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 2025

Abigail Cox, MD

Abigail Cox, MD (she/her), fell in love with family medicine because of the kind and caring culture that is present throughout the field. She believes that kindness is an essential aspect of providing excellent care. She aims to combine the science of medical care with the human touch of kindness and a smile to bring positivity to her patients' lives. Abigail is from Rochester, NY and she earned her bachelor's degree in Biology from Duquesne University in Pittsburgh, PA. She went on to attend the University of Pittsburgh School of Medicine. While in medical school she pursued her interests in behavioral health and the treatment of substance use disorders. She also contributed to her medical school community by participating in a wellness committee and mentoring junior students. In her medical practice, Abigail has strong interests in addiction medicine, behavioral health, dermatology, and women's health. Abigail loves to dance – she started dancing at the age of 12. She also enjoys sampling ice cream, watching movies (especially Marvel movies), and playing board games.

Projects Completed During Residency:

Community Health Learning Experience:

Human Growth and Development

Scholarly Project:

Diagnosing gestational diabetes: Is one elevated blood sugar better than two?

During each pregnancy, the dreaded glucose tolerance test is done to screen for gestational diabetes. If the screening test is positive, a diagnostic test is performed. The American College of Obstetrics and Gynecology considers two elevated blood sugars as diagnostic for gestational diabetes. However, some providers consider only one elevated blood sugar as diagnostic. Myself and a second-year resident are exploring the literature to try and answer whether one or two elevated blood sugars is best for diagnosing gestational diabetes, and we are writing our results in an article for the Family Physicians Inquiries Network.

Thank you to the wonderful faculty members at our residency program. You have all helped me grow into the physician and community member that I am today. Thank you to my family and friends for always supporting me. I am where I am because of your love and encouragement.

Human Growth and Development

Abigail Cox, MD

Faculty Partner: Jillian Landeck, MD

Background:
A local school district has a group called the Human Growth and Development Committee. Over the past few years, its main goal was to update the district's K-12 curriculum for human health. This curriculum outlined topics such as healthy relationships, friendships, hand washing, puberty, sexual health, sexually transmitted infections, contraception, etc. It had not been updated for many years, and the intent was to update the curriculum's objectives in order to meet the students' educational needs and help set them up for a healthy future.

Role:
I served as a committee member and attended meetings, which were held every few weeks. The committee was comprised of students, teachers, parents, board members, community members, and the school's nurse. Each member was responsible for reviewing the current curriculum, exploring curriculum that is used in other schools, and making suggestions on how the current curriculum should be changed. The first few meetings required a fair amount of goal-setting and organizational tasks in order to create a clear workflow for the large task at hand. Then, the committee was able to review the objectives of the human health curriculum line-by-line, and make suggestions on how each objective could be improved, or if the objective should be removed entirely. The committee also changed the grade level when certain objectives were introduced in order for them to be discussed at an appropriate time in the students' developmental phases. As a committee member with medical training, I was able to provide a unique perspective on topics such as sexually transmitted infections, contraception, gender identity, etc. I applied my knowledge when making suggestions on how objectives can be accurately and clearly worded, when they should be introduced to the students, etc.

Reflections:
This project meant a lot to me. When I was in high school, I felt that health class/health education could be improved. I didn't feel like I was learning the information that I needed to learn. It was special to be able to apply my medical knowledge and training to this project. I felt like I was using my training to advocate for students and their health. It was also really special to connect with my community in this way. I felt like I was a true community member. There were definitely challenging moments, however. Certain topics within the curriculum had committee members and community members divided. It was scary to put myself and my thoughts out there. Will my training and medical knowledge be helpful or hurtful? What would they think of me and what I have to day? I do think that I grew, however, because I engaged in these difficult conversations. I also hope that what I said mattered. I hope that it made a difference.

As there is with any project, there was definitely room for improvement. I wish that more students were involved throughout the process, so that their voices could be heard loud and clear. Unfortunately, only a few students attended the first meeting or two, and then they didn't return. I can't help but wonder how the objectives would have been written if there was consistent

student engagement. Will the students feel heard and represented by the curriculum? Will people feel left out or isolated by the curriculum? Will they learn the most important topics? My hope is that this project ultimately has a positive impact on the students, and that it gives them every opportunity to live a healthy life.

Peter Fink, MD

Projects Completed During Residency:

Scholarly Project:

Are common mindfulness mobile apps effective at treating anxiety and depression in the primary care setting?

Community Health Learning Experience:

Developing a Dot-Phrase to Optimize Re-entry Visits

My Community Health Learning Experience project addressed the need for optimized care transitions for individuals re-entering the community post-incarceration. Recognizing the unique health vulnerabilities of this population, I developed a standardized dot phrase for resident physicians. This tool streamlines "establish care visits" by prompting comprehensive assessments of medical, mental health, and social determinants of health. It facilitates efficient documentation of incarceration history, medication reconciliation, and linkage to community resources. By standardizing these visits, the dot phrase aims to improve continuity of care, reduce health disparities, and promote successful reintegration.

During this time of transition, I am overwhelmed with gratitude for so many people! Thank you to my wife Duranya for her pep talks, jokes, hugs, notes of encouragement and love that have made all the difference through all these years of medical training. To my parents and sisters whose support, perspective, and love has been my foundation from the beginning. To my co-residents and attendings who created a team-based community to learn, develop, and have fun in during residency. To the countless nurses, MA's, PSR's, janitors, and other staff who make our clinics and hospitals run. And to all of my teachers and mentors along the way whose dedication to education makes the world a better place. Thank you!

Peter Fink, MD (he/him), values being a family physician for the approach of not only treating illness, but also promoting long-term wellness. Peter is committed to caring for the whole person across all ages, organ systems, and acute and chronic stages. He also incorporates evidence-based integrative medicine into his practice to help patients actively cultivate wellness. Peter is from Valparaiso, IN and graduated from the University of Notre Dame with a degree in American Studies / Preprofessional Studies. He then worked as a community health specialist in AmeriCorps at a Federally Qualified Health Center in Portland, OR, where he enrolled patients in Medicaid, implemented a screening tool to assess patients' social determinants of health, and helped introduce Community Supported Agriculture and Cooking Matters programs to the local neighborhood. Peter earned his medical degree from the David Geffen School of Medicine at the University of California Los Angeles. While in medical school, he helped design and implement a screening tool for Adverse Childhood Experiences and led health education classes at an underserved school in East LA. Peter enjoys playing guitar and trombone, running, playing basketball, and rooting for Notre Dame sports. He also finds fulfillment through his daily mindfulness meditation practice and involvement with spiritual communities.

Are common mindfulness mobile apps effective at treating anxiety and depression in the primary care setting?

Peter Fink, MD

Evidence-Based Answer:

Mindfulness mobile apps are effective in producing small improvements in anxiety and depression over a short period of time in the primary care setting. Longer treatment duration is more effective, middle-aged women may benefit most, and mindfulness apps are more appropriate as adjunct rather than sole therapy. These results suggest these apps could be a reasonable adjunct therapy in the short term to improve mood symptoms and stress in motivated patients, but given several study limitations, further studies are needed to demonstrate their efficacy. (SOR: A, 2 meta-analyses of RCTs)

Evidence Summary:

A 2024 meta-analysis of 45 RCTs (N = 5,852 for depression, N = 6,082 for anxiety), compared app-delivered mindfulness interventions with a control condition or active comparison.[1] This study expanded on two prior meta-analyses regarding mindfulness apps' impact on depression and anxiety symptoms by including over 20 new trials published since 2020. There was a large range in subject types, including patients diagnosed with depression or anxiety, students, general population, employees, and patients in the oncology, obstetrics, and ICU settings. The most common control condition was waitlist, and examples of active interventions to which the apps were compared included information handouts, music, and face-to-face visits. Follow up ranged from 10 days to 8 weeks. Small, significant effect sizes were found for symptoms of depression (N = 5852, g 0.24, 95% CI 0.17-0.31, NNT=13.57) and anxiety (N = 6082, g 0.28, 95% CI 0.21-0.35, NNT=11.47) favoring mindfulness apps over control conditions. Non-significant effects were observed when comparing mindfulness apps to active therapeutic comparisons. Effect size did not change with inactive vs. active controls, but monetary compensation did increase the effect size for improving depressive symptoms.

A second 2024 meta-analysis of 16 RCT's not included in the other meta-analysis (N=2377) examined mindfulness apps' impact on specifically anxiety.[2] Study participants included young adults and adults in nine different countries with a wide range of past medical history, and in most studies over half the participants were female. Treatment groups used mindfulness apps for 2 to 12 weeks (mean duration 7 weeks) and were compared to active controls which included mental health diaries and informational handouts, and passive controls which were not specifically defined. Overall, it found mindfulness apps to have a statistically significant and moderately improved effect compared to controls at improving anxiety (N = 2377, g -0.31, SE = 0.09, 95% CI −0.48 - −0.14) where negative g reflects reduced anxiety

scores. Moderator analysis found these apps to be most effective with women compared to men (g –0.34 in studies with over 50% female participants, g –0.21 in studies with over 50% male participants). Greater effect was observed when compared to passive (g –0.36) rather than active (g –0.22) control groups, and with treatment length greater than 6 weeks (g –0.46) compared to less than 6 weeks (g –0.18). Though this study only pertained to anxiety, significant and concomitant reductions in both anxiety and depression in the prior meta-analysis discussed suggest that this study's findings regarding reduced anxiety may also apply across the affective mood disorder spectrum, including depression.

References

[1] Linardon J, Messer M, Goldberg SB, Fuller-Tyszkiewicz M. The efficacy of mindfulness apps on symptoms of depression and anxiety: An updated meta-analysis of randomized controlled trials. Clin Psychol Rev. 2024 Feb;107:102370. doi: 10.1016/j.cpr.2023.102370. Epub 2023 Dec 3. PMID: 38056219; PMCID: PMC10872959. (**Step 1**)

[2] Doğan T, Koçtürk N, Akın E, Kurnaz MF, Öztürk CD, Şen A, Yalçın M. Science-Based Mobile Apps for Reducing Anxiety: A Systematic Review and Meta-Analysis. Clin Psychol Psychother. 2024 Sep-Oct;31(5):e3058. doi: 10.1002/cpp.3058. PMID: 39387693. (**Step 1**)

Noah Garber, MD

Projects Completed During Residency:

Scholarly Project:

Undergraduates' knowledge, attitudes, and behaviours associated with fad diets

Community Health Learning Experience:

Gigi's Playhouse Gala Committee

For my Community Health Learning Experience, I collaborated with Gigi's Playhouse, an organization whose mission is to provide "educational, therapeutic, and career development programs for individuals with Down syndrome". As a member of the Gala Planning Committee, I contributed by attending planning meetings, securing donations for the silent auction, and ensuring smooth event operations. This experience was particularly meaningful as I'm preparing for a disability health fellowship, where I aim to provide high-quality medical care to individuals with disabilities, including Down syndrome. Partnering with Gigi's Playhouse deepened my understanding of the vital impact community organizations have on this population.

A huge thank you to my family—without your unwavering love and support, I wouldn't be where I am today. I am incredibly grateful to the Northport faculty for shaping the way I practice medicine and making me a better doctor. Last but certainly not least, a special thank you to my cat, Ozzy, for bringing laughter and joy after long hours at work.

Noah Garber, MD (he/him), is drawn to family medicine because of the ability to build meaningful, long-term relationships with patients at all stages of life. He is from Farmington Hills, MI, and he studied Cellular and Molecular Biology, with a minor in Biological Anthropology, at the University of Michigan – Ann Arbor. He attended medical school at the Oakland University William Beaumont School of Medicine. He participated as a trainee in the Michigan Leadership Education in Neurodevelopmental and Related Disabilities (MI-LEND) program, which taught him about the challenges faced in schools and healthcare systems by children on the autism spectrum and exposed him to the importance of community resources that are available for patients and families. Noah also volunteered as a camp counselor for a summer camp designed for children with serious medical conditions to have a fun and safe experience. Noah's medical interests include disability health, preventative medicine, and outpatient procedures. He enjoys everything outdoors, especially playing tennis, rock climbing, hiking, and skiing. He also loves live music and spending time with family and friends.

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Undergraduates' knowledge, attitudes, and behaviours associated with fad diets

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ABSTRACT

Purpose: We aimed to determine undergraduate students' use and knowledge of fad diets as well as examine how appealing students found these diets given the goal of rapid weight loss and/or improved health. Twenty-three students from a Midwestern university (mean age = 19.2, mean BMI = 27.35, 69.6% female) were recruited through new student orientations for this qualitative study. Approximately 52% of participants identified as White, 30% as Black, 13% as Asian, and 4% as multi-racial.

Methods: Knowledge and opinions about fad diets were collected via focus groups and individual interviews. Coding of transcripts was conducted by hand using the constant comparative method and data were analysed based on grounded theory.

Results: Two primary themes emerged: very negative views of fad diets and the importance of healthy eating. Although few participants had tried fad diets, they thought these diets: 1) did not lead to sustained weight loss, 2) were associated with disappointment and health issues, and 3) were money-making schemes delivered heavily through social media. Participants also valued healthy eating.

Conclusion: Experimental studies are needed to examine how healthy eating among university students can be supported through credible sources, accurate information, and established connections via innovative social media platforms.

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Fad diets; college students; overweight; social media; healthy eating; qualitative

Attending college is a major transition period in the lives of many young adults, and it is during this time that they become increasingly independent in their dietary choices (Stok et al., 2018). Vilaro et al. (2018) found that food choice preferences in college students were linked to three factors that included: 1) price of food, 2) "busy daily life and preferences" (e.g., convenience and taste), and 3) "healthy aesthetic." Sogari et al. (2018) found meal planning; food knowledge and preparation; and physical activity were associated with healthy eating among college students. On the contrary, barriers to healthy eating for these college students included time constraints, readily available foods with high caloric content, and the expensive cost of healthy foods. Sogari et al. (2018) also demonstrated that many students perceived the transition to college to be stressful and that their time was more limited as compared to high school, both of which contributed to unhealthy habits.

An unhealthy lifestyle (e.g., poor diet, low physical activity, high sedentary leisure) puts people at risk of becoming overweight and excess weight is significantly associated with life-threatening diseases (e.g., cardiovascular disease [CVD], type 2 diabetes, and some cancers; Hutfless et al., 2013; Tahreem et al., 2022). Although diseases such as CVD are likely to show up later in life, excess weight in college students should not be ignored. Young adults who are struggling with excess weight at the level of overweight or obesity are significantly more likely to move to an even higher BMI category compared to any other age group in adulthood (Katsoulis et al., 2021). Gaining just 1/2–1 pound per year beginning in young adulthood is very problematic in regards to the future development of obesity, and associated premature death, likely from CVD or type 2 diabetes (Hutfless et al., 2013).

Many fad diets promise rapid weight loss with minimal effort, which could make them appealing for college students who are busy and do not think they have time to exercise, for example (Khawandanah & Tewfik, 2016). Busy college students might also believe that a fad diet will easily provide them with better health (Anderson, 2023). Most fad diets involve adjusting the amount of protein, fat, and carbohydrates in various combinations such as in the case of the Atkins Diet or Zone Diet, whereas other fad diets fixate on a specific food item such as the Grapefruit Diet or Cabbage Soup Diet (Khawandanah & Tewfik, 2016). Fad diets are typically extreme and do

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not provide a nutrient balanced diet (Khawandanah & Tewfik, 2016). They usually do not include physical activity recommendations and are not typically maintained over one's lifespan (Tahreem et al., 2022). The 2012 National Health Interview Survey showed that 7.5% of Americans have used one or more "special diets" over the course of their lifetime which included the vegetarian diet, Atkins diet, macrobiotic diet, Pritikin diet, or Ornish diet, and that most of the people who used these diets were college educated (Leung et al., 2018). A recent systematic review found that examining college students' use of fad diets is a neglected area of study (Spadine & Patterson, 2022). Therefore, the purpose of the current study was to determine if students were using fad diets as well as investigating their knowledge and attitudes about these diets.

Materials and methods

The study was reviewed and approved through expedited procedures by the IRB at Oakland University (Rochester, MI, USA; IRB#1438073). Oakland University has some on-campus housing (e.g., residence halls, apartments), but it is largely a commuter campus. The only criteria necessary for study participation were current enrolment as an undergraduate student at the university and being 18 years of age or older. Participants were primarily recruited over the course of approximately 5 months through a database of students who attended a new student orientation and expressed an interest in being contacted about future Psychology Department research studies. Participants were also recruited via campus flyers during the first month of recruitment. Students from the database were sent an email with information about the study, the inclusion criteria, and the amount of compensation they would receive if they participated. Also contained in this email was a link to a SignUpGenius with preset dates and times available for registration. Those who learned about the study via campus flyers were instructed to send an email to the second author, who would then send them the previously described information and the SignUpGenius link. Students were able to see the number of spots remaining for each date but could not see the names of other participants.

Potential participants arrived for their scheduled focus group session on campus. When only one participant showed for a focus group, an individual interview was conducted because we did not want to send anyone home without collecting data from them. Therefore, we conducted five focus groups (each group had 3–4 participants) and five individual interviews. Upon arrival, participants first completed the informed consent process which involved reading the consent form, having any questions answered, and signing two copies of the consent form. Each participant took one consent form home and a second consent form was filed in a locked filing cabinet located in the third author's office. Participants had their height and weight measured using a Doran DS5100 digital physician's scale. Body mass index (BMI) was calculated via the following equation: weight in pounds/height in inches^2 x 703. Next, they completed a demographics questionnaire created by the authors which contained basic demographic questions such as race, class standing, and major. The primary author has been conducting qualitative studies for over 10 years. Therefore, the primary author served as lead moderator of the focus groups and was assisted by the other two authors. A list of ground rules was provided at the start of each focus group, which included such items as defining confidentiality, the plan for the focus group, and the reason for recording the session. We also requested that participants be as honest as possible so that we would have accurate information for data analysis. An IRB-approved list of questions was used (Table I). The IRB also approved the use of follow-up questions to allow for exploration of topics brought up by participants. The follow-up questions were also used to reduce the possibility of making assumptions during coding about what participants meant during the interview. Participants were provided with a $15 Amazon gift card upon completion of the study.

Focus groups and individual interviews were audio-recorded and the second author took notes as a back-up and to help facilitate the creation of accurate transcripts. The second author along with two undergraduate research assistants created and checked each transcript. Data were analysed based on grounded theory, which is an inductive approach that allows for the identification of themes, and possibly a core theme or theory (Braun & Clarke, 2006; Corbin & Strauss, 2014; B. Glaser & Strauss, 1967). Coding was conducted by hand using the constant comparative method for generating themes (B. G. Glaser, 1965). Every step of the coding process

Table I. IRB-approved list of questions.

1. Are there any foods you typically try to avoid in your diet? Why?
2. What resources, if any, does the university provide to make healthy nutritional choices?
3. When you hear fad diet, what comes to mind? How do you feel about them? Why do you feel that way?
4. What are the names of some fad diets?
5. How did you learn about fad diets? What do you know about them?
6. Have you, a friend, or relative ever tried a fad diet? If yes, what was the reason for trying one?
7. What are the perceived benefits and drawbacks of fad diets?

was led by the first author who was joined by the second and third authors. As all three authors participated in both data collection and coding, a model called *data saturation* was used to determine when data collection was complete, that is, no additional focus group interviews would be conducted. According to Saunders et al., there are four possible models to determine saturation (Saunders et al., 2018). *Data saturation* is based on examining " … the degree to which new data repeat what was expressed in previous data" during data collection (Saunders et al., 2018). Saturation occurred in the current study after 23 students had participated in focus groups or individual interviews. All three authors independently read each transcript, looking for possible themes and identifying relevant quotes. A meeting was held after each independent transcript review to discuss the work of each coder. A theme list and a document with relevant text were edited over the course of the discussions with the purpose of creating a final list of themes, subthemes, and quotes based on a consensus of all three authors. All transcripts were reviewed again by the primary author to ensure the final theme list and relevant quotes were accurate and complete (Miles & Huberman, 1994).

Results

Demographic characteristics

Twenty-three undergraduate students (Mean age = 19.2, Mean BMI = 27.35) participated in the study; 69.6% were female, 21.7% were male, and 8.7% chose not to respond. In regards to class standing, 47.9% were Freshmen, 21.7% were Sophomores, 21.7% were Juniors, and 8.7% were Seniors or Post-baccalaureate. Approximately 52% were White, 30% were Black, 13% were Asian, and 4% were multi-racial. None of the participants were Hispanic or Latino/Latina. Over 65% of the sample had a job and none of the participants were college athletes. Approximately 69% of the sample had a major related to science or health (e.g., biology, nursing, pre-med, psychology, health sciences).

Qualitative findings

The analysis of the qualitative data did not lead to a theory; however, two main themes emerged. First, participants held very negative attitudes about fad diets. Participants believed that fad diets were not beneficial for sustained weight loss, were associated with physical health issues and disappointment, and were thought of as money-making schemes via a heavy social media presence in the lives of young people. Second, participants believed in the importance of healthy eating. They clearly understood what healthy eating was all about and regularly avoided certain foods they perceived to be unhealthy. The themes, subthemes, and some representative quotes are described in detail below.

Negative attitudes about fad diets

Fad diets are problematic

Many participants had an extremely negative view of fad diets even though very few participants had actually tried one. They stated that fad diets are attractive because people want a quick and easy way to lose weight. However, fad diets do not work for everyone. If they do provide weight loss, then the weight will be gained back, which will lead to disappointment.

> Yeah, I just don't think they're very effective. I think, even if you lose weight, it won't stay off. Once you stop that, you're gonna gain it right back and obviously it's not something you can continue to do because your body needs a whole range of nutrients and minerals. If you're not supplying it with all that, it's not helping you in any way except maybe your appearance but you're still not prolonging your life. You're just damaging yourself on the inside for something you want on the outside. [Participant 5]

> I think false hope. We discussed that fad diets are mainly a quick fix, like you think you're gonna drop like 10 pounds within 2 weeks or something extreme like that, but I think it leads to false hope because you believe it's finally going to be the thing to help you lose weight or makes you feel better about yourself, and it's shown don't really work and that they're not going to give you that change that you're really longing for, so I guess you could call it a false diet instead of a fad diet, just because it's not going to give you the results you're really looking for. [Participant 1]

Some participants associated fad diets with feeling "defeated" or having lowered self-confidence if the diets do not work.

> It can really hurt your self-confidence or you'll get stuck in that place and if you don't stick with the diet then you feel kind of depressed about it. I don't have any personal experience, but that's what my personal opinion is. [Participant 11]

Participants stated that fad diets are not sustainable because they are extreme, you can't eat what you normally like to eat, and some diets are not "real food." Some participants talked about the negative impact of fad diets on physical health such as insomnia, muscle wasting, low energy, and dehydration due to the use of diuretics and laxatives.

Fad diets are a money-making scheme

Participants frequently talked about the business aspect of fad diets, which they viewed as a way for celebrities and influencers to make money.

> … I think they're considered influencers, because they're basically just regular people paid to advertise stuff. [Participant 19]

> In a weird way, there's sort of like a joke aspect to them [fad diets], because I feel like a lot of people see through them pretty quickly, like after they first come out, and there's sort of that buzz about them, like people sort of realize that, oh this is just a scam. [Participant 9]

Some participants were doubtful that these individuals used the products they were endorsing.

> Uh, they sort of become that because, especially the teas and the juices, they have celebrities promote them but like, it's very obvious the celebrity doesn't use them, so it's like so ridiculous. [Participant 9]

Social media is a strong influence

Social media is the place where many participants learned about fad diets, with Instagram being mentioned most often as the platform in which fad diet information was provided.

> Instagram for me. I see a lot of ads for dietary supplements, and fad diets, and things like that. Instagram is the big one for me. [Participant 13]

> The first thing that pops into my mind is it's like, I forgot what it's called, like the Skinny Tea or something like that, like on Instagram. If you drink this tea, you're going to lose all this weight, but it's pretty much just a major diuretic, like there's nothing that special to it … [Participant 1]

Other social media platforms mentioned by participants included YouTube, Twitter, Snapchat, Facebook, Pinterest, and Tumblr. Participants primarily thought social media influences were problematic.

> Oh man, let me tell you. Social media is a blessing and it's a curse … And when you follow certain people on social media with certain body types that you could see yourself having, it puts yourself in an unrealistic position, because a lot of those people fail to see that the people on the screen and in the photo and stuff like that, they may have possibly had work done to get that way. [Participant 20]

However, a few participants spoke about one positive aspect of social media; that is, they viewed healthcare professionals (e.g., nutritionists, exercise experts, physicians) as credible sources of information about healthy living.

Other exposures to fad diets

After social media, participants were exposed to fad diets through other individuals in their lives. For example, one or more family members (primarily a parent) informed some participants about fad diets and/or were influential in regards to what participants ate.

> Basically because my mother basically taught me to stick to your origins and things that are proven and well known and don't stick to things on the internet and stuff like that, basically. [Participant 10]

Weight loss was the primary reason family members were trying fad diets. The Keto diet was reported to have been used most often by family members; however, participants also frequently mentioned the Paleo diet and intermittent fasting. The Mediterranean diet, Whole30, Weight Watchers, the Atkins diet, and the South Beach diet were all mentioned, but less frequently than Keto, Paleo, and intermittent fasting.

> My mother has tried Keto [for weight loss]. It didn't really fit her, she lasted probably a month and that's it. My father did intermittent fasting. It worked for him for a little while and then he fell off it. [Participant 23]

Some participants spoke about friends trying or informing them about fad diets.

> … I had a friend who actually going into nutrition in college right now and he has tried to get me into Keto and I really wasn't all for that. [Participant 21]

Lastly, a small number of participants mentioned learning about fad diets through a school health class.

Healthy eating is important

Defining healthy eating

Many participants explained that fad diets are contrary to healthy eating which involves consuming nutritious foods (i.e., high fibre, protein). Healthy eating also means moderation, which was described as limiting unhealthy foods that are high in sugar or fat, for example. Some participants said that it is acceptable to enjoy unhealthy foods they love as long as it is only once in a while.

> So, what I think a healthy diet is basically what's good for you and what's in proportions. Like you can have all the greens you want, you can have all the vegetables in your system, you can also have a ton of junk food in your system. But they can cancel each other out if you're not proportioning correctly. So, you don't have to give up the things you love to have a healthy relationship with your body. You can always have junk food, like I tend to, once a week or once every two weeks, I'll get myself pizza as a reward with how I'm doing in my classes or things like that. But I have to take it in proportion, I love pizza I could eat it every single day, but I know my body can't eat that every single day and be able to process it, so I'm trying to proportion it out. [Participant 16]

Some participants shared ideas of how to eat healthy such as filling a plate with vegetables first before other foods, substituting unhealthy foods for healthier options (e.g., using almond milk instead of cow milk), and preparing meals in advance.

Commonly avoided foods

Participants identified "unhealthy" food items that they tried to regularly avoid, with the most commonly avoided foods described as being oily, greasy, or fried. These foods are often found at fast food establishments, and were described as "gross," hard to digest, and not tasting as good as home-cooked meals.

> A personal decision. Well that, and it's mixed with, like in my community, how heart problems are a huge thing. It's mostly from fried foods and pig feet and obscure meats, so I try to stay away from that. [Participant 20]

Some participants were trying to reduce their sugar consumption (e.g., cutting down on drinking sugar-sweetened soft drinks, which participants called "pop").

> … I try to find like pop that doesn't have as much calories and just like not drink as much. I always try to substitute water out if I can. [Participant 16]

Some participants stated that they avoided processed foods because these foods are higher in calories, low in nutritional value, and/or contain chemicals or non-natural ingredients.

> … A Dorito, you look at that thing and you're like where does this even come from. You wouldn't know unless you looked at the ingredients list. You know, I just think it's weird and your body wasn't made for that. Society made that, not nature. [Participant 5]

Finally, some participants were trying to avoid caffeinated beverages because they were concerned about the amount of caffeine they were consuming.

Discussion. The purpose of this study was to determine college students' knowledge, attitudes, and behaviours regarding fad diets. First, participants in this study presented very negative attitudes about fad diets, even though most had never tried them, including that fad diets 1) were not beneficial for sustained weight loss; 2) were associated with physical health issues; 3) could create disappointment if weight loss does not happen or the weight is gained back; and 4) were schemes that had a strong presence on social media which included targeted marketing to college aged students. Second, college student participants in this study recognized the importance of good nutrition and its direct link to their overall health. Specifically, they easily identified what "healthy" eating choices were and stated that they regularly avoided certain foods that they considered "unhealthy." These findings are of interest because they are in contrast to reports from other previously published studies in which nutrition knowledge was not found to be linked with healthy eating behaviours in college students (Abraham et al., 2018; Deliens et al., 2014). There is always the risk of social desirability bias in qualitative studies, given the highly interactive nature of this research modality. Social desirability bias occurs when participants present themselves in a more favourable way than they truly are currently (Bispo Júnior, 2022). However, we used some recommended strategies to minimize the possibility of social desirability bias while collecting our data (Bispo Júnior, 2022). First, we emphasized the confidential nature of our study during the consent process and when reviewing the ground rules before the focus groups. Second, all participants were instructed to be as honest as possible in order for us to obtain accurate information for data analysis. Third, the primary author created a warm, welcoming, and relaxing interview environment as usual. Finally, as the goals of this study were to find out *student* use, knowledge, and attitudes about fad diets, we never provided our *own* knowledge or attitudes about fad diets. We asked the questions listed in Table I, and these questions were intentionally written not reflect our opinions, but rather elicit participants' opinions (e.g., *When you hear fad diet, what comes to mind? How do you feel about them? Why do you feel that way? What are the perceived benefits and drawbacks of fad diets?*). The more likely explanations for our findings are the strong influence and importance of the health beliefs and the concerns with health maintenance that the college student participants in this study expressed.

A strong presence of fad diet marketing on social media was identified by our participants. They indicated that this marketing did not influence their health behaviours (with the exception of "credible" sources), but for many it did contribute to negative beliefs about fad diets. This finding is of particular interest because 84% of Pew survey respondents, ages 18–29, reported using social media platforms (e.g., YouTube, Facebook, Instagram, and Snapchat) in 2021 (Pew Research Center, 2021). Additionally, a large percentage of this age group uses social media every day (e.g., over 70% of Instagram or Snapchat users; Pew Research Center, 2021). At this level of exposure, it would be anticipated that this type of marketing would have had a strong influence on the use of fad diets, yet we did not see this outcome in our participants. Of note, these types of social media platforms often promote "thinness" as the ideal body image. It would have also been anticipated that the college student participants in this study would have been vulnerable to this type of targeted messaging because their average BMI classified them in the overweight category, even though we did not specifically recruit on the basis of BMI. Our participants were not influenced to use fad diets for weight loss. At this time, we can only speculate that this lack of influence may be due to their health beliefs regarding nutrition and the importance of maintaining their

health. Further research is needed to better understand the specific influence of social media on healthy eating, particularly because social media has typically been one aspect of multi-component interventions (Chau et al., 2018). Existing studies have often used social media to encourage socialization among research participants rather than leveraging existing social media connections to bolster engagement and maintenance of behaviour change (Chau et al., 2018). Finally, the efficacy or effectiveness of innovative social media platforms (e.g., platforms that allow the uploading of photographs such as Instagram) on healthy eating behaviours have yet to be examined (Chau et al., 2018).

Family and friends trying to lose weight were also identified as sources of exposure to fad diet information, and although social engagement and support from these groups are usually seen as very influential, the participants in this study were not persuaded to try fad diets for weight loss (Wang et al., 2014). Reasons for the lack of influence by social support groups are not clear at this time, but the lack of influence may also be linked to the participants' focus on eating healthy foods to maintain their health and/or using healthier weight loss strategies (e.g., consuming less calories) as described previously.

This study had some strengths. First, a common way to recruit participants for studies of this nature is through the use of flyers. We used some flyers to recruit for the current study; however, our primary recruitment method was to select names from an existing database of students who had attended a new student orientation session over the past several years and extend an invitation for them to participate in the study. The use of flyers and a database both involved volunteers, but the latter method allowed for the possibility of a more diverse sample in regards to race as 30% of our sample were Black, 13% were Asian, and 4% were multi-racial. Second, the use of focus groups provides rich data because the interactions among participants allowed for confirmation of themes.

Like all studies, this study also had some limitations. First, we only had 23 students participate in the study. However, data saturation was met, making it unlikely that the inclusion of additional participants would have made a difference in the information we obtained. Second, this study was conducted in the Midwest on a university campus with a majority of commuting students; therefore, the findings from this study might not be relevant to students attending universities in other regions of the country or at universities where most students reside on campus. The findings might have been different among young adults who are not receiving a university education. We did not collect data regarding where our participants resided but under half of the participants had a university meal plan. Third, we did not ask participants to complete a food diary or administer a 24-hour food recall over multiple days, which could have allowed us to better characterize the current comprehensive eating patterns of the participants in this study. Finally, although we did measure height and weight to calculate the BMI of our participants, we did not collect data on past weight loss efforts or participants' perception of their body image. Collecting these data could have allowed us to better characterize if the participants' body weight or body image were associated with their perceptions of fad diets, healthy eating, or health risks.

Conclusion

The college student participants in this study indicated that they were not influenced to try fad diets by the targeted messaging on social media because of their health beliefs associated with the importance of healthy eating to achieve positive health outcomes. Harnessing the potential of social media to encourage and support healthy eating in young adults is a next logical step. Credible sources and information seem essential given the findings of the current study. Further research is needed to investigate the influence of social media on healthy eating in university students by leveraging existing social media connections on innovative social media platforms.

Acknowledgments

Thank you to Erica Cogswell and Sofia Osorio-Martinez for creating and checking transcripts.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Notes on contributors

Andrea T. Kozak is an Associate Professor in the Department of Psychology. She teaches and mentors psychology undergraduate and graduate students. Dr. Kozak's research primarily centers around investigating factors that contribute to excess weight (low distress tolerance, dysfunctional eating patterns, poor sleep, stress); studying innovative ways to reduce weight and keep it off (e.g., tech behavioral health interventions); and examining the consequences of overweight and obesity (e.g., poor health-related quality of life, chronic diseases). She has expertise in both qualitative and quantitative research designs.

Noah Garber is completing his medical degree from the Oakland University William Beaumont School of Medicine.

Virginia Uhley is an Associate Professor in the Department of Foundational Medical Studies and Family Medicine &

Community Health. She is responsible for the development, integration, and assessment of the longitudinal nutrition curriculum (M1-M4). Dr. Uhley's research focuses on the role of nutrition on the prevention and treatment of chronic diseases such as obesity, cancer, and diabetes. She is an expert in nutrition assessment methodology, measurement of clinical laboratory biomarkers associated with dietary intake, and medical nutrition therapy for obesity, diabetes, and cancer.

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David Hardin, MD

David Hardin, MD (he/him), enjoys practicing full-spectrum, rural family medicine. From seeing patients in clinic to being called into the hospital for deliveries to caring for patients of all ages in all settings, David is committed to the life of a rural family doctor. He welcomes the opportunity to build long lasting relationships with his patients and hone the skill to care for all aspects of his patients' health. In addition to rural medicine, he is also interested in addiction medicine and adolescent health. David is from Fredericksburg, TX and he earned his undergraduate degree in Biomedical Sciences at Texas A&M University. He attended medical school at the University of Texas Medical Branch at Galveston School of Medicine. While in Galveston, David volunteered at the local student-run free clinic, where he held several leadership roles. He was also involved with his school's family medicine interest group, and he worked with other students to promote the broad scope of family medicine as a specialty. Outside of medicine, David enjoys exploring the outdoors and, coming from Texas, he is very excited to experience Wisconsin winter activities, especially on frozen lakes. His hobbies also include canning, exploring with his dog Ellie, gardening, finding the best fish fry in Madison, and enjoying lake activities (summer and winter). After graduation, David will staying on as faculty at the Belleville clinic. He will be practicing full scope medicine - OB, outpatient, and inpatient. He is looking forward to continuing to explore Madison and get to interact with current and future residents.

Projects Completed During Residency:

Scholarly Project:

Does OMT decrease length of stay in premature infants?

Community Health Learning Experience:

Building healthcare work force in rural areas

Partner with Area Health Education Centers (AHEC) to foster connections and mentoring relationships with middle school, high school, and undergraduate students interested in rural health care careers. Assist with organizing and teaching at AHEC Scholar Community Health Immersion and AHEC Connect events (on a variety of "underserved" health topics including AUD, maternal/child health didactics that are both longitudinal and 3-5 days workshops). Attend HOSA (high school) regional leadership conference and serve as a judge for projects and competitions.

This has been a long road and I want to thank my family, close friends, and my dog Ellie for all the support and bearing through my poor communication. All your support was integral in me getting to and past this point. Yall rock!

HDA Cover Page

HDA Question: Does osteopathic manipulative treatment decrease length of stay in premature infants?

Author Information:
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The authors declare no conflicts of interest.

Methods

The authors developed the clinical question, "Does OMT decreased LOS in premature infants?" based on the clinical needs of their practice site. EBP editors approved the question based on its relevance and applicability to practicing primary care clinicians. EBP editors also verified the question does not duplicate other HelpDesk Answers written in the prior three years.

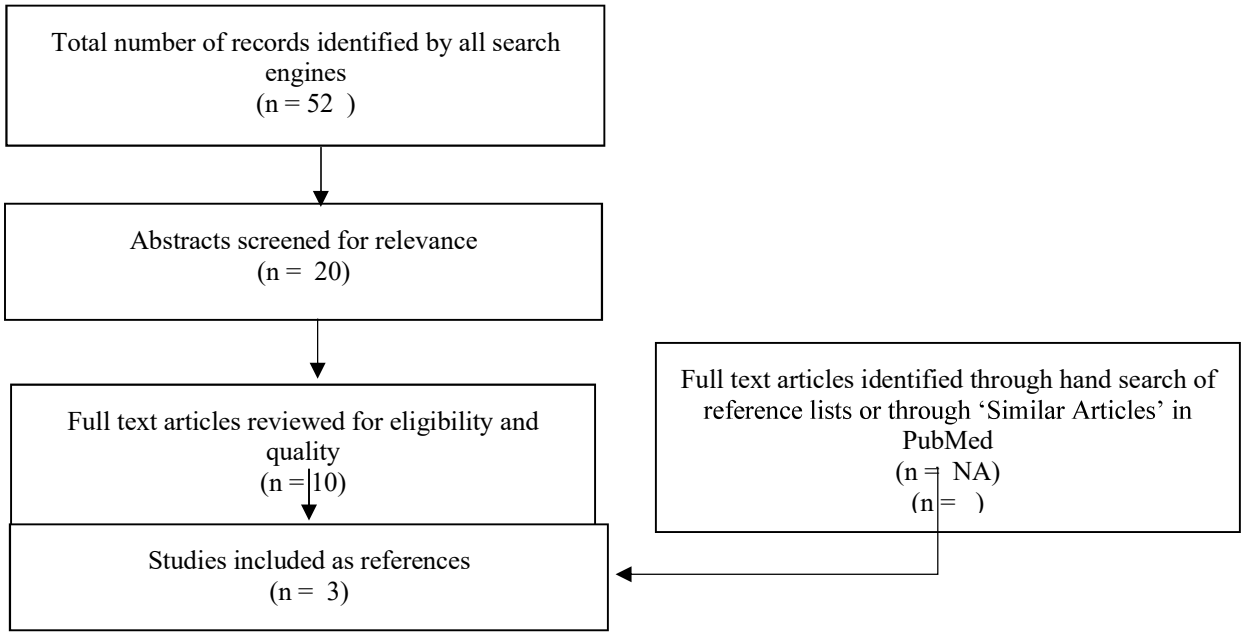
The table includes the databases and search terms the authors used to find studies matching the following study inclusion criteria: patients – premature infants; intervention – performing osteopathic manipulation; comparison – providing routine care in premature infants that does not include OMT; and outcome decreased length of stay after delivery. Authors selected the most relevant, highest evidence level studies published within the last ten years to prepare the HDA manuscript (Figure).

Search engine	**Search term or combination of search terms**	**Total number of records identified**
PubMed Clinical Queries	a) ("Manipulation, Osteopathic"[mesh] OR OMT[tiab] OR OMTh[tiab] OR "osteopathic manipulation"[tiab:~5] OR "osteopathic manipulative"[tiab:~5] OR "osteopathic treatment"[tiab:~5] OR "osteopathic treatments"[tiab:~5] OR "osteopathic therapy"[tiab:~5] OR "osteopathic therapies"[tiab:~5]) AND ("Infant, Premature"[Mesh] OR "Intensive Care Units, Neonatal"[Mesh] OR NICU[tiab] OR "neonatal ICU" OR "neonatal ICUs" OR "newborn ICU" OR "newborn ICUs" OR LBW[tiab] OR preterm*[tiab] OR pre-term*[tiab] OR preemie*[tiab] OR prematur*[tiab] OR "low birth weight"[tiab:~3] OR "neonatal intensive care"[tiab:~3]) AND ("Length of Stay"[Mesh] OR LOS[tiab] OR "length stay"[tiab:~3] OR "length stays"[tiab:~3] OR "lengths stay"[tiab:~3] OR "lengths stays"[tiab:~3] OR "hospital stay"[tiab:~3] OR "hospital stays"[tiab:~3] OR "hospitals stay"[tiab:~3] OR "hospitals stays"[tiab:~3]) AND english[filter] filter: Therapy scope: Broad	a) 15

Cochrane Library	a) ((OMT OR OMTh OR ((osteopath*) NEAR/5 (manipulat* OR treatment* OR therap*))):ti,ab,kw) AND ((NICU OR LBW OR preterm* OR pre-term* OR preemie* OR prematur* OR ((low) NEAR/3 (birth) NEAR/3 (weight*)) OR ((neonatal) NEAR/3 (intensive) NEAR/3 (care))):ti,ab,kw) AND ((LOS OR ((length* OR hospital*) NEAR/3 (stay*))):ti,ab,kw)	a) 25
ECRI Guidelines Trust	a) (premature OR prematurity OR preterm OR pre-term OR preemie OR NICU OR "neonative intensive care") AND (OMT OR OMTh OR osteopathic OR manipulation OR manipulative) AND ("length of stay" OR "lengths of stay" OR "hospital stay" OR "hospital stays")	a) 0
Embase	a) ('osteopathic manipulation'/exp OR omt:ti,ab,kw OR omth:ti,ab,kw OR ((osteopath* NEAR/5 (manipulat* OR treatment* OR therap*)):ti,ab,kw)) AND ('prematurity'/exp OR 'neonatal intensive care unit'/exp OR nicu:ti,ab,kw OR 'neonatal icu*':ti,ab,kw OR 'newborn icu*':ti,ab,kw OR lbw:ti,ab,kw OR preterm*:ti,ab,kw OR 'pre term*':ti,ab,kw OR preemie*:ti,ab,kw OR prematur*:ti,ab,kw OR ((low NEAR/3 birth NEAR/3 weight*):ti,ab,kw) OR ((neonatal NEAR/3 intensive NEAR/3 care):ti,ab,kw)) AND ('length of stay'/exp OR los:ti,ab,kw OR (((length* OR hospital*) NEAR/3 stay*):ti,ab,kw)) NOT [conference abstract]/lim AND ([embase]/lim NOT ([embase]/lim AND [medline]/lim) OR ([embase classic]/lim NOT ([embase classic]/lim AND [medline]/lim))) AND [english]/lim	a) 6
PubMed	("Manipulation, Osteopathic"[mesh] OR OMT[tiab] OR OMTh[tiab] OR "osteopathic manipulation"[tiab:~5] OR "osteopathic manipulative"[tiab:~5] OR "osteopathic treatment"[tiab:~5] OR	6

	"osteopathic treatments"[tiab:~5] OR "osteopathic therapy"[tiab:~5] OR "osteopathic therapies"[tiab:~5]) AND ("Infant, Premature"[Mesh] OR "Intensive Care Units, Neonatal"[Mesh]OR NICU[tiab] OR LBW[tiab] OR preterm*[tiab] OR pre-term*[tiab] OR preemie*[tiab] OR prematur*[tiab] OR "low birth weight"[tiab:~3] OR "neonatal intensive care"[tiab:~3]) AND (systematicreview[Filter]) Filter: systematic reviews	

Figure: Literature Search Flow Diagram



Title: *Osteopathic Manipulative Treatment for Premature Infants*
Word Count: Answer: 114, Evidence Summary: 605, total: 719

HDA Question: Does osteopathic manipulative treatment decrease length of stay for premature infants?

Evidence-Based Answer

Osteopathic manipulative treatment (OMT) in premature newborns admitted to the NICU leads to a moderate decrease in length of stay (LOS) that is most apparent in more premature infants (GA <32 weeks), but the lack of high-quality trials indicates more research is needed in this area. (SOR B, systemic review and meta-analysis)

OMT leads to a decrease in LOS by almost four days in premature infants and is even higher in lower gestational age premature infants (SOR: B, multicenter RCT)

OMT leads to a decrease in LOS by an average of 12 days in premature infants, with a larger effect of >30 day decrease in gestational ages 27-31 weeks. (SOR: B, observational, retrospective cohort)

Methods

This clinical question was developed as an HDA through a standardized, systematic methodology (HDA Methods, Supplemental Digital Content).

Evidence Summary

The study "Osteopathic manipulative treatment showed a reduction in length of stay (LOS) and costs in preterm infants" was a systematic review and meta-analysis of five trials from multicenter randomized control trials (RCTs), quasi RCTs, and controlled clinical trials for a total study population of 1306 preterm infants.[1] Studies included preterm infants who were clinically stable or recovering from acute illness and evaluated the impact of OMT vs. usual care. Four out of the five trials had length of stay as their primary outcome with the fifth study having it as a secondary outcome. This meta-analysis revealed a significant difference in LOS of 2.71 days in premature infants receiving OMT ($p<0.001$) vs usual care, saving the local healthcare system more than 1500 euros per infant. Of note, high prematurity infants (<32 weeks) had the greatest benefit from OMT, decreasing LOS by a mean of 9 days ($P<0.001$) and late preterm infants had the least effect, with decrease of LOS by a mean of 2 days ($P<0.01$). Limitations that may impact validity of this study include small sample size in subgroup analyses and lack of data showing long term effects, specifically regarding respiratory and neurologic outcomes.

The study "A multicenter, randomized, controlled trial of osteopathic manipulative treatment on preterms" was a multicenter randomized single blind parallel group trial where 695 preterm

newborns between gestational ages of 29-37 weeks admitted to the NICU were assigned to OMT vs usual care.[2] The OMT group was evaluated and then treated by a registered osteopath. The primary outcome was mean difference in days of hospitalization between study and control groups. The average hospitalization was 13.8 days for the study group and 17.5 for the control group, which by multivariate analysis corresponded to a statistically significant decrease in LOS by almost 4 days ($P<0.02$). Of note, a lower gestational age was found to have a statistically significant decrease in LOS ($P<0.001$) and revealed a larger effect of OMT. There were no significant adverse events noted and no morbidities or complications were noted after OMT. This RCT was limited by lack of generalizability (the majority of patients were clinically stable), few protocol variations, and mother's pregnancy data not being systematically collected during entire pregnancy, only at delivery. This RCT was included in the systematic review and meta-analysis mentioned above,[1] but was the largest and most recent RCT so was included to give an example of primary evidence and provide insight into how a study could be replicated to provide more evidence to investigate the primary outcome of LOS in the future.

The study "Osteopathic manipulative treatment in neonatal intensive care units" was an observational, longitudinal, retrospective study where 1249 babies were recorded with 642 receiving usual care and 597 receiving OMT.[3] The cohort was followed from admission to discharge, and subjects received OMT if they were admitted on consecutive days an osteopath was on service and received usual care on days without osteopath. The primary end point was weight and there were multiple secondary end points, one of which included reduction in length of stay (LOS). Of the 1249 subjects, 611 were preterm (48.9%), 315 of which received routine care and 296 received OMT. There was no statistical significance in LOS in the overall population, however, there was a statistically significant difference in LOS in preterm babies of 12.3 days ($P<0.04$). The sub-group with the largest benefit was preterm babies born at 27-31 weeks, where a statistically significant mean estimated difference of 39.4 days ($P<0.005$) in LOS was noted in OMT vs usual care. This study was limited by its retrospective design and lack of information and discussion about potential confounding variables.

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Kimberly Krawzak, MD

Projects Completed During Residency:

Community Health Learning Experience:

Chop Chop Cooking Class

Scholarly Project:

Dosing of Vitamin D in Pregnancy

We conducted a literature review to write an FPIN HelpDesk Article answering the question "What dose of Vitamin D in pregnancy is safe and effective?" In healthy pregnant individuals, including those at risk for or with vitamin D deficiency, optimal dosing of vitamin D is unknown based on current evidence. Doses of 600-5,000IU/day may reduce the risk of preeclampsia, gestational diabetes, preterm birth, small for gestational age birth and fetal mortality (SOR B: meta-analysis of low quality RCTs). Generally, doses up to 4,000IU are considered safe and effective (SOR C: ACOG expert opinion).

I would like to thank my family who have supported me unconditionally on my journey through medicine, my friends who kept me sane in the process, my mentors and co-workers who taught me the art of teamwork, my patients who have been some of the best teachers in innumerous ways, and my partner, Ryan, who helps me thrive through it all. Thank you.

Kimberly Krawzak, MD (she/her), was born and raised in Streamwood, IL. She earned her undergraduate degree in Biology and Biochemistry from Lawrence University in Appleton, WI. While in Appleton, Kimberly volunteered with a local hospice organization, where she enjoyed getting to know patients and their families and sharing in their grief, happiness, and nostalgia. She returned to Illinois and earned her medical degree from the University of Illinois College of Medicine – Peoria. As a member of the public health interest group, Kimberly helped organize the annual Health Disparity Forums for the local community. Her experience coordinating the disability and ableism workshop helped shape her passion of working to ensure that healthcare services are accessible to all patients. She also conducted research on patients' experiences utilizing food pantries, soup kitchens, and government assistance to combat food insecurity. This has inspired her to think creatively about working with patients and building coalitions of community partners to break down complex social situations. Kimberly strives to provide public health-informed family medicine to resolve health disparities and provide holistic patient care. Kimberly's hobbies include collecting indoor plants, finding new places to eat, hiking, singing, painting, video games, and enjoying the next big Netflix show.

Project Name: ChopChop Cooking Club

Primary Community Member Contact: Taylor Johnson

Resident Name: Kim Krawzak, Jo Sherrill

Faculty Partner: Dr. Allison Couture

Situation: Childhood obesity is a growing concern given its association with negative health consequences in adulthood. Numerous factors contribute to the development of obesity including limited access to nutritious foods, limitations of time leading to choosing convenient options that are often ultra processed, and preferences for certain foods, among others.

Background: The ChopChop Cooking Club aims to empower families to create nutritious, affordable, and convenient meals while learning about cooking and health. By engaging families, local food pantries, nutritionists, and physicians, ChopChop enhances education through community. Classes include several fun, less than 30-minute recipes which participants learn to cook with the guidance of an instructor. It is a safe environment to try new foods and learn cooking techniques, all of which are geared toward children ages 5 and up, thereby promoting important life skills starting in childhood.

Assessment: By applying an equity lens to this work, we found that it was important to be mindful of the availability of certain foods. While each class included all supplies and ingredients for the session, the goal is for families to be able to incorporate the recipes learned into their own routine. For instance, not all families may be able to purchase certain foods or produce. As instructors, we needed to be mindful of the recipes we used to make sure all ingredients were easily accessible. We were also mindful that there may be differences in language proficiency between families and so classes were also available in Spanish.

Reflection: There were several strengths and challenges to this project. Strengths include the unity of numerous community stakeholders from different areas of Madison to promote nutritious eating habits in childhood. Sessions also provided a safe space for children and families to try new foods and learn new skills without judgement, enhancing their joy and curiosity around food. The highly interactive sessions also promote different kinds of learning for children, including reading, writing, familiarity with using different units of measurement in recipes, along with fine and gross motor skills. Challenges of this project included logistic issues with making sure families knew where to go and where to park at each facility that classes were hosted in. Another challenge was recruiting new families from the community. Once engaged, families tended to return for more sessions, but the initial recruitment proved a bit difficult.

Next steps for this project could be implementing a formal evaluation or feedback form from participants so that we can tailor classes to meet the needs of the community. Perhaps a QR code with a short survey that participants could do at the end of the class could shed light on any requests, benefits, or challenges that families experience. A streamlined approach to recruiting new families is also needed to make sure we are reaching the diverse Madison community, meeting their needs, and promoting nutritious habits.

The ChopChop Cooking Club was a fun and exciting opportunity to get involved in the community while teaching families and children about the importance of including nutritious foods in daily meals. ChopChop taught me that, as a Family Medicine physician, it is important to ask families about any barriers to food security, any limitations in their ability to cook food, or any specific food preferences they have before advising on any changes to eating habits. Only by meeting families where they are can we promote safe and effective nutritious habits.

Acknowledgments: Allison Couture, DO; Jo Sherril, MD; Molly Vernon, MD; Badger Prairie Needs Network; The East Madison Hospital Learning Kitchen; ChopChop Magazine; UW Health Nutrition staff and dietetic students

Micah Larson, MD

Micah Larson, MD (they/them), is a native Wisconsinite and claims Madison as their hometown. After completing their undergraduate degree in Anthropology and Biochemistry from Arizona State University, Micah returned to Madison to attend medical school at the University of Wisconsin School of Medicine and Public Health. Micah is passionate about providing high quality care to the underserved and members of the LGBTQ+ community in particular. Micah is also dedicated to advocating for a national health plan and healthcare as a human right. To unwind from a busy day in the clinic and hospital, Micah enjoys crocheting, knitting, and cuddling with their dog.

Projects Completed During Residency:

Community Health Learning Experience:

Towards a Cooperative Future for LGBTQ+ Health Equity

Scholarly Project:

In patients undergoing feminizing hormonal therapy, does adding progesterone influence breast development?

Micah is in the process of completing their scholarly project. Their project is a Family Physicians Inquiry Network (FPIN) Help Desk Answer (HDA) on the question "In patients undergoing feminizing hormonal therapy, does adding progesterone influence breast development?" FPIN HDAs are reviews of literature focused on providing evidence-based answers to clinical questions in a structured format.

Thank you to my family for their patience with the process of me becoming a doctor. Thank you to my parents for providing their support in a variety of ways, including watching my beloved dog Inky when I was on away rotations. Thank you to my sister, Karissa, for always being there for me to vent to about the trials and tribulations of residency (and roommate life).

Title: Towards a Cooperative Future for LGBTQ+ Health Equity

Primary Community Member Contact: Levi Katz

Faculty Partner: Maddie Batzli

Situation: There are numerous organizations in Madison and statewide that are working to improve LGBT+ health equity in Wisconsin, but there is a lack of opportunities for these organizations to collaborate. This makes it difficult to share resources, coordinate efforts, and network.

Background:

Who are the stakeholders engaged?

- Center for patient partnerships
- DFMCH
- Community members affiliated with various organizations including Outreach, Trans Medical Mutual Aid, Public Health of Dane County

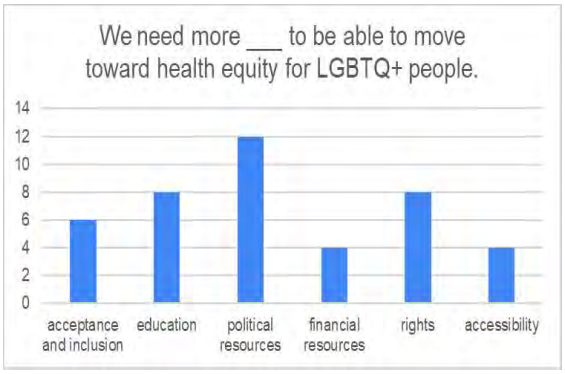
What are the aims of the project?

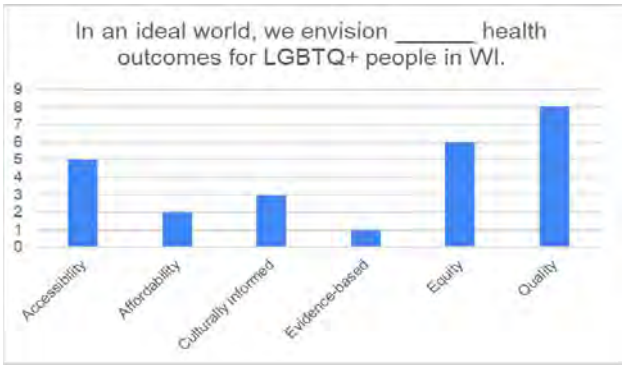
- Improve collaboration between local organizations focused on LGBT+ health equity.
- Share resources between organizations to best leverage the expertise of each organization.
- To provide space to discuss the barriers that exist to achieving LGBT+ health equity and identify common themes in the challenges faced by various organizations.

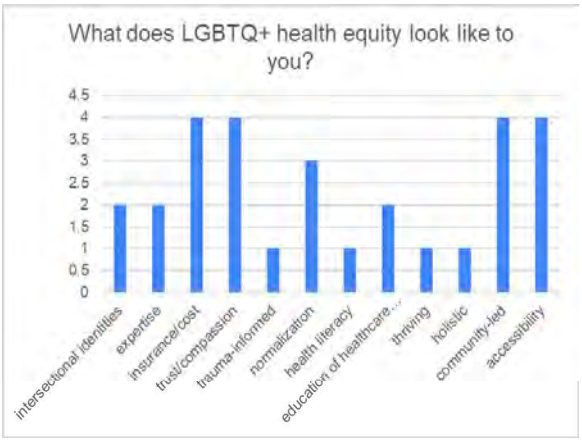
Methods for Evaluation

- We collected data at the initial networking/kickoff event by inviting attendees to answer various questions related to LGBT+ health equity including what is needed to achieve this goal, what health equity would comprise in an ideal world, and what skills and resources attendees are able to contribute. We then qualitatively coded responses to identify common themes.

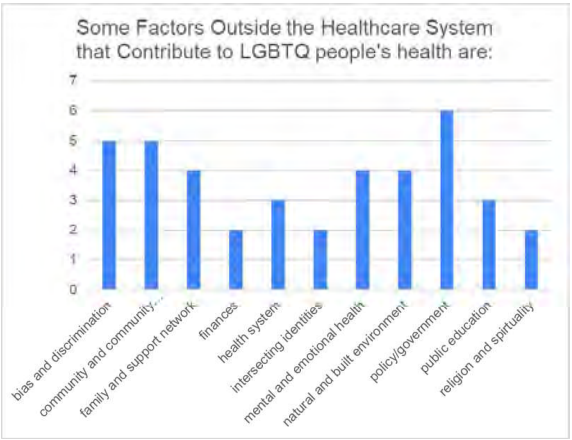
Assessment

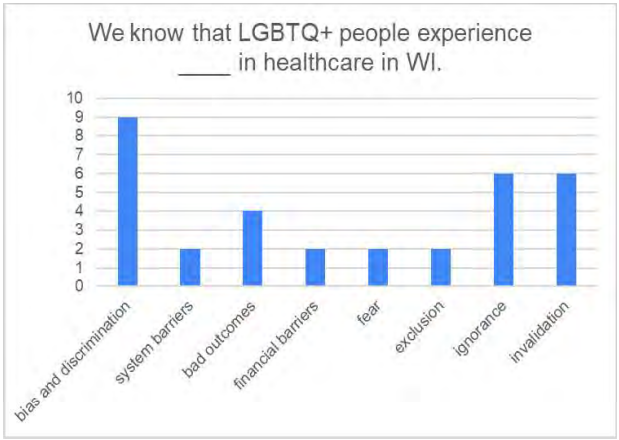






Tables 1-5: Results of qualitative coding of responses to questions which attendees responded to at the networking/kickoff event. Some common themes are bias and discrimination, financial resources, and quality of care and knowledge of providers.





Recommendations/Reflections

What are appropriate next steps?

- Create work groups within the LGBT+ health equity coalition to address the barriers identified in the qualitative data. Potential work groups include:
    - Healthcare provider education
    - Political advocacy committee
    - Financial resources, advocacy for insurance coverage

What were the strengths and challenges of this experience?

- One strength was also a challenge of this work; the multitude of stakeholders engaged in this coalition has broadened the scope of what is possible to achieve but also has made coordinating scheduling and deciding priorities a challenge.
- Many of the stakeholders are part of large organizations and navigating when each member can act on behalf of their organization vs acting on their own behalf is a challenge.

How does this experience inform your future practice in family medicine?

- Most immediately, I plan to continue my work with the nascent LGBT+ health equity coalition during my LGBT+ health fellowship. More broadly, I have gained skills in collaborating with community organizations.

Evelyn Luner, MD

Projects Completed During Residency:

Scholarly Project:

Management of Early Pregnancy Loss

Community Health Learning Experience:

Capitol High Volunteer

For my community health project, I participated in volunteer sessions at Capital High School, a high school in the Madison public school system that provides extra support for students who struggle with more traditional schooling. A subset of these students are teens who are soon-to-be parents or new parents, and our volunteer program works closely with these students in parenting and health classes. We taught lessons on pregnancy, caring for infants, emotional well-being, among others. We also had the opportunity to have some one-on-one discussions with some students who were going to be parents and provide them with support and answer their questions. The overall goal of this volunteer partnership is for our presence in these classes to help the students feel more comfortable with doctors and other health professionals.

Evelyn Luner, MD (she/her), is drawn to family medicine because of the ability to form long-term relationships with patients and partner with them in their care. She also is passionate about community engagement and advocating for her patients. Her underlying approach to medicine and community health is doing the small acts that make things better for patients and communities. Evelyn is from Waterford, CT and she earned her undergraduate degree in Neuroscience and Public Health from the College of William and Mary. She worked as a clinical research coordinator at Massachusetts General Hospital, where she discovered how much she enjoyed working directly with patients and developing relationships with them. While in medical school at the University of Connecticut, she participated in the Urban Service Track program which sparked her interest in working with urban and underserved populations, as well as a desire to partner with communities to address social determinants of health and healthcare disparities. Evelyn is passionate about women's health, reproductive justice, advocacy, public health, primary care, health equity, and gender-affirming care. When Evelyn is not in the clinic, she enjoys hiking, cooking, baking, yoga, reading, and exploring new coffee shops and restaurants.

I want to thank my family and friends for supporting me over the last several years and for planning multiple major life events around my residency schedule. Thanks to all of my fellow R3s for being the family I was hoping to find when I matched at this program, and special shoutout to my Wingra co-residents for helping me thrive in the chaos for the last three years. And a bonus thank you to my intern buddy Aimee for all of our long signout chats at St. Mary's intern year and beyond. I couldn't have done it without all of you!

Management of Early Pregnancy Loss

Ashlyn Brown, MD; Evelyn Luner, MD; Jessica Dalby, MD

University of Wisconsin-Madison
Department of Family Medicine and Community Health

Pre-Test!

1

Disclosures

We do not have any relationships with commercial interests to disclose.

We intend to reference unlabeled or unapproved uses of drugs or products in this presentation.

2

Learning Objectives

1. Counsel patients on risks and benefits of management options in early pregnancy loss.

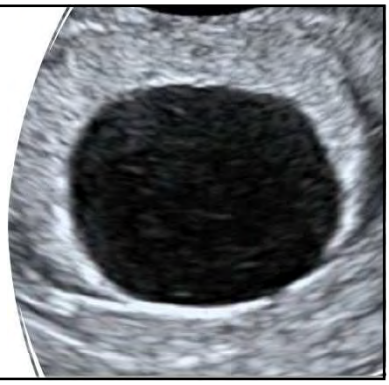
2. List the REMS requirements for prescribing mifepristone.

3. Perform the steps of a uterine aspiration procedure.

3

Background

- Early Pregnancy Loss is common
- Many want to receive care in primary care setting
- 47% of providers offer medication management
- 11% of providers offer MVA



4

Case 1

Charlotte is a 28yo G2P1 who presents for OB intake after a positive pregnancy test at home. Her LMP was 9 weeks ago. An ultrasound confirms a fetal pole >7mm with no cardiac activity.

5

Diagnosis – Ultrasound Findings

NEJM 2013

Table 2. Guidelines for Transvaginal Ultrasonographic Diagnosis of Pregnancy Failure in a Woman with an Intrauterine Pregnancy of Uncertain Viability

Findings Diagnostic of Pregnancy Failure	Findings Suspicious for, but not Diagnostic of, Pregnancy Failure
Crown-rump length of ≥ 7 mm and no heartbeat	Crown-rump length of < 7 mm and no heartbeat
Mean sac diameter of ≥ 25 mm and no embryo	Mean sac diameter of 16-24 mm and no embryo
Absence of embryo with heartbeat ≥ 2 wk after a scan that showed a gestational sac without a yolk sac	Absence of embryo with heartbeat 7-13 days after a scan that showed a gestational sac without a yolk sac
Absence of embryo with heartbeat ≥ 11 days after a scan that showed a gestational sac with a yolk sac	Absence of embryo with heartbeat 7-10 days after a scan that showed a gestational sac with a yolk sac
	Absence of embryo ≥ 6 wk after last menstrual period
	Empty amnion (amnion seen adjacent to yolk sac, with no visible embryo)
	Enlarged yolk sac (> 7 mm)
	Small gestational sac in relation to the size of the embryo (< 5 mm difference between mean sac diameter and crown-rump length)

6

Case 1 Discussion

What are the management options for early pregnancy loss in this setting?

For each option:
1. What are the risks and benefits?
2. What is the likelihood of success?
3. What patient factors might make this option the best choice?

Resource exploration: https://www.reproductiveaccess.org/miscarriage/

7

Success of Expectant Management

Luise C, et al. BMJ 2002; 324(7342):873-5.

Group	N	Complete Day 7	Complete Day 14	Success Day 49
Incomplete	221	117 (53%)	185 (84%)	201 (91%)
Fetal demise	138	41 (30%)	81 (59%)	105 (76%)
Anembryonic	92	23 (25%)	48 (52%)	61 (66%)
TOTAL	**451**	**181 (40%)**	**314 (70%)**	**367 (81%)**

8

Success Rates with Medication Management

Medical management can be done with misoprostol alone or with the combination of mifepristone followed by misoprostol 24 hours later.

Success Rate (expulsion of gestational sac) by day 2	Misoprostol Alone	Mifepristone and Misoprostol
All subcategories of EPL	67%	84%
Embryonic demise	68%	85%
Anembryonic	65%	80%

Schreiber, CA et al. Mifepristone Pretreatment for the Medical Management of Early Pregnancy Loss. N Engl J Med 2018; 378:2161-2170

9

Guidelines for Medical Management

1. **Appropriate candidate<12 WGA by US**
2. **Mifepristone 200mg (one tab) orally**
   - Dispensed in the office or prescribed to pharmacy
2. **Misoprostol 800mcg (four tabs) vaginally**
   - 24 hours following mifepristone
   - Without mifepristone, use when convenient
   - Repeat misoprostol dose in 24 hours if no bleeding or only light bleeding
3. **Pain and nausea management**
   - Ibuprofen 600mg Q6 hours
   - A few tablets of opioids available if needed
   - Promethazine or ondansetron

10

Contraindications

- Confirmed or suspected ectopic pregnancy
- Chronic adrenal failure
- Concurrent long-term corticosteroid therapy
- +/- Concurrent anticoagulation therapy
  - ASA okay
  - Contraindicated with warfarin or DOAC
- Inherited porphyrias
- Current IUD use
- Allergy

11

Regulatory Background of Mifepristone

- Developed 1980, First available internationally in France in 1987
- Mifepristone has been used in the US since FDA approval in 2000 for medical abortion
- Subject to significant scrutiny - federal REMS (Risk Evaluation and Management Strategy)
- Requires Provider Agreement to follow REMS on file with company

12

REMS requirements
As a condition of certification, healthcare providers must follow the guidelines for use described below:

- Review the **Patient Agreement Form** with the patient and fully explain the risks of the mifepristone treatment regimen. Answer any questions the patient may have prior to receiving mifepristone.
- Sign the Patient Agreement Form and obtain the Patient's signature on the form.
- Provide the patient with a copy of the Patient Agreement Form and Medication Guide.
- Place the signed Patient Agreement Form in the patient's medical record.
- If dispensing mifepristone in clinic, record the **serial number** in the MAR of patient's record.
- Report any deaths to the Mifepristone Sponsor that provided the mifepristone.

13

What Do You Need to Start Using Medication for EPL in Your Practice?

- A plan for when medication doesn't work: Office aspiration or referral
- Patient handouts: Available in multiple languages at reproductiveaccess.org
- Danco/GenBioPro distributor consent form (also available in multiple languages)
- Order mifepristone to stock in office or collaborate with a pharmacy that has been certified to dispense
- Clinical guidelines: https://www.reproductiveaccess.org/wp-content/uploads/2014/12/med_mngmt_of_miscarriage_miso_protocol.pdf
- Standardized documentation procedures (templates at reproductiveaccess.org)
- On-call group all familiar with medical management
- Understanding of local tissue disposition options

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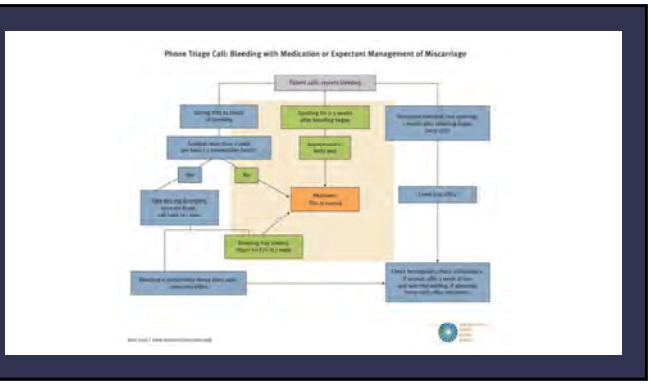
Case: Charlotte

You gave Charlotte your cell phone number to call if needed. She calls at 11pm after taking misoprostol around 6pm, noting she woke up with quite a bit of blood soaked through her pad and on the chucks in bed. She is feeling a little shaky and having a lot of cramping. She can't tell how much she is bleeding now.

15



16

Case: Charlotte

- You ask her to put in a new pad, eat a small snack and drink some water or tea and take 800mg of ibuprofen.
- You ask that she call you back if she soaks through this pad in the next 30 minutes or update you in 1 hour if she is feeling better.
- After an hour, she reports she thinks she passed tissue on the toilet and is now feeling better. You ask her to keep her appointment for follow-up in 10 days as scheduled.

17

Follow-up

- Review symptoms: bleeding/cramping, anemia sx, pregnancy sx
- Confirm complete passage of tissue
  - Trend HCG
    - HCG level on day of mifepristone admin and 7 days later
    - 80% drop ensures completion, if less than 80% TVUS needed
  - TVUS 7-14 days
    - Is there still a gestational sac?
    - Are there concerning symptoms?
    - Endometrial thickness does not predict retained POC
- Additional steps:
  - Mood check-in, emotional support as needed
  - Planning for repeat pregnancy/contraception

18

Case 2

Bailey is a 28yo G2P1 with a positive pregnancy test and LMP 13 weeks ago. An ultrasound confirms anembryonic pregnancy with mean sac diameter >26mm and no fetal pole and they now present to your clinic for management options.

19

Manual Vacuum Aspiration

- Removal of the pregnancy tissue with a handheld device
- 98-100% success rate
- Procedure lasts for 5-10 minutes
- Some light bleeding can occur off and on for the next 1-2 weeks, but is typically only in the first 3-7 days following the procedure
- Cramping following the procedure can be managed with NSAIDs and typically resolve within a week
- **MVAs do not lower a patient's chance of getting pregnant again**

20

MVA in Primary Care

- MVA is a procedure that can be safely performed in the office setting
- Compared to a D&C
  - It is lower cost
  - Reduced wait times because it is easier to schedule office procedures
  - Has been shown to be less painful
  - It is also quiet, which may lead to less patient stress/fear
- The steps of the procedure are similar to performing an endometrial biopsy, with two exceptions:
  - A paracervical block is indicated
  - Dilation of the cervix may be required

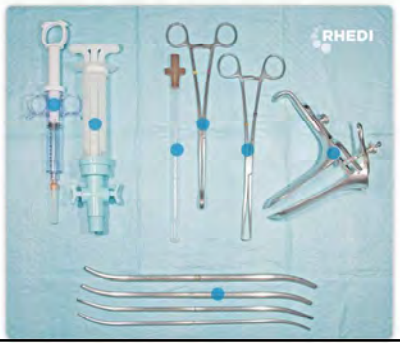
21

Medication	Aspiration
Up to 11-12wks GA	14-16wks GA
1-2 days to complete	5-10 minutes to complete
95-99% effective	>99% effective
Privacy of own home	Office based, support staff around

From: TEACH Abortion Online Curriculum

22

Sample tray setup for MVA



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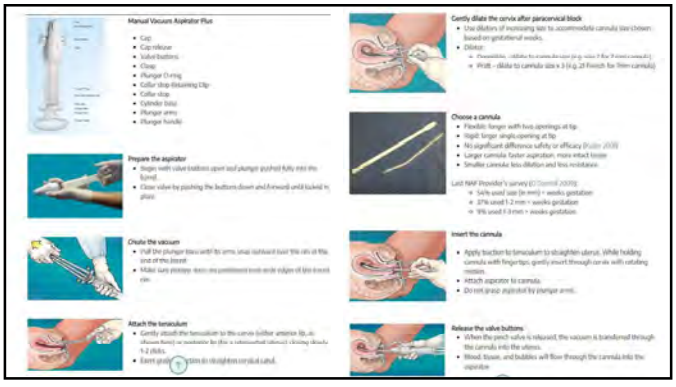

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Post-Survey

Justin Lynch, MD

Projects Completed During Residency:

Scholarly Project:
Hypertension: Discussion?

I found after a short interval, simple discussion with patient's regarding what blood pressure is, why control of blood pressure is important, and why sometimes medications can be needed did improve patient's willingness to try medication and did improve blood pressure levels.

Justin Lynch, MD (he/him), is drawn to family medicine so he can provide holistic, longitudinal care for his patients. He is from Coon Rapids, MN and he earned both his undergraduate degree in Biochemistry and his medical degree from the University of Minnesota. In medical school, Justin learned the importance of partnering closely with and advocating for patients during their healthcare journeys. He is committed to being present for patients and respects the vulnerability that exists when patients seek care for complex diseases. Justin is also interested in providing preventive care to his patients. He works tirelessly to integrate the science and art of medicine with patients' goals to develop an actionable care plan. He is a lifelong learner and has a curiosity that he utilizes to learn more about his patients and their care. Outside of the clinic, Justin relaxes by playing chess, video games, and Dungeons and Dragons and he also enjoys outdoor activities such as hiking, fishing, wakeboarding, kayaking, canoeing, and snowboarding.

Quality Improvement

- Focused discussion on importance of blood pressure medication and blood pressure control

- Dr. Justin Lynch

1

Disclosures

None

2

Population Studied/Demographics

Patients aged 40-75 with new diagnosis of Hypertension and not currently on blood pressure medication

Seen in clinic over measurement duration (2 months)

3

Intervention

Discussion of 2-5 minutes regarding the importance of blood pressure control and the risks and benefits of blood pressure medication

No discussion is the control group

Measured outcome is improvement in blood pressure control and willingness to start a blood pressure medication

4

Results of Intervention

20 patient's total over 2 months October 2024-December 2024

10 patient's with the intervention of 2-5 minute BP and medication discussion.

10 patient's without significant discussion

After 2 months and follow up 9/10 patient's who received 2-5 minutes of BP medication and BP control discussion were adherent to medication

7/10 patient's who did not receive 2-5 minute discussion did take the prescribed blood pressure medication

5

Limitations and discussion

Increased initiation and adherence to BP medication with dedicated discussion

Obvious limitations are low number of patient's in study and there were no controls for confounding variables such as outside information the patient could have access to

6

Viktoriya Ovsepyan, MD

Projects Completed During Residency:

Scholarly Project:

Practical Recommendations for Minimizing Pain and Anxiety with IUD Insertion

Community Health Learning Experience:

Volunteering at the MEDiC Southside Free Clinic

For my Community Health Learning Experience (CHLE), I volunteered at the MEDiC Southside Clinic, a student-run, free clinic that provides medical care to uninsured individuals in Dane County. This experience was both rewarding and valuable, as it allowed me to work closely with a predominantly immigrant population while learning to deliver medical care with limited resources. I also had the opportunity to support the education of medical students by supervising patient visits and helping students improve their history-taking and clinical reasoning skills.

Thank you to my family for their unwavering love and support, my parents and sisters have always motivated and inspired me the most to succeed! I am also incredibly grateful for the wonderful faculty mentors that I've had in residency, their guidance has been invaluable. I will cherish my friendships from residency as well! My co-residents are some of the most kind-hearted, thoughtful, hard-working, and brilliant individuals that I have ever met and I feel very fortunate to have been able to train alongside such a phenomenal group of people. No one achieves anything significant alone and I will forever be grateful to the team of people who helped lead me to success.

Viktoriya (Vika) Ovsepyan, MD (she/her), is committed to breaking down barriers to healthcare and advocating for social justice. She is from Cedarburg, WI and she earned her undergraduate degree in Gender and Women's Studies, with a minor in Global Health, from the University of Wisconsin-Madison. While in college, Vika worked at the UW Women's and Sexual Health Clinic, which sparked her interest in women's health and taught her the importance of providing reproductive health services and empowering young adults to lead healthy lives. She completed a community health internship with a domestic violence women's shelter in Wisconsin Rapids, WI. From this, she experienced the importance of providing trauma-informed care. Vika earned her medical degree from the UW School of Medicine and Public Health. She participated in the TRaining in Urban Medicine and Public Health (TRIUMPH) program in Milwaukee. This experience prepared Vika to serve medically under-resourced populations and promote health equity through advocacy and community engagement. As part of the TRIUMPH focus on public health, she partnered with the Milwaukee Health Department to increase access to sexual health services for uninsured patients. Outside of medicine, Vika enjoys spending time with family and friends, being in the great outdoors, and traveling.

Practical Recommendations for Minimizing Pain and Anxiety with IUD Insertion

Viktoriya Ovsepyan, MD, Petra Kelsey, MD, and Ann E. Evensen, MD

Background: **Intrauterine devices (IUDs) are one of the most effective, long-lasting, and convenient contraceptive methods available in the United States. Unfortunately, the anticipated pain and anxiety associated with an IUD insertion procedure deter many people from using this contraceptive method.**

Methods: **A literature review was conducted on PubMed by searching the terms "IUD insertion", "pain management", "anxiety", "gynecologic procedures". The Cochrane database was also searched for reviews about pain management methods during IUD insertions. Findings were summarized using the American Academy of Family Physicians' Strength of Recommendation Taxonomy (SORT) scale.**

Results: **Pharmacologic methods that can be used to reduce pain with IUD insertion include naproxen, tramadol, lidocaine paracervical blocks, 10% lidocaine spray, lidocaine-prilocaine cream, and EMLA cream. Non-pharmacologic methods for reducing pain or anxiety during gynecologic procedures include pre-insertion counseling, "verbal analgesia", lavender aromatherapy, distraction with music or television, using Valsalva maneuver instead of tenaculum during IUD insertion, and use of heating pad during procedure.**

Conclusion: **Moderately effective pharmacologic and non-pharmacologic methods exist for reducing pain and anxiety with IUD insertion. These treatment methods should be offered to create a more comfortable experience for patients. Additional research is needed to determine the comparative efficacy of these methods. (J Am Board Fam Med 2024;37:1150–1155.)**

Keywords: **Anxiety, Contraceptives, Evidence-Based Medicine, Intrauterine Devices, Pain Management, Reproductive Health, Women's Health**

Introduction

Half of all pregnancies in the US, about 3 million annually, are unplanned.[1] Unplanned pregnancies impose a significant socioeconomic burden on individuals and society. Individuals with unintended pregnancies are more likely to receive late prenatal care and as a result, their infants are at greater risk of being born with a low birth weight, dying in the first year of life, and are at greater risk of not receiving adequate resources for healthy development.[2] It is crucial to increase access to effective contraceptive methods, especially now that abortion care has become more restricted with the Dobbs vs Jackson Women's Health Decision.[3]

Intrauterine devices (IUDs) are one of the most effective, long-lasting, and convenient contraceptive methods available in the US The failure rates of IUDs and implants are less than 1% per year, significantly lower than other contraceptive options.[4,5] IUDs are also very cost-effective, with studies showing that individuals who use an IUD or etonogestrel implant may save thousands of dollars over a 5-year period compared with the use of birth control pills, condoms, patch, or vaginal ring.[6]

Unfortunately, the anticipated pain and anxiety associated with an IUD insertion procedure deter many people from using this contraceptive method. In one study of nulliparous and parous women who underwent IUD insertion, 17% of nulliparous

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From the University of Wisconsin School of Medicine and Public Health – Department of Family Medicine and Community Health Madison, Wisconsin (VO, AEE); One Medical Austin, Texas (PK).
Funding: None.
Conflict of interest: None.
Corresponding author: Viktoriya Ovsepyan, 2905 Monroe Street, Apt C, Madison, WI 53711 (E-mail: vovsepyan@wisc.edu).

women reported severe pain with placement of the IUD and 11% of parous women reported severe insertion-related pain.[7] Certain past experiences may increase anxiety and pain with IUD insertions as well, such as a history of sexual trauma, previous negative experience with a pelvic examination, or awareness of potential pain learned from a friend or family member.[8,9] Transgender patients who struggle with pelvic exams may also have more fear and anxiety with IUD insertions.[10] Publications on pain and anxiety related to IUD insertion have mostly been systematic reviews that did not offer guidance on how to apply this information to clinical cases. This article will summarize the available research about pharmacologic and nonpharmacologic methods for decreasing pain and anxiety with IUD insertions and explain how to apply this information in clinical medicine.

Methods

A literature review was conducted on PubMed by searching the terms "IUD insertion," "pain management," "anxiety," "gynecologic procedures." The Cochrane database was also searched for reviews about pain management methods during IUD insertions. Articles that discussed methods for reducing both pain and/or anxiety were reviewed since anxiety levels influence pain scores.[9] Because data about nonpharmacologic methods for decreasing pain is more limited than pharmacologic means, we expanded our search to include nonpharmacologic methods for reducing pain in *gynecologic procedures* in general, not just with IUD insertions. Tables 1 and 2 were created using the American Academy of Family Physicians' Strength of Recommendation Taxonomy (SORT) scale.[11]

Results

Pharmacologic Methods for Reducing Pain and Anxiety with IUD Insertion

Multiple systematic reviews have shown that both naproxen and tramadol decrease pain with IUD insertion, with tramadol having a greater effect on pain reduction.[12,13–14] Naproxen can also decrease pain after IUD insertion, with one study showing that pain scores were lower 5 and 15 minutes after IUD insertion among patients who took naproxen, compared with placebo.[15] Pain scores were also lower with tenaculum placement, during uterine sounding, and with IUD insertion among patients treated with lidocaine and prilocaine cream, eutectic mixture of local anesthetics (EMLA) cream, or 10% lidocaine spray before the start of the procedure.[12,16–19] Patients who received a paracervical block during the procedure also reported decreased pain with tenaculum placement, uterine sounding, and IUD insertion compared with placebo and pain scores were also lower 5 minutes after IUD insertion.[8,12,20–21] These recommendations are summarized in Table 1.

Table 1. Effective Pharmacologic Methods for Reducing Pain with IUD Insertion

Recommendation	Strength of Recommendation	Pros	Cons
Lidocaine-prilocaine cream and EMLA cream	A[8,12,16–17,19]	Decreased pain with tenaculum placement, during uterine sounding, and with IUD insertion	Not commonly stocked in clinics Needs to be applied ~5 to 15 minutes before procedure
10% lidocaine spray	A[8,12,16,18]	Decreased pain with tenaculum placement, during sounding, and with IUD insertion	Not commonly stocked in clinics Needs to be applied ~5 to 15 minutes before procedure
Lidocaine paracervical block 10-20 mL 1% lidocaine and 10 mL 2% lidocaine	A [8,12,20–21]	Decreased pain with tenaculum placement, uterine sounding, IUD insertion Decreased pain 5 minutes after placement	Pain with lidocaine injection
Tramadol 50 mg (orally)	A[12,13]	Decreased pain with IUD insertion, more pain reduction than naproxen	Needs to be taken 30 – 60 minutes before procedure
Naproxen 550 mg (orally)	A[12,13]	Decreased pain with IUD insertion, decreased pain 5 minutes and 15 minutes after insertion	Needs to be taken 30 – 60 minutes before procedure

Abbreviations: EMLA, Eutectic Mixture of Local Anesthetics; IUD, Intrauterine Device.

Generally, lidocaine gel has not been showed to be effective for reducing pain with IUD insertion.[12,22] One study found that self-administered 2% vaginal lidocaine gel before IUD insertion helped to reduce pain with tenaculum placement but had no effect on pain level with IUD insertion.[23] A novel 4% lidocaine formulation was shown to be effective for reducing pain with IUD insertion in a phase 2 clinical trial, but further studies of this lidocaine formulation are needed before its use can be medically recommended.[24]

Cervical ripening methods are also not effective at reducing pain with IUD insertion. There is a strong recommendation to avoid misoprostol because it is associated with cramping and higher pain scores during IUD insertion.[12,25] A recent meta-analysis of vaginal dinoprostone use vs placebo with IUD insertion showed statistically significant reduction in pain scores with tenaculum placement, sounding of uterus, and IUD insertion but these results were not clinically meaningful.[26]

Nonpharmacologic Methods for Reducing Pain and Anxiety with Gynecologic Procedures

The data about nonpharmacologic methods for decreasing pain with IUD insertions and other gynecologic procedures is limited.

A preprocedure counseling appointment is recommended. During this visit, the clinician should review what to expect during the IUD insertion procedure and discuss measures that can be taken to minimize discomfort. This visit is also an opportunity to provide reassurance and build a trusting relationship with the patient. These measures will help to alleviate a patient's anxiety and may decrease patient's pain during the procedure.[7,27–28]

Creating a calm, relaxing environment for the patient during the procedure can help to minimize discomfort during the IUD insertion as well. For instance, lavender aromatherapy has been shown to reduce anxiety during IUD insertions as well as during intrauterine insemination procedures.[29–30] Music has been shown to reduce anxiety and perception of pain during hysteroscopy and colposcopy.[28,31–33] Watching television during reproductive health care procedures, including IUD insertions, has a been effective at reducing anxiety.[34] Holding a warm compress to the lower abdomen during a procedure can also serve as a distraction and minimize discomfort.[7]

Since higher levels of anxiety contribute to higher levels of pain during gynecologic procedures, it is important to take steps to minimize patient's anxiety.[9,12] "Verbal analgesia" is effective at reducing pain and anxiety during gynecologic procedures.[7,35–37] Verbal analgesia is a technique in which the clinician calms and relaxes the patient by providing reassurance throughout the procedure multiple times using a low voice volume and slow rate of speech.[35] With this "verbal local" approach the clinician maintains continuous communication with the patient and explains each step of the procedure in a soothing, calming tone. One study that analyzed use of verbal analgesia during IUD insertion showed that verbal analgesia has the same analgesic effect as 50 mg of oral tramadol.[35]

Valsalva maneuver can be used instead of a tenaculum during IUD insertion to reduce pain and anxiety. One study compared the efficacy of IUD insertion with Valsalva maneuver versus tenaculum use and found that both methods were equally successful. In addition, the Valsalva maneuver was associated with less anxiety, less pain, and less bleeding with IUD insertion.[38] This study determined that immobilization of the cervix was the most important factor for passing an IUD through the cervical canal, and this could be achieved with Valsalva, which immobilizes the cervix and uterus by increasing intra-abdominal pressure. There were no cases of uterine perforation with use of Valsalva during IUD insertion. Another study compared the use of Valsalva vs tenaculum to pass a Pipelle device into the uterus for an endometrial biopsy; both methods were equally successful.[39] These recommendations are summarized in Table 2.

Evidence-based recommendations for choosing one pain-relieving measure over another do not exist. Shared decision making with the patient is an important alternative to help patients understand options and trade-offs for the different pain relief methods that the clinician has available in their setting. For instance, it is important for patients to know that lidocaine paracervical blocks can reduce pain with tenaculum placement and IUD insertion but may cause pain when injected into the cervix.[20] It is also helpful to offer more pain relief options to patients who are at higher risk for experiencing discomfort with IUD insertion, such as patients who are nulliparous, have a history of cervical stenosis, dysmenorrhea, or have significant preprocedure anxiety.[7,9,40] Please refer to Figure 1 for a case study that shows how to use pharmacologic and nonpharmacologic methods to reduce pain and anxiety with IUD insertion.

Table 2. Nonpharmacologic Methods for Reducing Pain or Anxiety with Gynecologic Procedures

Recommendation	Strength of Recommendation	Pros	Cons
"Verbal Analgesia"/"Vocal Local"	A[7,35–37]	Reduces anxiety and pain (with IUD insertion)*	Continuous communication with patient may be difficult for some clinicians
Lavender aromatherapy reduces anxiety	A[29,30]	Reduces anxiety, readily available, easy to offer in a clinic setting (with IUD insertion and intrauterine insemination)	Cost, some clinic settings are fragrance-free because of patient allergies and sensitivities
Distraction: Music	A[28,31–33]	Reduces anxiety and pain (with hysteroscopy and colposcopy)	May be distracting for clinicians
Pre-insertion counseling	B[7,27–28]	Reduces pain (with IUD insertion)	Requires additional appointment before IUD insertion
Valsalva instead of tenaculum use	B[38,39]	Reduces pain, less bleeding during procedure (with IUD insertion and endometrial biopsy, only multiparous patients included in both studies)	Evidence supports the use of tenaculum for cervix immobilization[7,41]
Distraction: watching TV	B[34]	Reduces anxiety, provides topic of conversation during procedure (with gynecologic procedures, including IUD insertion)	Cost, may be distracting for clinician
Heating pad during procedure	C[7]	May be distraction and/or source of comfort for patient (with IUD insertion procedure)	Cost

*Cited references support use for these procedure.
Abbreviations: IUD, Intrauterine Device.

Conclusion

Moderately effective pharmacologic and nonpharmacologic methods exist for reducing pain and anxiety with IUD insertion. These treatment methods should be offered to create a more comfortable experience for patients. Additional research is needed to determine the comparative efficacy of these methods.

Figure 1. Case study.

Jane is a 25 yr old patient who presents to clinic to discuss contraception options. She would like to get an IUD but is very anxious about the procedure. She heard from friends that an IUD insertion is very painful and could be a traumatic experience.

Based on her concerns, what can the clinician do to minimize the patient's anxiety and pain with the IUD insertion procedure?

You discuss the pharmacologic and non-pharmacologic options available for minimizing pain and anxiety with the IUD insertion. The patient has **naproxen*** that she takes for menstrual cramps and agrees to take a dose prior to the procedure and after the procedure as needed.

You review options for pain control during the procedure and Jane likes the idea of a topical preparation so you agree to use **lidocaine-prilocaine cream** and make a note to apply this at her return visit for the procedure. She expresses interest in non-drug options for pain control and enjoys music. You plan to use **distractions of playing music** on her iPhone during the procedure, along with a **heating pad**, and will provide **verbal reassurance** during the procedure. You review the steps of the procedure with Jane, answer her questions, and remind her that you can review this information again on the day of her procedure.

*bolded text are options for reducing anxiety and/or pain with IUD insertion procedure

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Kailin Randolph, MD

Kailin Randolph, MD (she/her), is a family physician because of the opportunity to see patients of all ages and across generations. She enjoys building long-term relationships with her patients and helping them achieve their health goals. She is passionate about understanding and addressing the complex factors that impact patients' health. Kailin earned her bachelor's degree in Applied Health Science and a certificate in Human Needs and Global Resources from Wheaton College. She completed an internship at a hospital in Uganda in which she saw firsthand the importance of addressing social determinants of health and increasing access to healthcare. After college, she earned her master's degree in Teaching from Dominican University. Her participation in Teach for America and time in the classroom shaped Kailin's desire to go into primary care. She is thankful to her students and their families for the countless lessons in leadership, communication, authenticity, and relationships. Kailin attended the Chicago Medical School at Rosalind Franklin University of Medicine and Science and was an active volunteer at the Interprofessional Care Clinic and learned the importance of allowing patients the time and space to communicate their care goals. Kailin can often be found hiking, running, cooking, crossword puzzling, and taking long walks with her dog.

Projects Completed During Residency:

Scholarly Project:

Pills, Patches, and Progesterone: Cases in Contraception Management

Community Health Learning Experience:

Capital High Parenting Program

The Capital High parenting program offers students that are pregnant or have children an opportunity to engage with topics on pregnancy care, parenting, child development, emotional wellbeing, and more in conjunction with their other academic coursework. Students with children also have the support of childcare within the school building. In working with the class, my co-residents and I were able to discuss health topics of interest to students, present a health care perspective on topics they were currently studying in class, and answer questions students had about engaging with the healthcare system.

To my husband Winston, thank you for your steadiness and sacrifice throughout every step of this journey. You have been my biggest cheerleader. Thank you to my parents, who inspired my path to medicine and provided so much love and support along the way. I am so grateful for my family, friends, mentors, and co-residents, your support means the world.

Pills, Patches, and Progesterone:

Cases in Contraception Management

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Disclosures

- We do not have any relationships with commercial interests to disclose.

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Learning Objectives

1. Counsel patients on effective use of the over-the-counter progesterone only pill, norgestrel
2. Discuss risks and benefits of subcutaneous medroxyprogesterone use
3. Critically appraise recommendations regarding hormonal patch use in patients with elevated BMI
4. Counsel patients on efficacy of non-hormonal vaginal pH altering gel

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Pre-Survey

4

CDC Contraception App

US MEC
US SPR
CDC

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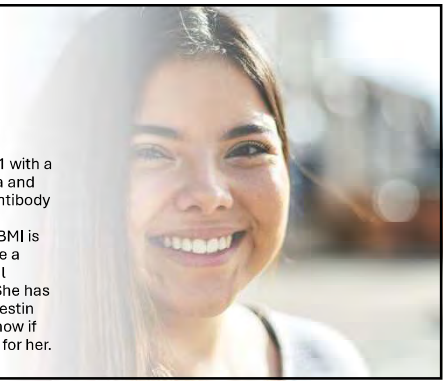
Case 1

Jessica is a 34 year old G1P1 with a history of migraine with aura and positive antiphospholipid antibody who presents to discuss contraceptive options. Her BMI is 26. Her only medications are a multivitamin and occasional NSAID use for headaches. She has heard about the online progestin only pill and would like to know if this would be a good option for her.



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CDC Contraception App Medical Eligibility Criteria (MEC)

- U.S. MEC 1 = A condition for which there is no restriction for the use of the contraceptive method U.S.
- MEC 2 = A condition for which the advantages of using the method generally outweigh the theoretical or proven risks U.S.
- MEC 3 = A condition for which the theoretical or proven risks usually outweigh the advantages of using the method U.S.
- MEC 4 = A condition that represents an unacceptable health risk if the contraceptive method is used

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Case 1 questions

- Would the progestin-only pill be a good option for Jessica?
- How would you counsel Jessica about side effects and reliability of the progestin-only pill?
- Are there any medications that would be contraindications to the progestin-only pill?
- What are the potential benefits and drawbacks of obtaining a progestin-only pill OTC versus through a provider visit?

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Progestin only pills

- The FDA recently approved the **Opill**, a progestin-only pill containing 0.075 mg of norgestrel for over-the-counter use
- It is a safe and effective birth control for most individuals, including those who are breast/chestfeeding and those who would like to avoid estrogen containing methods

Indications

- Individuals who are able to take a daily medication
- Individuals who would like to avoid an estrogen containing medication
- Individuals with h/o:
  - Thromboembolic disorders
  - Migraines with aura
  - Cardiovascular risk factors (cardiovascular disease, hypertension, and hypercoagulability)
  - Liver disease

Contraindications

- Current breast cancer
- Individuals with diagnosed abnormal uterine bleeding or with benign or malignant liver tumors
- There is a theoretical concern that hepatic enzyme induction medications (St. John wort, HIV medications, rifampin and certain anti-epilectic medications) may decrease the effectiveness of norgestrel

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Types of Progestin

Type of Progestin	Dosage	Efficacy	Additional comments
Norethindrone	0.35 mg daily	While effective, has a narrower therapeutic window and requires strict adherence to daily intake to maintain ovulation suppression	• First generation progestin • Moderate androgenic activity • Effective menstrual suppression • Higher incidence of irregular bleeding compared to newer progestins
Drospirenone	4 mg daily (24 active, 4 placebo)	It shows high efficacy in ovulation suppression and maintains ovulation inhibition even with a 24-hour delay in pill intake	• Fourth generation progestin • Derived from spironolactone (unique anti-mineralocorticoid and anti-androgenic properties) • Good option for treating androgenic side effects (acne).
Norgestrol	0.075 mg daily	Demonstrates high efficacy in ovulation suppression compared to other progestins.	• Second-generation progestin • Higher androgenic activity compared to norethindrone and drospirenone

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Counseling

- **When to start**: Any time during menstrual cycle, as long as the patient is not pregnant. If they start taking it within the first five days of their period, they will be protected from pregnancy immediately. If > 5 days they will need a backup method for 48 hours
- **How to take**: The pills should be taken daily at the same time each day. If a patient misses a pill by > 3 hours they should take the pill as soon as they remember and use a backup method for 48 hours
- **Effectiveness**: 98% (if taken perfectly), 91-93% (with typical use)
- **Side effects**: changes to periods (spotting or irregular bleeding) in ~ 48% of patients. Other side effects include nausea, worsening acne, headaches and breast tenderness

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Benefits and Drawbacks of Over-the-Counter Prescriptions

- Benefits:
  - Convenience of obtaining an medication without making an office visit
  - Increased accessibility in contraceptive options
- Drawbacks:
  - Patients may not receive the same level of counseling and support
  - Coverage by insurance may vary based on the insurance plan (ex: individuals in Wisconsin with Medicaid insurance can show forward health card and access the opill and plan B for free)

Opill costs $19.99 for a 1-month (28 pill) pack, $49.99 for a 3-month (84 pill) pack and $89.99 for a 6-month (168 pill) pack.

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Case 1 Conclusion

- Jessica understands that she is a good candidate for a progestin only pill and due to her busy schedule and history of migraines and anti-phospholipid syndrome, she plans to pick-up Opill at the pharmacy

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Case 2

- Susan is a 42 year old G4P4 with a history of well controlled hypertension and prediabetes who presents for IM Depo Provera (DMPA) in clinic. She is there with 2 of her children for well child checks. The nurse finds you because she is only 9 weeks from her last injection, but is requesting early administration because of work and upcoming travel plans. Blood pressure today is 144/92.

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Case 2 Questions:

- What is the US MEC category for DMPA with well controlled hypertension?
- Her blood pressure today is above goal, does that change her US MEC category?
- What if her blood pressure today was 166/102?
- Can she get her Depo shot today in clinic?
- What other alternatives should you discuss with her?

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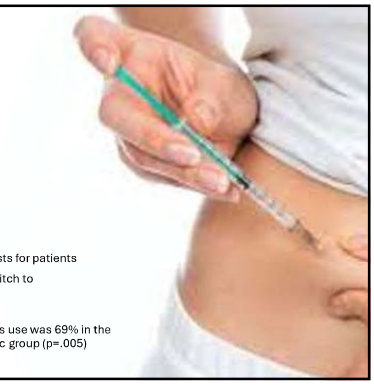
Benefits of SubQ DMPA

- Smaller dose but equal duration and efficacy (potentially decreased adverse impact on BMD)
  - IM-150mg/mL vs SubQ-104 mg/mL
- Smaller needle/less painful
- Convenience of self-injection
  - Potential reduction in travel and childcare costs for patients
- Reduce healthcare team visits/ time if patients switch to administration at home
- Higher Rates of continuation
  - One study showed one-year DMPA continuous use was 69% in the self-administration group and 54% in the clinic group (p=.005)



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Potential Downsides of SubQ DMPA

- Studies show higher localized reaction site (increased redness) compared to IM (minor reactions that resolve within 7 days)
- Possible skin dimpling at site of injection
- No other side effects or adverse events were increased with self-administration

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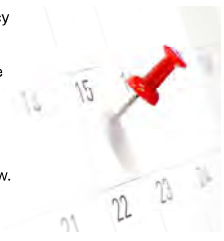
Case 2 Conclusion

- Susan had gestational diabetes in her last pregnancy that required insulin. She feels comfortable with SubQ injections and opts to have SubQ DMPA prescribed to her pharmacy with the plan to give the medication herself at home in 4 weeks.
- She calls in 6 weeks (15 weeks from her last injection) stating that she had trouble getting the medication from the pharmacy, but finally has it now.
- What guidance would you give her about managing late injections at home?



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Case 3

- Kelly is a 28 year old G0P0 with no significant past medical history who presents to clinic to discuss contraception methods. Her BMI is 34. She denies history of migraines, personal or family history of VTE. She previously was on combined oral contraceptive pills in her early twenties, but ultimately discontinued due to frequent missed doses. She has been using condoms consistently with recent intercourse. She is interested in starting hormonal patch for contraception.

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Case 3 Questions:

- What is the US MEC category for elevated BMI and hormonal patch use?
- What counseling would you give Kelly on use of hormonal patch?
- Is Kelly an appropriate candidate for hormonal patch use?

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	Norelgestromin /ethinyl estradiol patch	Levonorgestrel/ethinyl estradiol patch
Dose	Norelgestromin 150 mcg/day and Ethinyl estradiol 35 mcg/day	Levonorgestrel 120 mcg/day and Ethinyl estradiol 30 mcg/day
Where to apply	Upper outer arm, buttocks, abdomen or back	Buttocks, abdomen, upper torso
Use	Apply 1 patch every week for 3 consecutive weeks followed by off week for contraceptive method Apply 1 patch every week, including week 4 for continuous cycling to prevent menstruation.	Apply 1 patch every week for 3 consecutive weeks followed by off week for contraceptive method
Side effects	breast symptoms, nausea, headache, skin irritation at application site, abdominal pain, dysmenorrhea, dysmenorrhea, and mood, affect and anxiety disorders	Skin irritation at application site, nausea, dysmenorrhea, weight gain, headache

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Hormonal Patch Counseling

Initiation of Use:

- Starting on date of receiving prescription: if started > 5 days from last menstrual cycle, use barrier method for 7 days after initiation
- Starting on first day of menstrual cycle: if started within 5 days of menstrual cycle, immediately effective

How to Use:

- Apply patch to arm, abdomen, back (avoid breast tissue), buttocks
- Apply new patch once weekly for 3 weeks, on 4th week no patch use
- If patch falls off, replace immediately. If off for >1 day, should use back up method of contraception
- If patch remains on >9 days, will need back up method of contraception

Effectiveness:

~93% effective with typical use

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Patch Use & BMI

- FDA lists contraindication in patch for patients with BMI >30 with patch use due to increased VTE risk
  - Studies suggest risk of VTE is comparable to use of combined oral contraceptive or vaginal ring use
  - Limited data to suggest reduced effectiveness of patch with increased BMI, evidence is mixed
  - Other risk factors that should be considered with VTE risk: older age (40 or older), diabetes, smoking, family history of VTE, and dyslipidemia.
- In the absence of other risk factors, patch use is not contraindicated with patient history of obesity alone.

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Case 3 Conclusion

- After a risk and benefit discussion, Kelly feels that use of the patch for contraception will fit well with her lifestyle and she is excited to give it a try.

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Case 4

Faith is a 30 year old G0P0 with history of recurrent UTIs who presents to clinic for discussion on non-hormonal contraception. She was previously on a combined oral contraceptive, but struggled with taking a daily medication. She recently heard about a non-hormonal vaginal gel and wants more information about its efficacy and whether she would be a good candidate.

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Case 4 Questions:

- What is the efficacy of lactic acid, citric acid, and potassium bitartrate vaginal gel?
- How do you counsel patients on use of this medication?
- What are the safety considerations?
- Is Faith a good candidate for this non-hormonal contraceptive option?

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Lactic acid, citric acid, and potassium bitartrate Vaginal Gel

Lactic acid, citric acid and potassium bitartrate vaginal gel is an FDA approved non-hormonal on demand contraceptive.

Mechanism: Maintains vaginal pH to create environment to impair sperm motility (maintenance of physiologic vaginal acidity)

Appropriate use: A prefilled applicator is inserted into the vagina immediately before, or up to 1 hour before vaginal intercourse. Subsequent dosing should be applied in setting of more than one episode of intercourse within 1 hour.

Effectiveness: Studies suggest this non-hormonal gel has an efficacy of 86-89% with typical use and 96 % with ideal use over a six month period.

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Side effects and Contraindications

Side effect profile: Symptoms are localized. Not systemically absorbed.
- Vaginal burning
- Itching
- Bacterial vaginosis
- Vaginal candidiasis
- Urinary tract infection
- Partners may experiencing itching or burning

Contraindications:

Avoid in patients with recurrent urinary tract infections

Safety considerations:
- Can be used after childbirth when safe for return to vaginal intercourse
- Can be used in conjunction with condoms, hormonal contraceptives
- Cannot be used with vaginal rings

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Case 4 Conclusion

After discussion of non-hormonal vaginal pH altering gel as a contraceptive option, Faith decides to pursue an alternative due to her history of recurrent UTIs as well as a desire for a more-efficacious method. She opts to pursue a Paraguard IUD for contraception.

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Post-Survey

30

Resources

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- Reproductive Health Access Project
  - Patient education guides, clinical guidance: https://www.reproductiveaccess.org/contraception/
  - Progestin only users guide: https://www.reproductiveaccess.org/wp-content/uploads/2024/05/2024-08-Progestin-Only-Pills-4User-Guide_Final.pdf
  - Patch user guide: https://www.reproductiveaccess.org/wp-content/uploads/2014/12/factsheet_patch.pdf
  - Contraceptive Pearl: Patch and Elevated BMI: https://www.reproductiveaccess.org/resource/contraceptive-pearl-discussing-the-contraceptive-patch-and-bmi/

Rutvi Shah, MD

Rutvi Shah, MD (she/her), is drawn to family medicine because she appreciates the continuity of care and the ability to build long-term relationships with patients and families. She is from Madison, WI and she earned both her bachelor's degree in Biology and her medical degree from the University of Wisconsin – Madison. While in medical school, she served as her class representative and as a leader in the Family Medicine Interest Group. Rutvi is passionate about STEM education and has mentored students and volunteered at local schools and science fairs to teach kids about careers in medicine. She enjoys seeing the variety of patients in clinic and works with them to address acute and chronic concerns. She enjoys the wide range of procedures that family physicians include in their care, and she is always looking for opportunities to be involved in patient advocacy and community engagement. She can often be found spending time with family and friends, traveling (she's visited 25+ states so far), playing cards and board games, and enjoying the beauty of Madison.

Projects Completed During Residency:

Scholarly Project:

How PCPs Navigate InBasket and its Impact on Physician Workflows

Community Health Learning Experience:

MEDiC: A Student Run Free Clinic

Through my Community Health Learning Experience at MEDiC, I've had the opportunity to work closely with the un/underinsured population at our student-run free clinic. This experience has highlighted the crucial role of social determinants of health in shaping health outcomes. Interacting with patients from diverse backgrounds has deepened my understanding of the unique challenges they face. Working with and teaching medical students is another rewarding aspect, as I guide them through patient care and emphasize the importance of empathy, teamwork, and cultural awareness in providing effective healthcare.

I want to extend my heartfelt gratitude to my family, especially my parents and sister, whose unconditional love and support have been the foundation of my journey to becoming a doctor. Your belief in me has been my greatest motivation, and I couldn't have accomplished this without you. To my fiancé, thank you for becoming such a meaningful part of this chapter of my life and for your love and support along the way. I also want to thank the wonderful mentors within the Department of Family Medicine for inspiring me to pursue family medicine and for your continued guidance. To my co-residents, thank you for all the memories—I wish you all the best for the next chapter. Thank you all for believing in me and for being such an integral part of my journey.

Primary Care Physicians' Experiences with Inbox Triage

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Keywords: triage; inbox; electronic health record; message; primary care

ABSTRACT

Introduction: Many primary care physicians (PCPs) feel overwhelmed by the number of electronic health record inbox messages they receive. The objective of this study was to characterize PCPs' experiences with inbox triage—the process of reviewing inbox messages and deciding when and how to address them.

Methods: We conducted three focus groups and one individual interview with nine PCPs at an academic medical center and coded the transcripts for themes related to inbox triage.

Results: We identified five themes related to PCPs' experiences with inbox triage: 1) inbox triage is a continuous process; 2) inbox triage involves different team members performing multiple activities, including identifying messages better addressed through synchronous care, preparing messages to be reviewed by PCPs, and prioritizing messages; 3) PCPs prioritize messages based on multiple factors including clinical urgency, time constraints, and team member involvement; 4) team support for inbox triage varies by clinical experience, team stability, and co-location; and 5) patient expectations and clinic practices help make inbox triage a continuous process, requiring PCPs to establish personal policies to constrain inbox work.

Discussion: Designers of clinic workflows, healthcare policy, and health information technology should aim to support the diverse activities involved in inbox triage, message prioritization based on multiple factors, and the collaborative process of establishing and communicating messaging norms.

Conclusion: Inbox triage is a collaborative and continuous process that requires PCPs to evaluate multiple aspects of each message, find time to address those messages during busy clinic days, and negotiate different expectations for messaging behavior.

INTRODUCTION

Primary care has changed dramatically in recent years as a sustained increase in demand for asynchronous care has led primary care providers (PCPs) to spend more time in their electronic health record (EHR) inboxes.[1,2] In March 2019, PCPs at one health system were already spending more than one hour each clinic day in their EHR inboxes, reviewing and responding to messages.[3] A year later, PCPs across the country saw a sharp increase in both the number of messages they received from patients and the time they spent in their inboxes as the COVID-19 pandemic disrupted in-person care.[4–6] PCPs' message volumes and inbox time have remained elevated in the years since, suggesting primary care has shifted to a new normal of higher inbox workloads.[4,6] PCPs now receive dozens of inbox

messages each day, not only from patients seeking care or advice, but also from staff, other clinicians, and the EHR itself.[4,6,7]

Inbox messaging provides a convenient method for patients to request care, care teams to communicate, and the EHR to notify physicians about new information relevant to a patient's care (e.g., lab results). Some evidence suggests PCPs who spend more time in the inbox provide higher quality care.[8] Yet, PCPs also describe the steady stream of inbox messages as eroding work-life boundaries,[2,9] and PCPs who receive more messages or spend more time in the inbox report higher rates of burnout.[10–14] Health systems, clinics, and individual physicians have employed numerous techniques to reduce PCPs' inbox workloads, including providing inbox coverage for days off, having staff respond to routine messages, and using natural language processing to classify and route messages to the most appropriate respondant.[9,15–19] Still, many PCPs feel they receive more inbox messages than they can handle effectively and that they lack sufficient time for inbox work.[15,20]

Despite the sustained increase in PCPs' inbox workloads, little is known about how PCPs review inbox messages and decide when and how to address them,[21] a process known as *inbox triage*. Understanding how PCPs triage inbox messages could help designers of clinic workflows, healthcare policies, and health information technology identify ways to reduce the time and stress associated with inbox work.[1,17,22] The objective of this study was to characterize PCPs' experiences with inbox triage to inform efforts to reduce inbox workloads.

MATERIALS AND METHODS

Setting and Participants

This qualitative study was conducted at [blinded], the academic medical center of [blinded] and was approved by the university's health sciences institutional review board. [Blinded] employs ~200 PCPs and hundreds of clinical staff (e.g., nurses, medical assistants, patient schedulers) who together care for more than 300,000 primary care patients across the departments of family medicine, internal medicine, and pediatrics. This study was conducted as part of a broader study of PCPs' EHR workflows.

We employed purposive sampling to identify PCPs with potentially diverse EHR workflows. We measured how long each PCP spent in the EHR per hour of scheduled patient appointments based on PCPs' schedules and EHR use metadata (Signal, Epic Systems, Verona, Wisconsin) and recruited PCPs via email from the highest and lowest quartiles of this normalized EHR time. The final sample included six family medicine and three internal

medicine physicians, four from the highest quartile of EHR time and five from the lowest quartile. PCPs were not compensated for their participation.

Data Collection and Analysis

We conducted a qualitative study with physicians about their EHR workflow, focusing on how they sequenced their EHR-mediated work across a clinic day. To help identify topics to discuss with PCPs, two authors [initials blinded]—who were medical students at the time—each observed a separate half-day clinic with each study physician in November and December 2021, totaling approximately 72 hours of observation. Observation notes were recorded on a structured data sheet developed through pilot observations with two PCPs on the study team who were not study participants [initials blinded]. The data sheet contained separate sections for documenting observations on EHR-mediated tasks such as chart review, note writing, and responding to inbox messages. The two observers created an affinity diagram of themes from the observations related to PCPs' EHR workflows.[23] Following the observations, three authors [initials blinded] conducted three focus groups and one individual interview with the study participants via Webex in March and April 2022. Focus group / interview questions addressed themes identified in the observations including the sequencing of EHR-mediated tasks throughout the clinic day, team support for EHR-mediated work, and EHR optimization. The average focus group / interview was 66 minutes long (Range, 53 to 71 minutes).

Data Analysis

Focus group and interview recordings were transcribed and deidentified. These transcripts were coded via inductive thematic analysis in NVivo (QSR International, v. 1.4.1) by a single author [initials blinded].[24] Themes and sub-themes were identified by grouping related codes. This coding process was informed by memo-writing, peer debriefing by the three authors involved in data collection [initials blinded], and iterative discussion of the themes with co-authors until consensus was reached. While the focus groups and interview addressed EHR workflows in general, this manuscript focuses on the salient set of themes related to PCPs' experiences with inbox triage.

RESULTS

We identified five themes and fifteen sub-themes related to PCPs' experiences with inbox triage (Table 1).

[Insert Table 1]

Theme 1: Inbox Triage is Continuous

PCPs described inbox triage as a continuous process with PCPs checking their inboxes before clinic sessions began, between appointments, after clinic sessions ended, during other periods of work (e.g., meetings, teaching), and on days without appointments. As one PCP shared, "I think the ongoing triaging is happening almost continuously throughout the day." PCPs described needing to check their inbox on a regular basis to identify urgent messages and prevent the number of messages from growing so large as to be discouraging.

Theme 2: Inbox Triage Involves Several Distinct Activities

Redirecting Messages to Synchronous Care

PCPs described inbox triage as involving several related but distinct activities which they performed in collaboration with clinic staff. One component of inbox triage was identifying messages that should be addressed through a synchronous mode of care such as a telemedicine or office visit instead of through electronic messaging or back-and-forth telephone calls. This could be because the patient's concern was urgent, complex, or required a visit to address due to clinic practices or PCP preference. As one PCP shared, "If it's too complex, they just need to schedule a visit."

Preparing Messages for PCPs to Address

PCPs also used the term "triage" to refer to the process by which staff members prepared messages for them to address. In each participant's clinic, most messages were first sent to one of several inbox pools where nurses, medical assistants, or both would review them. In addition to staff handling routine messages (e.g., requests for medication refills that could be addressed through a delegation protocol) and redirecting patients to schedule an appointment for more complex requests, PCPs expected staff members to perform preparatory actions for certain types of messages (e.g., checking the refill history for controlled medication refill requests) before routing that message to the PCP for further review. These staff actions could include conducting chart review, documenting key information from that chart review, or pending orders. Several PCPs described being frustrated when they were routed a message before this preparatory work had been done. As one shared, "I'll get MyCharts [patient messages requesting care or advice] that will say 'Forwarded to provider to advise.' Like, that's not very helpful because it's basically just forwarding it to me with absolutely no legwork done."

Prioritizing Messages

Finally, PCPs described inbox triage as the process of prioritizing which messages to address next, or which messages to address sooner rather than later. As will be discussed in the next section, several factors were considered when deciding whether a message was high or low priority.

Theme 3: PCPs Prioritize Messages Based on Multiple Factors

Time-sensitive Tasks Related to Synchronous Care

PCPs described considering multiple factors when prioritizing messages, both relative to other messages and relative to other work they needed to complete. One factor was prioritizing time-sensitive tasks related to synchronous care over inbox work. This included prioritizing not only performing synchronous office and telemedicine visits, but also performing time-sensitive tasks related to those visits such as placing orders or documenting exam findings before they were forgotten. As one PCP noted: "It generally comes down to prioritizing the patient that's there, so seeing them physically, doing their orders, making sure the conversation of the documentation with the scribe is having occurred." However, PCPs also described deferring some tasks related to synchronous visits—such as finishing a progress note or assigning billing codes—until after they had addressed more urgent inbox messages since these tasks were seen as less urgent and able to be completed by the PCP on their own.

Clinically Urgent Messages

Second, PCPs described prioritizing clinically urgent messages and deprioritizing messages which were not clinically urgent. As one PCP said: "I'll at least scroll through and try to see if there is anything urgent in the results. But I do a lot of non-urgent results over lunch or at the end of the day."

Messages to be Acted on by Others

Third, PCPs described prioritizing messages that would create work for staff or other clinicians, such as a message that would require a nurse to call a patient back. As one PCP described, "If I have time I'll jump into my inbox as a priority over closing notes just so that I can try to get things routed back to the nursing team so that they can get back to patients." PCPs described several reasons for prioritizing messages which would later need to be acted on by others including boosting patient satisfaction due to receiving a quick response, boosting staff satisfaction ("upset patients lead to upset nurses"), and avoiding additional work at the end of the day. As one PCP shared, "If stuff needs to be dealt with

and I'm dealing with it at 5 PM, my team is gone. So, I have to prioritize looking at those messages over say, getting my charts done."

Time Constraints

Finally, PCPs described prioritizing messages based on time constraints. In one respect this meant prioritizing messages that could be completed quickly in a short window of available time. This was particularly a consideration when reviewing messages in short gaps between appointments. As one PCP shared, "Then I'll look at the phone calls to see if I see anything that I can really do quickly, just to get it out of the in-basket." In another respect, prioritizing based on time constraints meant PCPs prioritized messages based on whether they would have another opportunity to address the message before the time when they thought the message should be addressed. This perspective is demonstrated in one PCPs' statement that "I'm always going to take a peek at [the inbox] and if it's something that I don't feel I could wait until the lunch hour, which is my next hold, then acting on that."

Theme 4: Team Support Varies

Variation in Clinical Experience

PCPs described substantial variation in staff support for inbox triage. PCPs attributed some of this variation to differences in team members' clinical experience, both overall and in their clinic. As one PCP described: "I think a lot of what our work is very dependent on our staff, like how experienced your RN [registered nurse] is, as to what level of triage you get in your message, how much follow-up you have to do, how much digging you have to do, if orders are pended for you when they come to you."

Lack of Team Stability

PCPs described another source of variation in team support as changing team membership and a resulting lack of awareness of the PCPs' patients and desired workflow. This was especially difficult when staffing shortages required cross-coverage of inbox work by staff from another clinic. As one PCP noted: "There were RNs sitting somewhere, at [a different clinic] or something, helping, which is great, but they don't know our patients, they don't know our workflows."

Lack of Co-location with Staff

Finally, PCPs described a lack of co-location with staff as a source of variation in team support. Working from different spaces made it difficult to fall back on face-to-face communication when discussing how to triage or address specific messages. One PCP described working with remote staff as involving "a lot of back-and-forth" over messaging

platforms to come to a shared understanding of how to address a message or whether the patient should schedule an appointment.

Theme 5: Inbox Work is Guided by Expectations, Practices, and Policies

Patients Expect Rapid Responses

PCPs described several expectations, practices, and policies as influencing why, when, and how they conducted inbox triage. For example, PCPs described patients as expecting rapid responses to their messages and not realizing the implication this had for physicians' work hours. As one PCP described: "I think for the patients, they're surprised that I'm working outside of [clinic] hours, but they also want things immediately."

Patients Use Messages for Urgent or Complex Requests

PCPs likewise described patients as using messages to make urgent or complex requests which would be better addressed through a phone call or synchronous visit. As one PCP shared, "People try to get their medical concerns, taken care of there. They want me to create a mini, a personalized mini lecture on the vascular system for them."

Resetting Patient Expectations

In response, PCPs described needing to reset patient expectations for the appropriate use of inbox messaging. As one PCP shared, "our patients I think have learned not to send MyChart messages that are time-sensitive, that are urgent that way." While some of this resetting occurred implicitly (e.g., how long it took to hear back from the clinic), some PCPs used explicit methods to reset patient expectations. One PCP, for example, used templated text in their replies to patients to communicate that they should not expect a reply outside clinic open hours.

Impact of Organizational Practices and Policies

In addition to patient expectations which necessitated inbox triage, PCPs described how organizational practices and policies affected when they conducted inbox triage. Department-level expectations that PCPs work more than 40 hours a week, clinic-level expectations that PCPs check their inboxes on days when they were not in clinic, and scheduling policies that provided limited protected time for asynchronous care all contributed to PCPs feeling they needed to conduct inbox triage outside clinic hours. As one PCP shared, "We don't have like a ton of extra hours built in our schedule to do all this, like in-basket work, you know." Conversely, practices such as having another physician cover their inbox when they were on vacation were seen as helping limit PCPs' inbox work. As one PCP shared, "That's been really helpful to have somebody else covering for me."

Establishing Personal Policies

Finally, PCPs described needing to set personal policies for how and how often they responded to inbox messages. As one PCP described: "I have a personal rule now that I'm not going to MyChart somebody back more than once in a day." Another PCP described needing to set boundaries for when they performed inbox work: "What's important is taking the time off and just saying, 'Well no. I'm going to take, you know, this day, or these hours, out. And that's that.'"

DISCUSSION

We identified five themes in this qualitative study of PCPs' experiences with inbox triage. First, PCPs see inbox triage as a *continuous* process. Second, inbox triage *comprises several related activities*, including not only prioritizing messages but also identifying messages better addressed through synchronous care, and staff preparing messages to be acted on by PCPs. Third, *message prioritization is based on multiple factors* including not only clinical urgency, but also whether messages will create work for others, and time constraints. Fourth, PCPs experienced *variation in team support for inbox triage,* which PCPs attributed to varying clinical experience, changing team membership over time, and a lack of co-location. Finally, various *expectations, practices, and policies* affect the process of inbox triage including patient expectations for message responsivity, clinic expectations for when PCPs check their inboxes, and the personal policies PCPs set to constrain inbox work.

These results agree with a recent study that found PCPs set workflow norms with staff and boundaries with patients, other clinicians, and themselves to reduce their inbox workload.[21] However, this prior work found PCPs did not prioritize messages due to a lack of time,[21] while we found PCPs regularly prioritized messages and considered diverse factors when doing so. This variation in findings may be due to differences in study setting, EHR developer, and methodology (i.e., interviews and observations versus focus groups) across the two studies and is worth further exploration.

These results have several implications for the design of clinic workflows, healthcare policy, and health information technology. We highlight three here. First, technology and workflows should be designed to help primary care teams not only identify clinically urgent messages, but also messages better handled through synchronous care and messages which have time or team-member dependencies. Natural language processing which tags and routes messages based on their content is a promising step in this direction,[17] one yet to be taken at many organizations including the study site, but more development may be

needed to help these systems reason about time constraints and team-member dependencies.

Second, more attention should be paid to how care teams establish and communicate messaging norms, both with patients and with one another. PCPs already communicate norms with patients explicitly (e.g., by including text in their replies about expected future response times) and implicitly (e.g., by scheduling responses to send during work hours).[2] Many health systems also provide textual guidance to patients during message composition about the appropriate use of messaging platforms. However, more interactive interventions may be needed to help patients understand and apply those norms, such as using natural language processing to identify urgent concerns as patients draft messages, and automatically suggest that patients call the clinic instead.[25,26] Setting norms is also vital within care teams. Health systems can work to clearly define and communicate system-wide norms (e.g., expected message response time) while also making clear what aspects of messaging workflows are up to individual clinics and care teams to define.[16] There are likely tradeoffs between standardization and customization in messaging workflows, though a lack of clarity about existing policies can lead to unintended variation across clinics (e.g., inbox coverage for days outside clinic).[27] In addition to clarifying inbox policies, and experimenting with new staffing models for inbox triage,[28] health systems might also consider how to provide more stable in-person staffing so care teams can more easily establish and maintain local norms.[29,30]

Finally, PCPs' experience of inbox triage as a continuous process suggests that the stress associated with managing inbox messages may be due not only to message volume but also the need to continuously monitor for urgent messages. Monitoring an inbox requires sustained attention, or vigilance, which increases cognitive load.[31] Efforts to redesign workflows, policy, and technology should consider not only how to reduce the number of inbox messages PCPs receive, but how to change inbox management from a continuous vigilance task into a periodic and focused one.

This research has several limitations which future work could address. First, the focus group and interview transcripts were coded by a single author, so the themes and sub-themes identified in this study may reflect that authors' perspective as a PhD-trained informaticist. We employed several techniques to enhance the trustworthiness of this research including purposive sampling, peer debriefing, memo writing, and iteratively revising the themes and sub-themes as a team until consensus was reached.[32] Second, this study focused on physicians even as other members of the care team such as nurses and medical assistants engage in inbox triage.[16,28,33] Future work might examine non-physician perspectives on inbox triage. Third, study findings were based on the

perspectives of nine PCPs at a single academic medical center. Future work might investigate whether these findings generalize to physicians in other specialties and at other institutions.

CONCLUSIONS

In this study, we characterize inbox triage as a continuous and collaborative process with message prioritization based on multiple factors and messaging behavior guided by a complex set of expectations, practices, and policies. Triage is the prioritization of care in the face of scarce resources, and among the many shortages affecting primary care—of staff, physicians, medications—one of the most profound is a shortage of attention.[34] By directing so much attention, so frequently, to reviewing inbox messages, PCPs lose some capacity to attend to other aspects of care such as proactive panel management. As one physician shared when describing why they had recently reduced their clinical hours: "I need to be able to sit and be uninterrupted and really do the things that are complex." In helping care teams manage inbox messages, health systems, clinics, physicians, staff, and patients must work together to ensure the urgent does not drive out the important.

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Table 1: Themes from the focus groups and interview

Theme	Sub-theme	Example Quote
Inbox Triage is Continuous	-	"I think the ongoing triaging is happening almost continuously throughout the day. Like with a patient, if they're changing or you're waiting for him to get on the table, you'll quickly look at your inbox."
Inbox Triage Involves Several Distinct Activities	Redirecting Messages to Synchronous Care	"I need to route [the message] back to the RN [registered nurse] pool and say, 'Please triage this, this really shouldn't have been a MyChart message in the first place.'"
	Preparing Messages for PCPs to Address	"I'll get MyCharts that will say 'Forwarded to provider to advise.' Like that's not very helpful because it's basically just forwarding it to me with absolutely no legwork done."
	Prioritizing Messages	"I'm always going to take a peek at [the inbox] and if it's something that I don't feel I could wait until the lunch hour, which is my next hold, then acting on that."
PCPs Prioritize Messages Based on Several Factors	Time-sensitive Tasks Related to Synchronous Care	"It generally comes down to prioritizing the patient that's there, so seeing them physically, doing their orders, making sure the conversation of the documentation with the scribe is having occurred."
	Clinically Urgent Messages	"There is a lot of stuff in there that is not time-sensitive, you know? Screening cholesterol, or a normal thyroid, or whatever... I'll at least scroll through and try to see if there is anything urgent in the results. But I do a lot of non-urgent results over lunch or at the end of the day."
	Messages to be Acted on by Others	"The things that need to be acted on by someone else during the day, it just ends up being prioritized more, or the things I know the patient's more likely to be waiting for."
	Time Constraints	"Then I'll look at the phone calls to see if I see anything that I can really do quickly, just to get it out of the in-basket."
Team Support Varies	Variation in Clinical Experience	"I think a lot of what our work is very dependent on our staff, like how experienced your RN [registered nurse] is, as to what level of triage you get in your message, how much follow-up you have to do, how much digging you have to do, if orders are pended for you when they come to you."

	Lack of Team Stability	“I think the amount of cross-coverage has gone up… there were RNs sitting somewhere, at [a different clinic] or something, helping, which is great, but they don’t know our patients, they don’t know our workflows. And they did a lot of like, ‘[Doctor], does this person need an appointment today for their sinusitis?’ And I’d be like, ‘Yes!’ But I might not get to that message until 4 PM.”
	Lack of Co-location with Staff	“I used to have my nurses working right by our workstation. So, I’d get routed this more complicated [message], I’d just get up and go and talk to them and have a quick conversation. That saves some time. Whereas now it’s usually, I don’t even know who’s working in clinic versus from home and their workstation’s far away even if they are in clinic, it might be working in various offices. So, it ends up with a lot of back-and-forth.”
Inbox Work is Guided by Expectations, Practices, and Policies	Patients Expect Rapid Responses	“I think for the patients, they're surprised that I'm working outside of hours, but they also want things immediately. I don't think they know the consequence of that means that I'm working outside of hours. Because they're always like, ‘Oh, you should be with your family.’ But I'm like, ‘Yeah, if I just had yours to answer, sure I could do that.’”
	Patients Use Messages for Urgent or Complex Requests	“People try to get their medical concerns, taken care of there. They want me to create a mini, a personalized mini lecture on the vascular system for them.”
	Resetting Patient Expectations	“One of my partners mentioned in a group meeting that ‘I’ve trained my patients well.’ I didn’t really train them, but they’ve learned what to expect. I don’t have a lot of people that are saying: “My results… I didn’t hear from you. They’ve been in the box for two days.” They know that I’ll get to them, and that I’ll try to do everything to explain things well.”
	Impact of Organizational Practices and Policies	“Part of it is that the current expectation in my clinic is that I'll cover my patient's stuff, even when I'm not in clinic, if I'm working somewhere [else] that day.”
	Establishing Personal Policies	“What’s important is taking the time off and just saying, ‘Well no. I’m going to take, you know, this day, or these hours, out. And that’s that.’”

Joanna Sherrill, MD

Projects Completed During Residency:

Community Health Learning Experience:

Chop Chop Family Cooking Classes

Scholarly Project:

Does having covid in pregnancy increase risk of postpartum hemorrhage?

We conducted a literature review to write an FPIN HelpDesk Article to answer the question: Does having COVID-19 in pregnancy, increase the risk of postpartum hemorrhage? We found that, pregnant people who have COVID-19 infection during pregnancy are probably more likely to have a postpartum hemorrhage when compared to pregnant people who do not have COVID-19 during their pregnancies. However, not all the studies included were statistically significant in their results and further research would be beneficial in this area.

I would like to thank my family and friends for their support throughout all the years it has taken to get to this point. I would not have made it through residency without my wonderful co-residents and my local 'family' here in Madison.

Joanna (Jo) Sherrill, MD (she/her), knew that she would be a family physician when she saw that each day brought the opportunity to care for a wide variety of patients and build connections with patients at every stage of life. In addition to providing broad spectrum care, she is particularly interested in LGBTQ+ care, women's reproductive rights, health equity, and underserved medicine. Jo is from Dallas, TX and she earned her undergraduate degree in Healthcare Studies from the University of Texas at Dallas. She saw firsthand the profound impact access to medical care can have on a person when she volunteered with a research project which provided medical care to sex workers. This experience ultimately led her to pursue her medical degree at the University of Texas Medical Branch. Her advocacy for access to medical care was reinforced when she volunteered in the Texas prison hospital. From this experience, she learned the importance of meeting patients where they are at on their own unique journeys and advocating for them when it is most needed. Jo can often be found hiking with her partner and dog, gardening, and thrifting.

Chop Chop Family Cooking Classes

Joanna Sherrill, MD

Situation:

The Chop Chop program is designed to teach children of all backgrounds basic cooking skills and nutrition, promoting healthy eating habits through hands-on culinary experiences. Many children, regardless of socioeconomic status, lack opportunities to learn essential cooking skills or make informed food choices. The program serves children aged 7-12, providing them with the tools to make healthier, more creative food choices both at home and in their daily lives.

Background:

Research has shown that teaching children cooking skills at an early age positively influences their dietary habits and fosters a lifelong appreciation for nutrition. According to studies from the American Academy of Pediatrics, early culinary education is crucial in reducing the risk of childhood obesity and encouraging healthier lifestyles. The Chop Chop program engages a diverse group of children, offering an inclusive learning environment that caters to various skill levels and backgrounds.

Stakeholders engaged in this program include BPNN, Hy-Vee, Festival Foods, UW Health nutrition staff, UW Dietetic students, and UW Family Medicine providers. The primary aims of the project were to:

1. Teach children fundamental cooking skills.
2. Promote the benefits of healthy eating through hands-on experiences.
3. Encourage teamwork, confidence, and creativity in the kitchen.

Assessment:

The evaluation of the Chop Chop program revealed positive outcomes, with children showing increased confidence in the kitchen and a greater willingness to try new, healthy foods. Feedback from parents highlighted noticeable changes in children's involvement with cooking at home and an increased interest in eating a wider variety of foods. Applying an equity lens revealed disparities in access to fresh produce and various supplies needed

in the kitchen. These revelations influenced program design and affordable ingredient selection. Additionally, cultural considerations were applied by providing classes that were taught in Spanish. Another key lesson learned was the need to recognize the different levels of cooking experience among participants. While some children were already familiar with food preparation, others were new to the process, requiring us to adapt activities to ensure everyone felt engaged and capable.

Recommendation/Reflections:

Looking ahead, I recommend expanding the program's reach through partnerships with additional schools and community organizations to increase its accessibility. Additionally, introducing more culturally diverse recipes and techniques could help ensure the program resonates with children from various backgrounds and fosters a deeper connection to food.

This program shows the importance of nutrition education and how early intervention can make a lasting impact.

Kyle Sherwin, DO

Kyle Sherwin, DO (he/him), is from St. George, UT and he earned his bachelor's degree in Exercise Science from the University of Utah. He earned his medical degree from the Midwestern University Arizona College of Osteopathic Medicine. While in medical school, Kyle completed an osteopathic fellowship during which he spent additional time training in the osteopathic manipulative medicine (OMM) clinic, completing research and service projects, and teaching OMM to junior medical students. He was also involved in various mental health outreach events on campus, and he founded a resiliency forum that provided students a place to discuss ideas on building and maintaining resiliency throughout medical school. Kyle is drawn to family medicine because he is committed to providing the human connection patients need to achieve their healthcare goals. He also loves the breadth of care offered which allows him to care for patients in a variety of ways and tailor care to each individual need. Kyle relaxes by playing sports, exercising, cooking, reading, studying philosophy, and playing along with Jeopardy!.

Projects Completed During Residency:

Community Health Learning Experience:

Verona Fitness and Lifestyle Challenge

Scholarly Project:

Does OMT of the newborn increase maternal comfort with breastfeeding?

Submitted an FPIN article that is currently in review answering the question Does OMT of the newborn increase maternal comfort with breastfeeding? There is some evidence to suggest it can increase maternal comfort as part of improving the LATCH score of the feeding infant. This is accomplished by optimizing the biomechanical suckling of the infant by performing OMT on the muscles and nerves affecting the tongue and jaw. I chose this topic because I will be part of a new OMT consult service at Meriter with a focus on neonates needing feeding support.

Thank you to my family for supporting me from afar and to making the trek to the Midwest to visit me when I was needing family time. Thank you to my fellow residents, especially my R3 class, for many memories, laughs, and post-seminar beers. Special thank you to Angela, for always being a source of support and for doing the little things to make my life easier and keep me upright.

Verona Fitness and Lifestyle Challenge Group Medical Visits

Kyle Sherwin, DO

Faculty Partners: Maggie Larson, DO; Brian Arndt, MD; Karina Atwell, MD

Situation: Hypertension is a prevalent chronic condition that has systemic effects on health and contributes to many leading causes of death. It should be controlled with a multi-modal approach including lifestyle changes. Group medical visits were utilized with a focus on hypertension management through lifestyle changes and medication management.

Background: Hypertension is one of the most prevalent chronic illnesses with 47.7% of Americans diagnosed with it[1]. It is a risk factor for multiple of the most common causes of death including heart disease, stroke, and kidney disease[2]. First line treatment for hypertension remains lifestyle modifications including healthy nutritional intake with a focus on minimizing sodium and increasing fruits and vegetable intake as well as increasing physical activity[3]. Currently, only 79.2% of the Verona clinic's patients with hypertension are considered well controlled. For this iteration of the Verona group medical visits, we focused on hypertension management with the hopes of getting closer to our clinic goal of 87.5% of patient's hypertension well controlled. It consisted of 6 group visits that occurred every other week in the Winter and Spring. There were 18 participants, some of whom had done prior group medical visits. Visits had an education portion, a short period of physical activity, and small group sessions to discuss individual goals and medical plans. Educational topics included background information on hypertension, nutrition, physical activity, stress management, common hypertension medications, and a cooking class. I participated by teaching the educational portion on physical activity as well co-facilitating small group sessions.

Assessment: Currently, we do not yet have the compiled survey results. There was a pre- and post-survey administered that aimed to understand the patient's knowledge of management, lifestyle interventions, and risks of high blood pressure; as well as characterizing how often patients take home blood pressure readings. We hope to see improvement in their understanding of their condition as well as more frequent utilization of home blood pressure monitoring.

Recommendation/Reflections: Anecdotally, nearly all of the patients found these group visits to be helpful in some capacity. Many commented on positive experiences of sharing openly with others, which led to feeling supported in managing their disease. Many of their individual weekly goals were taken from key points from the educational portions, particularly on nutrition and physical activity. Future group visits might benefit from some form of more frequent check-in with patients regarding their weekly goals. This could be done by other patients to further develop a sense of community and accountability. Blood pressure data could also be analyzed at pre- and post-groups to further assess the success of the visits.

Acknowledgements: Maggie Larson, DO; Karina Atwell, MD; Brian Arndt, MD; Briana Krewson, DO; Mickey Breuer, DO; Ethan Kaercher of Mad City Chefs; Sarah Hohl, MPH, PhD; Kayla McGowan, RPH

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David Smith, MD

Projects Completed During Residency:

Scholarly Project:

Does Dedicated Discussion Affect Willingness to Initiate Statin Therapy?

My QI project evaluates whether a brief, structured, 5-minute clinician-led discussion focused on statin benefits and concerns improves statin initiation rates compared to standard care.

A control period of 30 days was identified in which no change to standard care was implemented. A second 30-day period was also identified in which patients with an indication for statin therapy underwent a 5-minute discussion regarding risks and benefits of guideline-driven statin therapy. The proportion of patients electing to initiate statin therapy in each group was measured.

Results suggest that a brief, structured conversation improves statin initiation compared to standard care. Integrating short, targeted discussions into routine clinical practice may be an effective strategy to enhance statin uptake.

Thank you to my family, friends, partner, and wonderful co-residents for your boundless support over the last three years! Special thanks to the faculty at Baraboo for your wisdom and guidance.

David Smith, MD (he/him), is committed to providing broad-spectrum care to underserved rural populations. He is a rural Wisconsinite, originally from Amery. He attended the University of Minnesota – Morris, where he earned his undergraduate degree in Biology. While in Morris, he worked as an EMT and saw firsthand the importance of preventive care. He also volunteered in Haiti and learned about the importance of building long-term relationships with patients for continued care. He returned to Wisconsin to earn his medical degree from the University of Wisconsin School of Medicine and Public Health. He participated in the Wisconsin Academy for Rural Medicine (WARM) program and completed his clinical rotations in the La Crosse area. While in La Crosse, he partnered with the local school system to encourage high school students to explore medical careers. David is interested in procedural medicine and palliative care. He enjoys being outdoors, hiking, and camping. When there is snow on the ground, he enjoys skiing; if there is no snow, he enjoys running. He plays and sings country and folk songs on his acoustic guitar and punk rock on his electric guitar. He also enjoys reading, watching sports, and roasting coffee.

Discussing Statin Therapy

David Smith, MD

1

Disclosures

None

2

Measurement Population

- Patients aged 40–75 with 10 year ASCVD risk >10%
- Patients aged 40–75 with a diagnosis of diabetes melitus
- Patients aged <76 with clinically significant CAD or prior history of CVA
- Seen in clinic over measurement duration

3

Measurement

- Numerator
  - Number of measurement population on statin therapy
- Denominator
  - Number of measurement population
- Measurement period
  - Pre-intervention: 5/6/24-6/6/24
  - Post-intervention: 10/22/24-11/22/24
  - Selected for availability in clinic

4

Intervention

- Discussion of ~5 minutes regarding risks and benefits of initiating statin therapy
  - Concept
  - Limits of lifestyle intervention if LDL still elevated
  - Risk for myalgia, hepatic injury
  - Decision-making tool

5

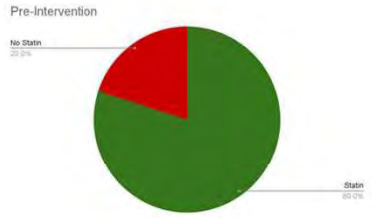
Intervention

6

Pre-Intervention Data

N=25

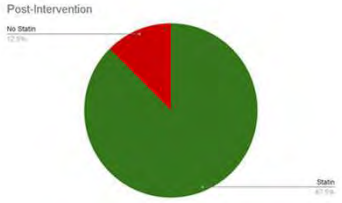
Goal: 85%



7

Post-Intervention Data

N=32



8

Conclusions and Limitations

- Increased frequency of statin initiation with dedicated discussion
- ASCVD was most common indication among patients continually declining statin therapy
- Limitations
  - Low volume of patients
  - Does not account for patients of other PCPs or patients already taking statins

9

Elisabetta Tyriver, MD

Projects Completed During Residency:

Scholarly Project:

Refugee Domestic Medical Examination Training for Family Medicine Resident Physicians

Community Health Learning Experience:

Capital High Parenting and Health Classes

I am one of three third-year residents that has been involved in the Capital High Parenting Program. Capital High caters to students benefiting from a smaller, more tailored learning community, including soon-to-be or new parents. We provided interactive presentations on topics such as sexual health and infant health. One of the classes has been focusing on resume building and job seeking, so we provided support in this area too. Our most impactful role is being a resource for one-on-one questions and discussions. By integrating medical expertise with compassionate support, this project empowers students to make informed health decisions and improve their family's well-being.

To my husband Ryan, thank you for supporting me, being my cheerleader through the highs and lows of this long journey, and giving me the greatest gift of all: our daughter, Lucia. To Lucia, thank you for teaching me the truest meaning of unbridled joy and unconditional love. To my mother, thank you for being my rock, always. Thank you to my patients, co-residents, clinic staff, and faculty mentors - you have taught me infinite lessons, challenged me to be a better doctor every day, and made this wild ride kind of fun.

Elisabetta (Betta) Tyriver, MD (She/Her), hails from the Madison and Fox Cities metro areas. Prior to starting college, she was a Rotary Exchange Student in Lima, Peru, which introduced her to global health and where she gained Spanish fluency. Betta attended Johns Hopkins University and earned her degree in Public Health Studies. She then served as a Global Health Fellow for a non-profit in Thomassique, Haiti where she partnered with community health workers and clinic staff to improve their child malnutrition program, pre- and peri-natal services, and disease prevention and chronic disease management offerings. She earned her medical degree from Loyola University Chicago Stritch School of Medicine. Betta spent the summer after her first year in medical school in the rural Peruvian Amazon interviewing community members, patients, and clinic staff to conduct a community health needs assessment. She also volunteered with the CommunityHealth Clinic in West Town, Chicago to provide medical care to low-income, uninsured Chicagoans. Betta is interested in women's and reproductive health, LGBTQ+ healthcare, global health, substance use, and integrative medicine. Outside of the clinic, Betta can often be found sharing homecooked meals with her husband and toddler, biking around the city, traveling, and listening to podcasts.

Department of Family Medicine and Community Health
UNIVERSITY OF WISCONSIN
SCHOOL OF MEDICINE AND PUBLIC HEALTH

Refugee Domestic Medical Examination Training for Family Medicine Resident Physicians

Elisabetta Tyriver, MD; Ann Evensen, MD

DEPARTMENT OF FAMILY MEDICINE AND COMMUNITY HEALTH, UNIVERSITY OF WISCONSIN SCHOOL OF MEDICINE AND PUBLIC HEALTH

Background

The federally-mandated refugee resettlement process includes a domestic medical examination (DME) conducted by a local primary care provider. Given a recent increase in the number of refugees arriving in Dane County (WI), the UW-Madison Department of Family Medicine and Community Health Residency Program was asked to perform more DMEs. As there was no existing resident-level curriculum in refugee care, a resident physician and faculty member developed a training session to prepare resident physicians to conduct these examinations in a medically- and culturally-competent manner.

Purpose

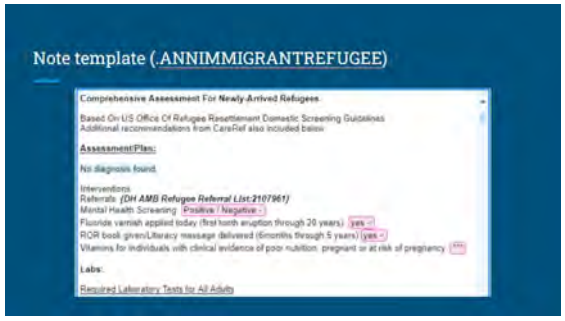
1) develop a process for preparing a resident physician and a family medicine clinic to complete a DME
2) determine whether a resident training increased knowledge and comfort level with DMEs

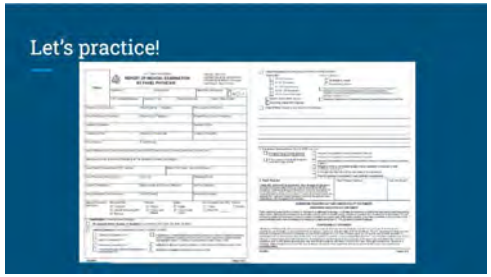
Methods

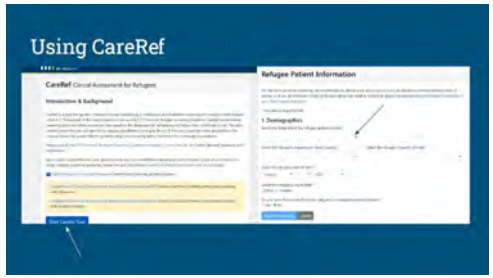
The authors developed a training program and related resources such as electronic medical record note templates, order sets, and clinic-level medical assistant processes. Participants (resident physicians) were asked to complete a pre-training quiz to determine their baseline knowledge in and comfortability with conducting refugee DMEs. The resident teacher delivered the training session to participants after which they completed a post-training quiz. Results were evaluated to determine whether there was an increase in knowledge base and comfort level.

Results

	Pre-Training	Post-Training	Score Difference
Average Medical Knowledge Quiz Score	12.1/25 (48%)	17.2/25 (69%)	+21%
Comfort Level Scores for:			
Reviewing the US Dept of State Report that patients have at their DME	28.3%	64.4%	+36.1%
Performing the required history-taking components of the DME	30.8%	59.2%	+28.4%
Performing the required physical exam components of the DME	37.1%	64.5%	+27.4%
Ordering the appropriate lab tests that are part of a typical DME	30%	69.2%	+39.2%
Recommending vaccinations at a DME	30.8%	66.9%	+36.1%







Conclusions and Discussion

This single session training for resident physicians demonstrated increased knowledge of and comfort with the refugee domestic medical examination. With an ever-increasing need for competent providers to complete these exams, we suggest that other family medicine programs consider adding a similar training to their resident education program.

Next steps:

- Incorporate training as permanent annual lecture for resident physicians
- Disseminate developed note template and order sets
- Develop a system-wide available Epic Smartset
- Refine triage process and clinic logistics
- Partner with Behavioral Health colleagues
- Foster greater collaboration with refugee support agencies
- Pursue grant funding for patient navigator role

Molly Vernon, MD

Molly Vernon, MD (she/her) enjoys the variety and scope of care she is equipped to provide as a family physician. She is committed to serving both individual patients and helping communities thrive. She is originally from Chapel Hill, NC and grew up as a huge UNC sports fan. She studied Health Sciences at Furman University and she earned her medical degree from the Virginia Commonwealth University School of Medicine. She is committed to building strong relationships with her patients and earning their trust so they can partner to achieve their healthcare goals. She is passionate about women's health and advocacy, reproductive health, and gender affirming care. She is also committed to working with patients and families to address the obesity epidemic. She employs motivational interviewing and partners with patients to develop actionable goals to promote healthy lifestyles. Molly's interests also include lifestyle medicine, family planning, and advanced gynecological procedures. She can often be found baking, cooking, playing sports, and exploring the outdoors. Her favorite Saturday morning activity is getting fresh produce from the farmers market and cooking for the week.

Projects Completed During Residency:

Scholarly Project:

Pills, Patches and Progesterone: Cases in Contraception Management

Community Health Learning Experience:

Chop Chop Cooking Classes

During residency, I participated monthly in the Chop Chop Cooking Classes, a program aimed at empowering children and their parents with essential cooking skills with a focus on introducing new foods and recipes. We taught practical, healthy meal preparation in an engaging, hands-on environment. By fostering these skills early, Chop Chop aims to promote lifelong healthy eating habits, enhance nutritional awareness, and strengthen family connections through shared cooking experiences. This initiative not only supported participants' well-being but also deepened my understanding of community-centered care and the role of education in addressing health disparities through practical, sustainable lifestyle changes.

Thank you to my fiancé, Henry, and our dog, Hank, for keeping me grounded and making me smile. To my co-residents, thank you for your support and encouragement. To my mentors, I'm grateful for your guidance along the way. Most importantly, thank you to my mom for always being there for me, being my role model and answering all my questions with patience and understanding—I wouldn't be here without you—and to my dad, brother and sister for teaching me the value of hardwork and kindness (and many more things).

Pills, Patches, and Progesterone:

Cases in Contraception Management

Kalin Randolph, MD
Molly Vernon, MD
Jessica Dalby, MD
University of Wisconsin-Madison, Department of Family Medicine and Community Health

1

Disclosures

- We do not have any relationships with commercial interests to disclose.

2

Learning Objectives

1. Counsel patients on effective use of the over-the-counter progesterone only pill, norgestrel
2. Discuss risks and benefits of subcutaneous medroxyprogesterone use
3. Critically appraise recommendations regarding hormonal patch use in patients with elevated BMI
4. Counsel patients on efficacy of non-hormonal vaginal pH altering gel

3

Pre-Survey

4

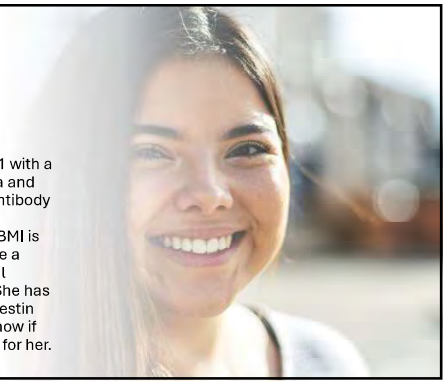
CDC Contraception App

US MEC
US SPR
CDC

5

Case 1

Jessica is a 34 year old G1P1 with a history of migraine with aura and positive antiphospholipid antibody who presents to discuss contraceptive options. Her BMI is 26. Her only medications are a multivitamin and occasional NSAID use for headaches. She has heard about the online progestin only pill and would like to know if this would be a good option for her.



6

CDC Contraception App Medical Eligibility Criteria (MEC)

- U.S. MEC 1 = A condition for which there is no restriction for the use of the contraceptive method U.S.
- MEC 2 = A condition for which the advantages of using the method generally outweigh the theoretical or proven risks U.S.
- MEC 3 = A condition for which the theoretical or proven risks usually outweigh the advantages of using the method U.S.
- MEC 4 = A condition that represents an unacceptable health risk if the contraceptive method is used

7

Case 1 questions

- Would the progestin-only pill be a good option for Jessica?
- How would you counsel Jessica about side effects and reliability of the progestin-only pill?
- Are there any medications that would be contraindications to the progestin-only pill?
- What are the potential benefits and drawbacks of obtaining a progestin-only pill OTC versus through a provider visit?

8

Progestin only pills

- The FDA recently approved the **Opill**, a progestin-only pill containing 0.075 mg of norgestrel for over-the-counter use
- It is a safe and effective birth control for most individuals, including those who are breast/chestfeeding and those who would like to avoid estrogen containing methods

Indications

- Individuals who are able to take a daily medication
- Individuals who would like to avoid an estrogen containing medication
- Individuals with h/o:
  - Thromboembolic disorders
  - Migraines with aura
  - Cardiovascular risk factors (cardiovascular disease, hypertension, and hypercoagulability)
  - Liver disease

Contraindications

- Current breast cancer
- Individuals with diagnosed abnormal uterine bleeding or with benign or malignant liver tumors
- There is a theoretical concern that hepatic enzyme induction medications (St. John wort, HIV medications, rifampin and certain anti-epilectic medications) may decrease the effectiveness of norgestrel

9

Types of Progestin

Type of Progestin	Dosage	Efficacy	Additional comments
Norethindrone	0.35 mg daily	While effective, has a narrower therapeutic window and requires strict adherence to daily intake to maintain ovulation suppression	• First generation progestin • Moderate androgenic activity • Effective menstrual suppression • Higher incidence of irregular bleeding compared to newer progestins
Drospirenone	4 mg daily (24 active, 4 placebo)	It shows high efficacy in ovulation suppression and maintains ovulation inhibition even with a 24-hour delay in pill intake	• Fourth generation progestin • Derived from spironolactone (unique anti-mineralocorticoid and anti-androgenic properties) • Good option for treating androgenic side effects (acne).
Norgestrol	0.075 mg daily	Demonstrates high efficacy in ovulation suppression compared to other progestins.	• Second-generation progestin • Higher androgenic activity compared to norethindrone and drospirenone

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Counseling

- **When to start**: Any time during menstrual cycle, as long as the patient is not pregnant. If they start taking it within the first five days of their period, they will be protected from pregnancy immediately. If > 5 days they will need a backup method for 48 hours
- **How to take**: The pills should be taken daily at the same time each day. If a patient misses a pill by > 3 hours they should take the pill as soon as they remember and use a backup method for 48 hours
- **Effectiveness**: 98% (if taken perfectly), 91-93% (with typical use)
- **Side effects**: changes to periods (spotting or irregular bleeding) in ~ 48% of patients. Other side effects include nausea, worsening acne, headaches and breast tenderness

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Benefits and Drawbacks of Over-the-Counter Prescriptions

- Benefits:
  - Convenience of obtaining an medication without making an office visit
  - Increased accessibility in contraceptive options
- Drawbacks:
  - Patients may not receive the same level of counseling and support
  - Coverage by insurance may vary based on the insurance plan (ex: individuals in Wisconsin with Medicaid insurance can show forward health card and access the opill and plan B for free)

Opill costs $19.99 for a 1-month (28 pill) pack, $49.99 for a 3-month (84 pill) pack and $89.99 for a 6-month (168 pill) pack.

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Case 1 Conclusion

- Jessica understands that she is a good candidate for a progestin only pill and due to her busy schedule and history of migraines and anti-phospholipid syndrome, she plans to pick-up Opill at the pharmacy

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Case 2

- Susan is a 42 year old G4P4 with a history of well controlled hypertension and prediabetes who presents for IM Depo Provera (DMPA) in clinic. She is there with 2 of her children for well child checks. The nurse finds you because she is only 9 weeks from her last injection, but is requesting early administration because of work and upcoming travel plans. Blood pressure today is 144/92.

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Case 2 Questions:

- What is the US MEC category for DMPA with well controlled hypertension?
- Her blood pressure today is above goal, does that change her US MEC category?
- What if her blood pressure today was 166/102?
- Can she get her Depo shot today in clinic?
- What other alternatives should you discuss with her?

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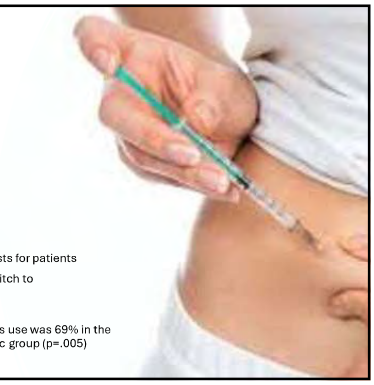
Benefits of SubQ DMPA

- Smaller dose but equal duration and efficacy (potentially decreased adverse impact on BMD)
  - IM-150mg/mL vs SubQ-104 mg/mL
- Smaller needle/less painful
- Convenience of self-injection
  - Potential reduction in travel and childcare costs for patients
- Reduce healthcare team visits/ time if patients switch to administration at home
- Higher Rates of continuation
  - One study showed one-year DMPA continuous use was 69% in the self-administration group and 54% in the clinic group (p=.005)



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Potential Downsides of SubQ DMPA

- Studies show higher localized reaction site (increased redness) compared to IM (minor reactions that resolve within 7 days)
- Possible skin dimpling at site of injection
- No other side effects or adverse events were increased with self-administration

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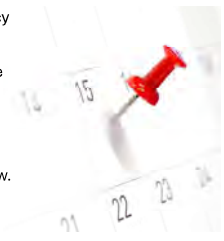
Case 2 Conclusion

- Susan had gestational diabetes in her last pregnancy that required insulin. She feels comfortable with SubQ injections and opts to have SubQ DMPA prescribed to her pharmacy with the plan to give the medication herself at home in 4 weeks.
- She calls in 6 weeks (15 weeks from her last injection) stating that she had trouble getting the medication from the pharmacy, but finally has it now.
- What guidance would you give her about managing late injections at home?



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Case 3

- Kelly is a 28 year old G0P0 with no significant past medical history who presents to clinic to discuss contraception methods. Her BMI is 34. She denies history of migraines, personal or family history of VTE. She previously was on combined oral contraceptive pills in her early twenties, but ultimately discontinued due to frequent missed doses. She has been using condoms consistently with recent intercourse. She is interested in starting hormonal patch for contraception.

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Case 3 Questions:

- What is the US MEC category for elevated BMI and hormonal patch use?
- What counseling would you give Kelly on use of hormonal patch?
- Is Kelly an appropriate candidate for hormonal patch use?

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	Norelgestromin /ethinyl estradiol patch	Levonorgestrel/ethinyl estradiol patch
Dose	Norelgestromin 150 mcg/day and Ethinyl estradiol 35 mcg/day	Levonorgestrel 120 mcg/day and Ethinyl estradiol 30 mcg/day
Where to apply	Upper outer arm, buttocks, abdomen or back	Buttocks, abdomen, upper torso
Use	Apply 1 patch every week for 3 consecutive weeks followed by off week for contraceptive method Apply 1 patch every week, including week 4 for continuous cycling to prevent menstruation.	Apply 1 patch every week for 3 consecutive weeks followed by off week for contraceptive method
Side effects	breast symptoms, nausea, headache, skin irritation at application site, abdominal pain, dysmenorrhea, dysmenorrhea, and mood, affect and anxiety disorders	Skin irritation at application site, nausea, dysmenorrhea, weight gain, headache

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Hormonal Patch Counseling

Initiation of Use:

- Starting on date of receiving prescription: if started > 5 days from last menstrual cycle, use barrier method for 7 days after initiation
- Starting on first day of menstrual cycle: if started within 5 days of menstrual cycle, immediately effective

How to Use:

- Apply patch to arm, abdomen, back (avoid breast tissue), buttocks
- Apply new patch once weekly for 3 weeks, on 4th week no patch use
- If patch falls off, replace immediately. If off for >1 day, should use back up method of contraception
- If patch remains on >9 days, will need back up method of contraception

Effectiveness:

~93% effective with typical use

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Patch Use & BMI

- FDA lists contraindication in patch for patients with BMI >30 with patch use due to increased VTE risk
  - Studies suggest risk of VTE is comparable to use of combined oral contraceptive or vaginal ring use
  - Limited data to suggest reduced effectiveness of patch with increased BMI, evidence is mixed
  - Other risk factors that should be considered with VTE risk: older age (40 or older), diabetes, smoking, family history of VTE, and dyslipidemia.
- In the absence of other risk factors, patch use is not contraindicated with patient history of obesity alone.

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Case 3 Conclusion

- After a risk and benefit discussion, Kelly feels that use of the patch for contraception will fit well with her lifestyle and she is excited to give it a try.

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Case 4

Faith is a 30 year old G0P0 with history of recurrent UTIs who presents to clinic for discussion on non-hormonal contraception. She was previously on a combined oral contraceptive, but struggled with taking a daily medication. She recently heard about a non-hormonal vaginal gel and wants more information about its efficacy and whether she would be a good candidate.

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Case 4 Questions:

- What is the efficacy of lactic acid, citric acid, and potassium bitartrate vaginal gel?
- How do you counsel patients on use of this medication?
- What are the safety considerations?
- Is Faith a good candidate for this non-hormonal contraceptive option?

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Lactic acid, citric acid, and potassium bitartrate Vaginal Gel

Lactic acid, citric acid and potassium bitartrate vaginal gel is an FDA approved non-hormonal on demand contraceptive.

Mechanism: Maintains vaginal pH to create environment to impair sperm motility (maintenance of physiologic vaginal acidity)

Appropriate use: A prefilled applicator is inserted into the vagina immediately before, or up to 1 hour before vaginal intercourse. Subsequent dosing should be applied in setting of more than one episode of intercourse within 1 hour.

Effectiveness: Studies suggest this non-hormonal gel has an efficacy of 86-89% with typical use and 96 % with ideal use over a six month period.

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Side effects and Contraindications

Side effect profile: Symptoms are localized. Not systemically absorbed.
- Vaginal burning
- Itching
- Bacterial vaginosis
- Vaginal candidiasis
- Urinary tract infection
- Partners may experiencing itching or burning

Contraindications:

Avoid in patients with recurrent urinary tract infections

Safety considerations:
- Can be used after childbirth when safe for return to vaginal intercourse
- Can be used in conjunction with condoms, hormonal contraceptives
- Cannot be used with vaginal rings

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Case 4 Conclusion

After discussion of non-hormonal vaginal pH altering gel as a contraceptive option, Faith decides to pursue an alternative due to her history of recurrent UTIs as well as a desire for a more-efficacious method. She opts to pursue a Paraguard IUD for contraception.

29

Post-Survey

30

Resources

- U.S. Medical Eligibility Criteria for Contraceptive Use, 2024
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- Reproductive Health Access Project
  - Patient education guides, clinical guidance: https://www.reproductiveaccess.org/contraception/
  - Progestin only users guide: https://www.reproductiveaccess.org/wp-content/uploads/2024/05/2024-08-Progestin-Only-Pills-4User-Guide_Final.pdf
  - Patch user guide: https://www.reproductiveaccess.org/wp-content/uploads/2014/12/factsheet_patch.pdf
  - Contraceptive Pearl: Patch and Elevated BMI: https://www.reproductiveaccess.org/resource/contraceptive-pearl-discussing-the-contraceptive-patch-and-bmi/

Aimée Wattiaux, MD

Aimée Wattiaux, MD MPH (she/her) values personal connection with patients and enjoys working with people in the context of their community, values, and lived experiences. She is originally from Madison, WI and earned her undergraduate degree in Biology from McGill University in Montreal. She returned to Madison and worked as a certified nursing assistant at a long-term acute care facility. From this, she learned firsthand about the importance of interdisciplinary teams to support the physical and psychosocial wellbeing of medically complex patients. Aimée earned her MD-MPH from the University of Wisconsin School of Medicine and Public Health. Her capstone project for her masters in public health included assembling a series of micro-learnings examining weight bias and developing a toolkit for clinicians to provide weight-inclusive care. During a global health field course in Ecuador, Aimée examined the interdependence of human, animal, and environmental health and gained proficiency in medical Spanish. She is passionate about weight-inclusive care, sexual and reproductive health, and improving care for underserved communities. Outside of work, she enjoys listening to audiobooks, spending time outdoors, and going on adventures with her partner and their 4-year-old.

Projects Completed During Residency:

Community Health Learning Experience and Scholarly Project:

Perspectives on Weight-Based Stigma and Bias at Wingra Family Medical Center

Weight bias is a prevalent and under-recognized issue, to the extent that larger-bodied people delay or forgo care to avoid weight stigma in healthcare settings. A series of focus groups were planned to identify the ways in which patients experience weight bias in clinic and to explore potential interventions to improve care. Participant recruitment was a notable challenge, likely due to the sensitive nature of research on stigma and the limited time/availability of the clinics' underserved population. Participants' responses, though limited, supported a patient-centered approach that respects individual autonomy and de-emphasizes weight in conversations around health.

Many thanks to Keelin, Danae, Mary H, Sarina, and the rest of the WREN team for their tireless work on our grant project. Thank you to my Wingra patients, who have taught me so much and remind me why I chose this career. Thank you to my (forever) intern buddy Evelyn for keeping me afloat on the roughest days. Thank you to my parents for their unconditional love and support from the very beginning. Most of all, thank you to my partner and life-long rock, Ethan. The sacrifices of residency are nothing compared to what you have done for our family these last 3 years. Thank you for your endless patience and support in allowing me to be the physician and mother I wanted to be. I could not have done any of this without you.

Department of Family Medicine and Community Health
UNIVERSITY OF WISCONSIN
SCHOOL OF MEDICINE AND PUBLIC HEALTH

Patient Perspectives on Weight-Based Stigma and Bias at an FQHC Residency Clinic

WREN WISCONSIN Research & Education Network *for our health*

Aimée Wattiaux, MD, MPH[1]; Keelin McHugh[2]; Danae Parks[2]; Mary F. Henningfield, PhD[2]; Sarina Schrager, MD, MS[1,2]

[1]Department of Family Medicine and Community Health; University of Wisconsin School of Medicine and Public Health; Madison, WI, [2]Wisconsin Research and Education Network (WREN);

Department of Family Medicine and Community Health; University of Wisconsin School of Medicine and Public Health; Madison, WI

Background

- Weight bias is a highly prevalent and under-recognized issue
- Consequences of weight stigma include depression, anxiety, decreased social involvement, increased allostatic load, and avoidance of healthcare[1-4]
- A number of weight-inclusive practices have been identified, including de-emphasizing weight in conversations about health, using patient-centered communication and language, and ensuring the use of size-appropriate equipment[5,6]

Objectives

1. To identify the ways in which patients experience weight bias at a federally qualified health center (FQHC) in Madison, WI
2. To explore potential interventions to improve care for patients in larger bodies

Settings and Participants

- We held 1 focus group with 2 participants who receive care at Wingra Family Medical Center in Madison, WI

Methods

- We engaged a patient advisory board for feedback on the study topic and recruitment methods and materials
- Flyers were hung in waiting rooms, restrooms, and patient exam rooms
- Participants self-selected and completed an online eligibility survey or contacted the research team directly
- In an attempt to increase participation, recruitment was extended to a second UW Health residency clinic, though no additional participants were recruited
- The focus group was conducted virtually and consisted of open-ended questions asking participants to 1) describe their weight-related experiences in clinic and 2) provide feedback on potential interventions
- Due to low number of participants, we conducted narrative analysis rather than thematic analysis

Results

- The eligibility survey was opened 35 times in 8 months
- 14 patients completed the eligibility survey or contacted the research team
- Of these, 2 patients participated in 1 focus group

Participant Stories

Participant 1

- Experienced weight bias in medical settings most of their life
- Learned to advocate for themselves over time:
  - Changed doctors if they had a negative experience involving weight bias
  - Requested not to be routinely weighed by their clinical team
- Prefers to decenter weight during primary care visits

"I guarantee you nobody has ever lost weight because they got weighed at a doctor's office and it's made them feel empowered, you know? Making people get weighed takes away their power."

Participant 2

- Experiences significant emotional distress in medical settings
- Felt pressured to be weighed during visits
- Had their chronic health issues misattributed to weight
- Interested in decentering weight during primary care visits

"And not only was it... emotionally hurtful, it was dangerous, because I ended up finding out that I actually have sciatic pain because... one of my legs is... shorter than the other, and I never really learned how to walk correctly. So now I have to go through physical therapy. I was going to have to do that anyway, but I wish I had known sooner."

Recruitment challenges

- Despite enthusiastic support for this study from the patient advisory board and apparent interest in participating (flyer tear-off tabs were almost all taken), there was a low volume of completed surveys and even fewer focus group attendees
- Potential reasons for this include:
  - Weight is a sensitive topic for many people
  - It can be challenging to engage marginalized groups (which accounts for much of an FQHC population) in research[7]
  - Recruitment was limited to self-selection in an effort to avoid the potential stigma associated with targeted recruitment based on weight/BMI
  - Focus groups were only able to be conducted in English, excluding a significant proportion of the clinic's patient population

Conclusions

- The two focus group participants shared powerful experiences of encountering and overcoming weight bias in clinic:
  - Participant 1 experienced years of weight bias and gradually **learned how to advocate for themselves** in healthcare settings
  - Participant 2 experienced a **delay in diagnosis and treatment** due to having their chronic health issue misattributed to weight
- Despite general interest in this study, **patient recruitment was a major challenge**
- Future work should be focused on engaging a greater number of patients to share their perspectives on weight bias in primary care clinics

Acknowledgments

- Support for this research was provided by the University of Wisconsin-Madison Department of Family Medicine and Community Health
- We are incredibly grateful to our focus group participants for their willingness to share their experiences

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Logan Yeager, MD

Logan Yeager, MD (he/him), is a native Wisconsinite from Dodgeville. He is committed to rural family medicine and building strong connections with his community. He has volunteered for over 8 years at the Community Connections Free Clinic in Dodgeville, where he has helped with projects including improving blood pressure control. He earned both his bachelor's degree in biology and his medical degree from the University of Wisconsin – Madison. While in medical school, Logan founded WisCARES Social Chats, a program that provides recurring phone call check-ins to individuals struggling with social isolation and loneliness. Logan's interests include full spectrum family medicine and the treatment of substance use disorders. He is honored to join his patients' journeys and work with them to build care plans and goals. His goal is to practice in rural Wisconsin and partner with patients as they face issues and stresses impacted by rural health. Logan can often be found fishing, biking, playing the guitar, and spending time with his wife, son, and friends.

Projects Completed During Residency:

Scholarly Project:

Does antenatal surveillance improve outcomes for patients with diet controlled (class A1) gestational diabetes?

Community Health Learning Experience:

Fostering Learner Interest in Medicine/Rural Medicine through AHEC Partnership

Through partnership with Wisconsin AHEC, David Hardin and I have been working to encourage learner interest in careers in medicine, and more specifically rural medicine. We have been attending and presenting at conferences, career fairs, and didactic sessions targeting middle and high school students. Topics have varied from "A Day in the Life of a Family Medicine Doctor" to "Hands-on Anatomy Exploration". Future endeavors that are currently underway include, specifically partnering with local Belleville students and offering shadowing opportunities at the UW Belleville Clinic.

Thank you to my wonderful wife and son for your unwavering love and support. Thank you to my mother for the sacrifices you made, so that I may have every opportunity to pursue my dreams. Thank you to all of my mentors for showing me the importance of humility in our work.

Title: Does antenatal surveillance improve outcomes for patients with diet controlled (class A1) gestational diabetes?

Authors: Logan Yeager, MD; Bethany M. Howlett, MD, MHS

Affiliation: University of Wisconsin Department of Family Medicine and Community Health

Bottom Line: ACOG states that there is no consensus on the topic of antenatal surveillance in A1GDM and there is a lack of evidence to support a recommendation. There are no RCTs evaluating the role of antenatal surveillance in A1GDM. There are, however, several cohort studies looking at birth and infant outcomes in pregnancies complicated by A1GDM or GDM in general. These studies have shown no increase in stillbirth or perinatal mortality associated with A1GDM.

Case: A 26-year-old G1P0 at 30 weeks gestational age comes to your clinic for prenatal care. The pregnancy is complicated by A1GDM with no other pregnancy complications. How should we counsel this patient regarding the role of antenatal surveillance?

Evidence Summary:

In ACOG's Practice Bulletin 190 from February 2018, there is no consensus regarding antenatal testing in A1GDM although it could be considered for those with comorbidities.[1]

An in-depth literature search was performed with the aid of a skilled librarian. There is limited research on the subject, especially research that specifically looks at A1GDM.

A 2008 retrospective cohort study investigated pregnancy outcomes in an Israeli medical center where pregnancies complicated by A1GDM are induced at 40 weeks. 184,256 pregnancies occurred during the study and 10,227 were complicated by A1GDM. Univariate analysis showed a reduction in stillbirth and total perinatal mortality when comparing A1GDM to non-A1GDM (OR 0.5 (95% CI: 0.4-0.7) and OR 0.5 (95% CI: 0.4-0.6), respectively). Before 40 weeks, the same stillbirth rates were observed in A1GDM (0.1%) vs non-A1GDM (0.1%). At or after 40 weeks, stillbirth rates were lower in A1GDM (0.5%) compared to non-A1GDM (1.3%) ($P<0.001$). When a multivariate analysis (accounting for maternal age, labor induction, cesarean delivery, and birthweight) was employed there was no longer a statistically significant reduction in total perinatal mortality in A1GDM compared to non-A1GDM (weighted OR 0.8 (95% CI: 0.6-1.1)).[2]

A 2010 population-based cohort study in Sweden reviewed 1,260,297 singleton pregnancies to compare outcomes in GDM vs non-GDM pregnancies. 10,525 of the pregnancies were complicated by GDM. No distinction between A1GDM and A2GDM was made. Both unadjusted and adjusted (accounting for BMI, maternal age, chronic hypertension, ethnicity, parity, smoking) odd ratios comparing outcomes in GDM vs non-GDM pregnancies were calculated. Differences in stillbirth rates were not statistically significant (unadjusted OR 1.18 (95% CI: 0.87-1.60); adjusted OR 0.85 (95% CI: 0.59-1.23)). Differences in perinatal mortality rates were not statistically significant (unadjusted OR 1.07 (95% CI: 0.83-1.39); adjusted OR 0.80 (95% CI: 0.58-1.10)).[3]

A 2009 prospective study in Italy compared outcomes in 3,465 pregnancies complicated by GDM to national pregnancy outcome data. 31% of the GDM pregnancies were A2GDM treated with insulin although outcomes between A1GDM and A2GDM were not differentiated. There was no statistically significant difference in still birth rates (GDM 0.34% vs. 0.30%; p 0.176). Similarly, there was no statistically significant difference in neonatal mortality (GDM 0.29% vs. 0.32%; p 0.748).[4]

Case conclusion:

After reviewing the guidelines and studies with the patient, we collaboratively determine that antenatal testing is not evidence-based. We recommend continued routine prenatal care.

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