobs, no matter how big or small, with compassion. Mel returned to Wisconsin to attend the University of Wisconsin School of Medicine and Public Health. In medical school, she served in student government as a Class Representative and Student Body Vice President, where she developed an interest in medical student education while collecting feedback on the new ForWard curriculum. As a part of the National Alliance on Mental Illness, Mel raised awareness of mental health illnesses in high school classrooms across Wisconsin. She also participated in a public health trip to Thailand where she developed a passion for improving health literacy. Her main interests within family medicine include pediatrics, geriatrics, mental health, health literacy, and community engagement. She was drawn to family medicine because of the focus on taking care of the whole person and forming long-term relationships with her patients. She cheers for the Packers, Fighting Irish, and Badgers and enjoys running, cribbage, and being on the water.

Preventative Healthcare Presentations at the Verona Senior Center

Melissa Ricker, MD

Background

The Verona Senior Center provides many free services such as meals, case management, and socialization events for the over 1800 seniors in the Verona community. The Verona Senior Center staff also plan daily classes on various topics requested by the seniors via verbal request or suggestion boxes. The seniors reported an interest in learning about vaccinations, so the staff reached out to the Verona Clinic for assistance. As someone who is passionate about geriatric care, I jumped at the opportunity to create presentations for the seniors. Over the next two years, the Center's program manager helped identify four more educational topics of interest to the seniors, which I turned into additional presentations.

Objectives

The objective of my learning experience was to teach Verona seniors about preventative health topics, namely vaccinations, men's and women's preventative screenings, fall prevention, and advanced care planning. This was a new community health project, so I enjoyed creating the presentations from scratch. I appreciated the assistance of Dr. Mark Wirtz and Dr. Julia Lubsen who added valuable content and delivered the presentations with me at the Verona Senior Center. For the falls prevention presentation, I also collaborated with Ashley Hillman from Safe Communities (another organization in Madison) who provided information on home safety assessments, tai chi classes, and other community resources.

Methods

The presentations were advertised in the Verona Senior Center newsletter. At the start of this project during the pandemic, the presentations were given via Zoom, but later presentations were given in person at the Verona Senior Center. The five presentations were interactive, and I was happy to answer the seniors' questions. We had some great discussions!

Results

The presentations resulted in productive conversations with the seniors and increased awareness about important vaccinations, health screenings, fall risk reduction, and advanced care planning. I encouraged the seniors to talk with their own primary care doctors about these discussions (many said their PCPs were at the Verona Clinic). The recorded Zoom presentation currently has 18 views, and each in-person presentation had approximately 5 seniors. This project was also very meaningful for me, as it reminded me about the significant knowledge gaps in our community regarding preventative care.

Conclusions

Throughout the course of this project, I learned it was more beneficial to make the presentations more of a conversation than a traditional presentation format, especially with these smaller groups. That allowed the seniors to ask specific questions about information that was most pertinent to

them, and allowed me to tailor the information to the level of detail that the seniors wanted. While in some ways it was beneficial to have smaller groups for these discussions, getting people to attend the presentations was the biggest challenge. I would recommend finding further ways to advertise, such as posters at the Verona Clinic. I am looking forward to continuing this project as a Geriatrics Fellow next year, and I hope to recruit more residents and faculty to join me!

Acknowledgments

I'd like to thank Alasa Wiest (Verona Senior Center Program Manager), Jan Paul (Verona Senior Center Program Assistant), Dr. Mark Wirtz (assistance with the Men's Preventative Health presentation), Dr. Julia Lubsen (assistance with the Advanced Care Planning presentation), and Ashley Hillman (representative from Safe Communities; assistance with the Falls Prevention presentation). And most of all, I'd like to thank the seniors at the Center for engaging with me in these discussions- I hope they enjoyed our conversations as much as I did!

Stefanie Sippl, MD

Projects Completed During Residency:

Scholarly Project:

Is Hemoglobin A1c or Two-Step Glucose Tolerance Testing Preferable for Early Diabetes Screening in Pregnancy?

Community Health Learning Experience:

Basic Obstetrics Skills Training for Rural Emergency Medical Services in Wisconsin:

Obstetrical knowledge and skills are vital for EMS personnel. Even though out-of-hospital deliveries are infrequent, they are associated with an increased risk of maternal and neonatal morbidity and mortality. Through an interactive presentation, Nathan Gorman, DO and I aimed to augment the obstetrical education of rural EMS crews in Iowa County. Post seminar, participants endorsed a universal increase in their comfort triaging and managing obstetrical emergencies. Our project offers a sustainable community intervention for improving EMS crews' confidence in managing obstetrical care that could be built upon and expanded across Wisconsin.



Stefanie (Stef) Sippl, MD is drawn to family medicine because of the opportunity to form long-term relationships, care for whole families, and advocate for patients in the clinic, hospital, and community. Stef is originally from Wausau, WI and earned her undergraduate

degree in Biology and Biochemistry from the University of Wisconsin – La Crosse. Prior to medical school, she worked at the University of Minnesota in the Schulze Diabetes Institute. She returned to Wisconsin and earned her medical degree from the University of Wisconsin School of Medicine and Public Health. Stef conducted research examining the practice locations of Wisconsin family medicine residency graduates in relation to three different measures of medical need, which highlighted the importance of providing care to underserved communities. This was emphasized by her rotation in Hayward, a small town in northern Wisconsin, where she gained insight into the value of full-spectrum family medicine in rural areas. She is passionate about women's health, obstetrics, breastfeeding/lactation, and rural medicine. Outside of medicine, Stef enjoys camping, hiking, knitting, playing board games, and spending time with family, friends, and her cats.



Indefinite gratitude to my husband for his unwavering support, flexibility, and patience throughout this entire journey, and special thanks to our son for bringing joy to our lives. Thank you to my family and friends for their understanding and encouragement. Also sincerest thanks to the faculty and staff at Belleville, throughout the residency, and across the RHET community sites; your guidance and tutelage have been invaluable. Finally, a huge thank you to my co-residents for their incredible fellowship over the past three years and beyond.

Is Hemoglobin A1c or Two-Step Glucose Tolerance Testing Preferable for Early Diabetes Screening in Pregnancy?

Stefanie Sippl, MD & Jillian Landeck, MD

Case Study

You are seeing a 28-year-old G1P0 at 9-weeks for her initial OB visit. She has a pre-pregnancy BMI (Body Mass Index) of 32 and her mother has Type II DM. She is otherwise healthy. You plan to perform early diabetes screening and wonder if obtaining a hemoglobin A1c would suffice compared to a two-step glucose tolerance test.

Evidence-Based Answer

There are no RCT's comparing hemoglobin A1c (HbA1c) directly with the two-step glucose tolerance test for early diabetes screening in pregnancy. However, several cohort studies have demonstrated the ability of HbA1c to adequately predict the development of gestational diabetes later in pregnancy, though sensitivity and specificity vary based on cut-off used (SOR: **B**, meta-analysis and systematic reviews of RCT's and cohort studies). In patients with known risk factors for diabetes, HbA1c may be useful in early risk stratification but cannot replace the two-step glucose tolerance test in early gestational diabetes screening. However, hemoglobin A1c is easier to obtain and may be a better option when considering social factors such as transportation or time needed for testing. Even if the results of early testing are negative, gestational diabetes screening using a two-step glucose tolerance test is still recommended at 24–28 weeks of gestation.

Evidence-Based Summary

A 2020 meta-analysis of 23 studies (n=16,921) investigated the accuracy of hemoglobin A1c (HbA1c) to screen women for diabetes in early pregnancy.¹ However, the trimester of testing varied with only six studies (n=7,100) using an HbA1c as a first trimester screening. The pooled sensitivity and specificity were 93% (95% CI 0.66–0.99) and 22% (95% CI 0.05–0.62) with an optimal cut-off of 5.2% to exclude diabetes.¹ The positive and negative likelihood ratios for a first trimester HbA1c test to predict the onset of gestational diabetes by the 2nd/3rd trimester was 1.18 (95% CI 0.71–1.66) and 0.34 (95% CI 0.00–1.08).¹ The false negative rate was 7% at a 5.2% HbA1c cut-off.¹

A 2020 systematic review identified 10 cohort studies (n=16,254) that evaluated the screening power of HbA1c for the development of GDM and all identified a positive correlation.² The risk of developing GDM increased with HbA1c $\geq 5.7\%$.² Studies were evaluated based on the Newcastle-Ottawa scale and were found to be high quality with low-risk of bias.² However, a consistent HbA1c cut-off was not used and varied from 4.5 to ≥ 6.0 and had varying screening power.² An HbA1c cut-off $>5.7\%$ or $>5.9\%$, had high specificity (95%–98.4%) but had low sensitivity (14.5%–21%).²

A 2020 retrospective cohort study of 243 women evaluated HbA1c as a diagnostic test for early GDM compared with two-step testing.³ Median HbA1c levels were higher among women with GDM versus those without GDM (5.8% vs. 5.3%) and the optimal threshold was 5.6% (64% sensitivity, 84% specificity).³ However, the study was limited by its small sample size and single study site.³

A 2020 prospective cohort study of 220 women evaluated if early pregnancy HbA1c represented glucose intolerance as seen in the oral glucose tolerance test.⁴ Increased HbA1c $\geq 5.7\%$ was associated with altered glucose dynamics and showed a higher fasting, mean, and maximum glucose concentrations compared with those with normal-range HbA1c.⁴ Specificity for the HbA1c cut-off of 5.7% was high at 96% (95% CI 0.91-0.98) although sensitivity was low at 20% (95% CI 0.12 to 0.30).⁴ The study was limited by small sample size and a single study site.⁴

A 2022 prospective cohort study of 700 women examined the utility of HbA1c in first trimester detection of GDM.⁵ In pregnant women with GDM, the average HbA1c level was $5.45 \pm 0.39\%$ compared to $4.96 \pm 0.30\%$ in the women without GDM.⁵ The sensitivity and specificity varied based on HbA1c cut-off and was 92% and 33% for cut-off of 4.85 and was 55% and 97% for a cut-off of 5.45.⁵

Study	Type of Study	Population size (n)	HbA1c cut-off (%)	Sensitivity (%)	Specificity (%)
Amaefule et. al. ¹	Meta-analysis	7,100	>5.2	93	22
Kattini et. al. ²	Systemic review	16,254	>5.7 or > 5.9	14.5 - 21	95-98.4
Battarbee et. al. ³	Retrospective cohort	243	≥ 5.6	64	84
Bozkurt et. al. ⁴	Prospective cohort	220	≥ 5.7	96	20
Valadan et. al. ⁵	Prospective cohort	700	>4.85 ≥ 5.45	92 55	33 97

Recommendations from Others

The International Association of Diabetes and Pregnancy Study Groups (IADPSG), the American Diabetes Association (ADA), and the American College of Obstetricians and Gynecologists (ACOG) recommend early pregnancy screening using oral glucose tolerance testing for individuals at increased risk of undiagnosed type 2 diabetes (table 2)^{6,7,8}. A 2021 United States Preventive Services Task Force (USPSTF) guideline concluded that available evidence was insufficient to assess the balance of benefits and harms of screening asymptomatic pregnant people before 24 weeks of gestation⁹.

<p>BMI greater than 25 (or greater than 23 in Asian Americans) plus one or more additional risk factors:</p> <ul style="list-style-type: none"> • Physical inactivity • First-degree relative with diabetes • High-risk race or ethnicity (eg, African American, Latino, Native American, Asian American, Pacific Islander) • Have previously given birth to an infant weighing 4,000g (approximately 9 lb) or more • Previous gestational diabetes mellitus • Hypertension (140/90 mm Hg or on therapy for hypertension) • High-density lipoprotein cholesterol level less than 35 mg/dL (0.90 mmol/L), a triglyceride level greater than 250 mg/dL (2.82 mmol/L) • Women with polycystic ovarian syndrome

- A1C greater than or equal to 5.7%, impaired glucose tolerance, or impaired fasting glucose on previous testing
- Other clinical conditions associated with insulin resistance (eg, prepregnancy body mass index greater than 40 kg/m², acanthosis nigricans)
- History of cardiovascular disease

Case Conclusion

Given the patient's increased risk of diabetes based on elevated BMI and family history of Type II DM, you decide to perform an early two-step glucose tolerance test and add a HbA1c to her initial prenatal labs to help screen for pregestational DM and early GDM and to better understand her risk for developing diabetes later in pregnancy.

1. Amaefule CE, Sasitharan A, Kalra P, Iliodromoti S, Huda MSB, Rogozinska E, Zamora J, Thangaratinam S. The accuracy of haemoglobin A1c as a screening and diagnostic test for gestational diabetes: a systematic review and meta-analysis of test accuracy studies. *Curr Opin Obstet Gynecol*. 2020 Oct;32(5):322-334. doi: 10.1097/GCO.0000000000000648. PMID: 32618746. [STEP 1]
2. Kattini R, Hummelen R, Kelly L. Early Gestational Diabetes Mellitus Screening With Glycated Hemoglobin: A Systematic Review. *J Obstet Gynaecol Can*. 2020 Nov;42(11):1379-1384. doi: 10.1016/j.jogc.2019.12.015. Epub 2020 Apr 6. PMID: 32268994. [STEP 1]
3. Battarbee AN, Grant JH, Vladutiu CJ, Menard MK, Clark M, Manuck TA, Venkatesh KK, Boggess KA. Hemoglobin A1c and Early Gestational Diabetes. *J Womens Health (Larchmt)*. 2020 Dec;29(12):1559-1563. doi: 10.1089/jwh.2019.8203. Epub 2020 Jul 15. PMID: 32678995. [STEP 3]
4. Bozkurt L, Göbl CS, Leitner K, Pacini G, Kautzky-Willer A. HbA1c during early pregnancy reflects beta-cell dysfunction in women developing GDM. *BMJ Open Diabetes Res Care*. 2020 Nov;8(2):e001751. doi: 10.1136/bmjdr-2020-001751. PMID: 33132213; PMCID: PMC7607595
5. Valadan M, Bahramnezhad Z, Golshahi F, Feizabad E. The role of first-trimester HbA1c in the early detection of gestational diabetes. *BMC Pregnancy Childbirth*. 2022 Jan 27;22(1):71. doi: 10.1186/s12884-021-04330-2. PMID: 35086491; PMCID: PMC8793236. [STEP 3]
6. Metzger BE, Gabbe SG, et al. International association of diabetes and pregnancy study groups recommendations on the diagnosis and classification of hyperglycemia in pregnancy. *Diabetes Care* 2010; 33:676. doi: 10.2337/dc09-1848. PMID: 20190296; PMCID: PMC2827530.
7. American Diabetes Association. 2. Classification and Diagnosis of Diabetes: Standards of Medical Care in Diabetes-2021. *Diabetes Care*. 2021 Jan;44(Suppl 1):S15-S33. doi: 10.2337/dc21-S002. Erratum in: *Diabetes Care*. 2021 Sep;44(9):2182. PMID: 33298413.
8. ACOG Practice Bulletin No. 190: Gestational Diabetes Mellitus. *Obstet Gynecol*. 2018 Feb;131(2):e49-e64. doi: 10.1097/AOG.0000000000002501. PMID: 29370047.
9. Pillay J, Donovan L, Guitard S, Zakher B, Gates M, Gates A, Vandermeer B, Bougatsos C, Chou R, Hartling L. Screening for Gestational Diabetes: Updated Evidence Report and Systematic Review for the US Preventive Services Task Force. *JAMA*. 2021 Aug 10;326(6):539-562. doi: 10.1001/jama.2021.10404. PMID: 34374717.

Justin Temple, MD

Projects Completed During Residency:

Community Health Learning Experience:

Broadening Contraceptive Access in Milwaukee's
Vulnerable Communities

Scholarly Project:

Nitrofurantoin and Congenital Malformations:

For my scholarly project, I submitted a HelpDesk Answer manuscript through FPIN (Family Physicians Inquiries Network) detailing the association – or lack thereof – between nitrofurantoin (Macrobid) use in the first trimester of pregnancy and congenital malformations of the fetus. A literature review of a meta-analysis and a stand-alone case control study revealed that there is likely not an increased risk of congenital malformations with nitrofurantoin use in the first trimester. More studies are likely needed to investigate the potential association between nitrofurantoin use and hypoplastic left heart syndrome based on few existing low-quality studies.



Justin Temple, MD is from Aurora, IL and earned his bachelor's degree in Animal Sciences from the University of Illinois at Urbana-Champaign. He then went on to earn his medical degree from the University of Illinois at Chicago College of Medicine. In

medical school, Justin participated in a medical mission to the Dominican Republic, volunteered with Chicago Street Medicine (a group which provides medical care to the homeless population of Chicago), served as the vice president of his school's Queers and Allies group and as a wellness representative for his medical school class, and conducted type I diabetes research at Columbia University through a National Institute of Diabetes and Digestive and Kidney Diseases program. Justin's medical interests include women's health, LGBTQ health, HIV medicine, and providing quality care for underserved and Spanish speaking populations. Justin enjoys eating and exploring the food scene of each city he visits, watching bad reality TV, playing video games, and spending time with his partner, friends, family, and cats. He will be staying at the UW DFMCH as an LGBTQ health fellow after graduation.



I would like to first thank my partner for his endless support and patience throughout the whirlwind that has been residency - I couldn't have done it without you. I'd also like to thank my family for always being a grounding source of love and support from afar. My sincerest thanks goes out to my co-residents for their friendship and comradery as we embarked and finished this journey together. Finally, thank you to those in the program who have mentored me and provided me guidance throughout this experience; you have helped shape the physician I have become and for that I am forever grateful.

Broadening Contraceptive Access in Milwaukee's Vulnerable Communities

Justin Temple, MD

Background

My community health learning experience was housed through the Keenan Sexual Health Clinic in Milwaukee. This clinic serves Milwaukee's uninsured/underinsured citizens by providing testing and treatment for sexually transmitted diseases at no cost. Though these services are vital to the health of the community, in the wake of the *Dobbs* decision in 2022, the importance of accessibility to contraceptive services became even more apparent, especially to the vulnerable communities that Keenan serves. For this reason, the decision was made to offer contraception through the Keenan Sexual Health Clinic in addition to comprehensive STI services. This necessitated a rollout of contraception protocols and training for the nurses who would be providing these services; my role was to assist in this transition by serving as a knowledge resource for the clinic nurses.

Objectives

Through this experience, I aimed to play a role in bridging the gap in contraceptive access for a vulnerable urban population. My task was to provide knowledge to the nurses who will be prescribing contraception by helping to teach them how to help patients choose a method, how to counsel patients on efficacy and expectations, and how to identify contraindications. In short, my goal was to de-mystify medical contraception in order to broaden its access.

Methods

In order to make this a reality, I first worked directly with the nurses at Keenan. Through this, I was able to get a sense of how the clinic operates and serves its community. I then assisted in reviewing the prospective contraception protocols to be used by the nurses, assessing for medical accuracy and clarifying confusing topics and discrepancies. I then crafted and delivered a presentation to the clinic nurses to provide further education and insight into the contraceptive methods they would be managing.

Results

Through my time working with the nurses and providing education regarding contraception, my hope is that the transition to providing contraceptive services at Keenan was a smoother one. I was able to clarify a few important questions raised by the nurses and provided them my presentation for easy access during this transition period. It remains to be seen what gaps may remain in providing contraceptive services to Keenan's clientele given the infancy of this rollout.

Conclusions

Ultimately, the goal of my community health learning experience was to assist in broadening access to reproductive health. The biggest challenge I faced was working within the confines of feasibility, affordability, and scope of experience while attempting to bridge access to comprehensive contraceptive services. Going forward, I would be curious to see how the rollout has played out in its early stages and what gaps in knowledge or access still exist from both the nurses' and

community's perspective. Ideally, these would be identified and corrected, and with time, I would hope that more outreach efforts would take place to stress the importance of reproductive health and offer Keenan as an access point for this in the Milwaukee community.

Acknowledgements

I would like to acknowledge Jess Dalby as my mentor in this project, as well as Helen Hermus at the Keenan Sexual Health clinic for her support in having me as a member of the team during this transition for Keenan.