



**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 2020

Jeffrey Berry, MD

Projects Completed During Residency:

Scholarly Project:

A Model to Provide Medication-Assisted Treatment for Opioid Use Disorder in a Rural Residency Clinic

Community Health Learning Experience:

Combating the Opioid Epidemic in Wisconsin Through a Residency MAT Program, a Naloxone Quality Improvement Project, and Assistance with the Green County Health Department Opioid Dashboard:

Jeff's community health project was a culmination of the work he did around the opioid epidemic in the community. It included his scholarly project of MAT metrics at a rural residency clinic, a QI project to increase the rate of naloxone co-prescription at clinic, and collaboration with the Green County Health Department's opioid dashboard.



Jeffrey Berry, originally from Kansas City, MO, earned his undergraduate degree in biology and his medical degree from the University of Missouri-Columbia. Prior to starting his medical education, Jeff taught sex-ed and nutrition classes to elementary and high school students

on the west side of Chicago as an AmeriCorps Health Educator. During medical school, Jeff served as the Specialty Services Director for MedZou, a medical-student-run free clinic. In addition to serving the Columbia, MO underprivileged population, Jeff extended his passion for serving the underserved by working to address health inequities nationwide. He also provided care on a Navajo reservation in Crownpoint, NM with the Indian Health Service. His spirit of caring and his attraction to the intellectual rigors of family medicine informed his decision to specialize in family medicine; Jeff comes to the Madison Family Medicine Residency after falling in love with the specialty during his third-year family medicine clerkship. He credits his mentors with guiding him to his interests in outpatient procedures, chronic disease management, inpatient medicine, and musculoskeletal / sports medicine. Outside of medicine, Jeff enjoys canoeing and hiking, disc golf, music and science fiction, and cheering for the Kansas City Royals.



Thank you to my entire family for supporting me throughout my long journey, but especially to my parents who have always instilled in me a sense of hard work, compassion, and curiosity. I wouldn't be where I am today without their love and support. Thank you to my countless teachers and mentors throughout medical school and residency, but especially the faculty at Belleville for teaching me the art of medicine through teamwork, community, motivation, and kindness. Thank you to the nurses, medical assistants, social workers, pharmacists, and other healthcare staff who have all been inspirational teachers and models for how healthcare can thrive as a team. And thank you most of all to the patients who have allowed me into their lives and who have been the best teachers of all.

A Model to Provide Medication-Assisted Treatment for Opioid Use Disorder in a Rural Residency Clinic

Jeffrey Berry MD¹, Veronica Daniel², Jillian Landeck, MD¹

¹UW Health Belleville Family Medicine Clinic, Belleville, WI, USA
²University of Wisconsin School of Medicine and Public Health, WI, USA.

Introduction

- Wisconsin experienced 16.9 opioid-related deaths/100,000 persons in 2017, higher than the national average¹
- Medication-assisted treatment (MAT) with buprenorphine/naloxone is effective for opioid use disorder (OUD)^{2,3,4}
- 60% of rural counties lack a physician able to prescribe buprenorphine⁵
- Barriers that limit widespread use of MAT in rural clinics include time constraints, lack of behavioral health resources, and specialty care support⁶
- The UW Belleville Family Medicine clinic provides MAT, partners with a county-level AODA program and has access to a state-wide tele-medicine program

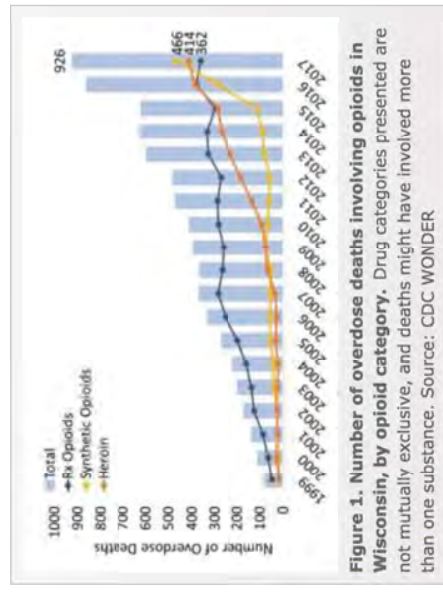


Figure 1. Number of overdose deaths involving opioids in Wisconsin, by opioid category. Drug categories presented are not mutually exclusive, and deaths might have involved more than one substance. Source: CDC WONDER

Objective

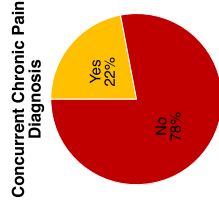
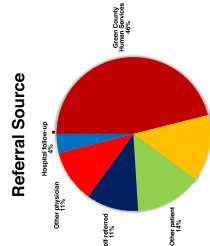
- Assess initial quality outcomes in a new rural MAT program designed to address three barriers limiting widespread uptake of MAT: time constraints, lack of behavioral resources, and lack of specialty care support

Methods

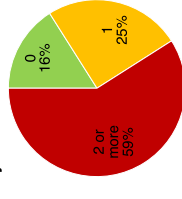
- For non-pregnant adults with moderate-to-severe OUD, MAT was provided with behavioral therapy as needed, which included referral to county-level AODA services
- MAT providers had access to continuous addiction medicine phone consultation and a state wide tele-medicine program (Project ECHO)
- If buprenorphine induction was recommended, this was done with at-home induction, if not contraindicated, using RN telecommunication and administration of the subjective opioid withdrawal scale (SOWS)
- Primary outcomes
 - MAT retention at 3 months
 - MAT retention at 6 months
 - Monthly relapse rates (urine drug screen or patient report) within each of the first 6 months of treatment
- Secondary outcomes
 - Access to care (days between first contact and first appointment)
 - Involvement in any form of behavioral health

Patient Characteristics

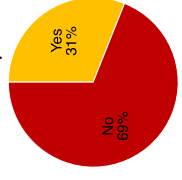
- From July 2018 to May 2019, 32 patients (34±9.9 years; 28% female) met criteria for moderate-to-severe opioid use disorder and were treated using MAT



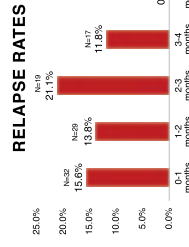
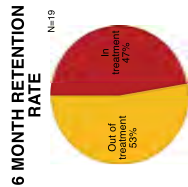
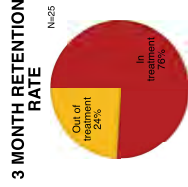
Psychiatric Co-morbidities



Co-morbid Hepatitis C

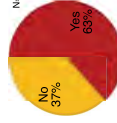


Primary Outcomes



Secondary Outcomes

ENGAGEMENT IN BEHAVIORAL HEALTH



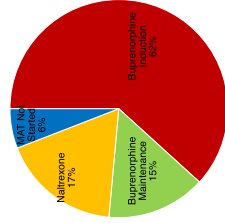
ACCESS TO CARE

- Mean = 10 days ± 11.5 days
- Median = 7 days

Intake Visit

- As of May 2019, 5 of 9 residents and 6 of 6 faculty had buprenorphine waiver
- Standard note template to discuss:
 - Opioid use history, longest period of abstinence, barriers to stop use
 - Substance use contacts, legal issues, motivators to quit, support system
 - Other substance use, treatment history
 - Psychiatric history
- DSM V Criteria for diagnosis of moderate-to-severe opioid use disorder
- Discussion of MAT options – buprenorphine, naltrexone, methadone
- Rx for naloxone
- Referral to Green County AODA or therapy if indicated
- Labs – CMP, Hep B, Hep C, HIV, INR, UDS
- If buprenorphine – in-clinic induction vs home induction

Intake Visit Treatment Plan



Conclusions

- Initial data suggest this model is able to address the barriers to providing MAT in a rural setting
- Further longitudinal data will help evaluate quality MAT metrics

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Funding

UW-Madison Department of Family Medicine and Community Health

Conflicts of Interest

None



Alyssa Bruehlman, MD

Projects Completed During Residency:

Community Health Learning Experience & Scholarly Project:

Examining UW's MEDiC through the Health Equity Lens: Ideas for Change

Working alongside Wingra co-resident Nina Piazza, Alyssa's Scholarly Project included background research gathering supportive evidence for their Community Health Learning Experience report. Topics studied included standards of care in primary care, historical context of insurance coverage and health disparities in Dane County, and current models of academically affiliated student-run clinics nationwide. Findings were summarized in an abstract that was submitted to the Towards One WI Conference; however, unfortunately due to public health concerns, that conference was cancelled. The final community health project report will be submitted to leaders of UW's own student-run clinic.



Alyssa Bruehlman was born and raised in Pittsburgh, Pennsylvania. She received her BA in Dance and Movement Studies from Emory University followed by a three-year stint of tiny apartments, myriad jobs, and occasional dance gigs in New York City before

her sights turned to medicine. She received her M.D. from the University of Pittsburgh School of Medicine where she was active in developing the school's social medicine curriculum. She was thrilled to embark on a Midwest adventure when she joined the UW Madison Family Medicine Residency Program and Wingra Clinic three years ago, and she will be staying with the program as an Academic Fellow next year. She has specific interests in care of the underserved, addiction medicine, integrated behavioral health, and maternal-child health. She eventually wants to practice full-scope family medicine in a community health center with connections to an academic program. In her life away from work, Alyssa can be found spending time with her husband and insanely cute but cutely insane dog Maxine. She also enjoys yoga, swimming, running, drinking coffee, eating all foods, delving into a Netflix show or a good book, and talking about her hometown to any and all who will listen.



I am infinitely grateful to the family, friends, co-residents, faculty, staff, and patients who have taught and supported me along this journey. Particular love goes to my husband and better half Kishan who has put up with me through years of togetherness and months of sheltering in place. Further appreciation goes out to my loving parents Rich and Patty who have always been invested in my life's journey no matter what path I take.

Examining UW's MEDiC through the Health Equity Lens: Ideas for Change

Nina Piazza, MD and Alyssa Bruehlman, MD

Student-run clinics (SRCs), including the University of Wisconsin School of Medicine and Public Health's MEDiC, offer opportunities to provide care to underserved patients and for health professional students to practice clinical skills within a context of community outreach. In all SRCs, there exists a tension between the priorities of educational volunteerism and the provision of quality care for vulnerable, mostly uninsured and minority patients. As part of our community health learning experience during family medicine residency, we sought to investigate how SRCs as a whole, and MEDiC in particular, can better prioritize being patient-centered organizations rather than student-centered organizations. The following report summarizes our findings and recommendations.

Background:

MEDiC's first free clinic was offered within a men's shelter at Grace Episcopal Church in 1991,¹ at a time when an estimated 17% of Americans under age 65 were uninsured.² Over the next two decades, the percentage of uninsured Americans remained fairly stable; however, the absolute number of uninsured Americans continued to grow.² In 2008, Wisconsin started the BadgerCare Plus program which expanded insurance access to children, families, and childless adults at a time when the country was entering a recession.³ In 2010, MEDiC officially became a sponsored program within UW SMPH,¹ the same year in which the Affordable Care Act (ACA) was passed to improve health insurance coverage to lower income Americans.⁴ Wisconsin did not adopt federally funded Medicaid expansion but instead instituted a partial expansion in 2014, leaving an estimated 82,000 Wisconsinites at risk of being un- or under-insured.^{5,6}

Based on the data since Wisconsin's partial Medicaid expansion, approximately 4.8% of individuals under age 65 in Dane County remain uninsured, compared to an average of 8% statewide and 10% nationally.^{7,8,9} While Wisconsin and Dane County have experienced a lower prevalence of uninsured residents compared to national averages,^{3,9,10} minority populations bear an unequal burden of these statistics. Latinx comprise a disproportionate number of the uninsured, attributed partially to immigration status.^{7,8} Black Dane County residents are 2.3 times more likely to be uninsured than non-Hispanic whites.¹¹ Even when controlling for income or insurance status, people of color are more likely to be affected by health disparities,¹² and Wisconsin received a grade "D" in overall health disparities based on a 2016 report from UW's Population Health Institute.¹³

Since MEDiC's founding three decades ago, there have been meaningful improvements in healthcare insurance and access in Madison, including the partial expansion of Medicaid, growth of community clinics including the Access Community Health Centers network, and health system-sponsored financial assistance programs like UW Health's Community Care. MEDiC has also increased its locations and services during this time. Despite these changes, there is undoubtedly an ongoing need for access to affordable and high-quality comprehensive primary care services.

Current State:

MEDiC currently runs three core adult medical clinics held once weekly which are staffed by a rotating group of health professional students and volunteers. These clinics are all acute care clinics and are not set up to provide long term primary care. The Southside clinic is located at the Access Erdman clinic site and sees a higher percentage of undocumented and uninsured patients. The Grace and Salvation Army clinics are located at a men's and women's shelter, respectively, and focus mostly on the acute care, "walk-in" needs of the shelter residents. Many patients who visit the Salvation Army and Grace clinics have health insurance or would qualify for Medicaid, and some are already established in primary care homes.

The clinic operations at MEDiC are run largely by first- and second-year medical students, and leadership roles are held for a one-year term. During a clinic session, pre-clinical medical and other health professional students (nursing, pharmacy, PT, PA, and NP) are paired as a clinical team who will evaluate patients. The preceptors at MEDiC are a combination of resident and faculty physicians from a variety of specialties including neurology, family medicine, internal medicine, cardiology, emergency medicine, preventive medicine, and critical care, among others.

If patients present with a purely acute need (URI, rash, etc), the clinical team is able to provide medications and supplies that are stocked at the clinic sites, write prescriptions, offer reassurance, or triage to a higher level of care (i.e. the emergency department). If a chronic issue is discovered, such as poorly controlled diabetes or elevated blood pressure, it is up to the team to decide how this should be managed, whether by providing a short term supply of medications, referring to primary care, or deferring to the patient's primary care provider should they have one. The newly established "Bridges to Care" program at the Southside Clinic allows for longer term management of hypertension through protocolized medication titration and lab monitoring. There is no formal system in place for managing other comorbidities nor continuity of providers to follow these patients within MEDiC's schedule, and current referrals processes are limited. Because of this format, MEDiC clinics are not able to serve as a medical home for patients.

In contrast to this model, there are national guidelines for appropriate standards of care in a medical home, as laid out by the ACP, AHRQ, and The Primary Care Collaborative.^{14,15,16} Some of these tenets include the importance of keeping continuity with one provider within a team, addressing the whole scope of a person's health, and including patients and community organizations in the practice's evaluation process. There is also an emphasis on care coordination within the medical neighborhood.

Other student clinics around the country model these national standards with simultaneous focus on patient-centeredness and student education. At Northwestern University, students are embedded within the CommunityHealth Chicago clinic, which runs as an education-centered medical home. Students are paired with the same attending over all four years of medical school, allowing for continuity. Their data shows better outcomes in preventive health measures, as compared to other student-run clinics.¹⁷ The Vanderbilt Shade Tree Clinic also cares for a panel of patients with ongoing continuity, and they have found that patients in their panel had fewer hospitalizations.¹⁸ At the University of Rochester, the St. Joseph's Neighborhood Center offers comprehensive primary care services, with the medical student clinic providing an extension of their services, being fully embedded into their model of care and continuity.^{19,20} There are multiple studies showing that continuity of care is very positive for medical student satisfaction and education. While some

patients return to MEDiC over multiple visits, it is not currently equipped to act as a continuity clinic.

Recommendations:

There are several areas in which MEDiC could further optimize its operations to be more patient-centered.

1. *Students should be assigned tasks appropriate to their level of training*

The vast majority of MEDiC's student volunteers are in their pre-clinical years of training (e.g. Phase 1 medical students). Subsequently, the histories obtained, physical exams performed, and assessments formulated are by students who have only partial and still emerging clinical reasoning skills. When more advanced medical students are present in the current phase 3 elective, it is in a practice preceptorship role and rarely in direct patient care. MEDiC clinics could greatly benefit from more consistent involvement of students who are at more advanced stages of training (for medical students, Phases 2 and 3) in order to improve the care that patients receive. This involvement could come from a structured clinical rotation incorporated into existing curricula, though could also remain primarily within the realm of volunteerism. Senior student learners can more appropriately assess and present patient information and thereby can provide a more streamlined and comfortable experience for patients. Students who are earlier on in training can remain involved by performing tasks appropriate for their current knowledge level such as obtaining vital signs, eliciting chief complaints, performing medication reconciliations, operating as scribes during encounters, and learning physical exam maneuvers from other team members if applicable.

2. *Supervision should come from providers working within the scope of their active practice*

Paralleling the concept of appropriate student involvement, supervising providers should work within the clinical sphere in which they are trained and experienced. Staffing MEDiC clinics with as many primary care, urgent care, or emergency department providers as possible would help address the unexpected and varied nature of patient concerns while ensuring safety and quality of care. Beyond the volunteer physicians at each clinic session, we also recommend that MEDiC involve primary care clinicians more closely with the overall leadership of clinic operations.

3. *Clinics should establish a referral and follow-up process for patients needing care outside of what the clinic can provide*

MEDiC's current referrals system to primary care or specialists lacks standardization and structure. Currently there are 3 primary care referrals available from MEDiC clinics per month for uninsured patients, and there is no standardized approach to determine who receives those referrals. There are multiple complexities in navigating the needs of patients who may or may not have insurance or a primary care provider. This is furthermore muddled by the varying intake processes at clinics across the county. Furthermore, many patients seen at MEDiC have chronic conditions and a level of medical complexity which would best be served by a continuity provider. This makes it all the more essential for MEDiC to clearly establish a systematic referrals process with the ultimate goal of

streamlining connections to continuity care, not only for medically complex patients, but for everyone that they see.

MEDiC volunteers could play a more active role in this referral process. For example, volunteers could act as healthcare navigators for specific patients to help connect them with local clinics. For those patients who do have primary care providers, volunteers could more routinely fax notes to providers when their patients are seen in a MEDiC clinic. The MEDiC system as a whole could establish workflows for prioritizing referrals based on condition and urgency. MEDiC can also consider partnering with the local community organization ABC for Health to connect patients with greater insurance coverage options.

4. *If the clinic model is unable to provide continuity of care, then the clinic should focus on optimizing urgent care services and referrals*

Given the more intermittent nature of both patient encounters and volunteer involvement at MEDiC, the clinic's ability to provide continuity of care for chronic conditions is inherently limited. This speaks to the essential need for improvement in referrals processes as outlined above. Still, many patients seek care at MEDiC for acute care needs and certainly these services could be optimized as well. One idea could include building a list of the 15-20 most common urgent care conditions seen across the UW system or MEDiC clinics over the past 2-5 years. Once a list of most common diagnoses is established, this could help guide student education materials and clinical practice guidelines for these conditions, pharmacy medication supply, and workflows surrounding follow-up and referrals.

5. *Patients should have direct input in the evaluation of clinic services*

In making system improvement, including patient perspectives is important. As recommended by ACP, AHRQ, and PCC guidelines, most healthcare organizations involve patient representation on boards and committees. We encourage MEDiC to find creative ways to elicit input from its patient population. Ideas include but are not limited to in-person surveys, telephone interviews, focus groups, and a patient representative on the leadership team.

Conclusion:

In an ideal world, all patients would have access to insurance and a primary care medical home, however this is not the reality in which we live. Evidence shows patients who have a primary care home have best outcomes, and so connecting patients to primary care should be the ultimate goal of safety-net clinics like MEDiC. This report aims not only to define areas in which MEDiC operations could improve (education, staffing, referrals), but also to consider the potential implications on equity and access to care for MEDiC's patients. We encourage MEDiC leaders to focus on providing the same quality of care that patients would receive at UW Health and advocating for improved access to care in the Madison area, even if those services exist beyond what MEDiC can offer.

There is a shortage of medical homes available in Madison that are able to accept patients without insurance. MEDiC volunteers are well suited to advocate for the patients that they serve, in that they see firsthand a large number of patients who need to be connected to care. It would behoove the

organization to prioritize advocacy within our community for the establishment of more options for uninsured community members.

SRCs can be a valuable learning experience, but education should not be at the cost of health equity. We recommend that the MEDiC organization continue its valuable work in this field and more closely assess its current practices through the lens of the ideas mentioned above. While the current global pandemic has had devastating consequences, it has also created space for healthcare organizations to re-examine and innovate the care they provide to their communities. We encourage the leadership of MEDiC to take this temporary closure as an opportunity to do the same and reframe the work that they do with health equity and patient-centeredness at the forefront.

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Karyn Cecele, MD

Projects Completed During Residency:

Scholarly Project:

Working with a Rural Community to Address
Opioid Use Disorder

Community Health Learning Experience:

Jackson County, Wisconsin is a rural county of farmland and forests with six small towns and villages and a total population of 20,554. The county's Community Health Improvement Network (CHIN) was established to actively address goals identified in the 2017-2019 Community Health Improvement Plan, including opioid use in the county. Karyn participated in CHIN meetings in person or by telephone when possible. In addition, she shared information with the group about incidence and prevalence of opioid use disorder in the county and best practices for addressing opioid use disorder. She also discussed the impact of opioid use with stakeholders including physicians, EMS, Drug Court, and social workers from both the hospital and Department of Health and Human Services. The group identified lack of access to medication-assisted treatment for patients with opioid use disorder as a critical barrier to reducing the impact of opioid use in the county.



Thank you does not cover my appreciation for my wife, Amy. She has provided non-stop support, care and understanding through this adventure, along with a steady stream of clean clothes, yummy meals, promptly paid bills, and freshly vacuumed carpets. I want to thank my daughters for being my sounding boards and best cheerleaders. I love them, and I have been so blessed to like the women they have become more each day. Thank you to my mom who has showed me her steady, loving strength regardless of what life throws her way; you are my inspiration. My grandkids are my joy; I can not express my appreciation for what they have brought to my life. Finally, I want to thank Gabby aka "The Kitten" for being a good dog most of the time and always being happy to see me when I get home.



For Karyn Cecele Wisconsin is home; she was born in Black River Falls and has lived in La Crosse for most of her adult life. She earned her undergraduate degrees in History and Women's Studies from the University of Wisconsin-La Crosse before attending the UW School of Medicine and Public Health for

her medical degree as part of the Wisconsin Academy for Rural Medicine (WARM) program. Karyn's personal experiences, as well as her volunteer work, have influenced her approach to recognize the complex social factors that influence health. In medical school, Karyn volunteered with the Medical Students Offering Maternal Support program where she promoted the wellbeing of a pregnant mom who was recovering from opioid addiction. She also coordinated Health for the Generations, a healthcare exploration camp for high school students from Pine Ridge Reservation of South Dakota and from La Crosse, Wisconsin. In residency, she participated in the Rural Health Equity Track, which furthered her passion for rural medicine. She was one of several providers that initiated medication assisted treatment for opioid use disorder in Belleville Clinic. This experience instilled her with a new passion for addiction medicine. She was the 2018 David C. Eitrheim, MD Rural Resident Memorial Scholarship recipient, an award given annually to a Wisconsin first year resident demonstrating an interest and commitment to rural family medicine. Karyn is passionate about partnering with patients and their families to create personalized healthcare aimed at the whole person. Karyn is an avid reader with a current interest in science fiction and autobiographies of women. She enjoys hiking, dogs, crocheting and wild berry picking. Family is important to Karyn and she finds joy in spending time with her wife, two daughters, grandchildren and mother.

SUPPORTING THE TREATMENT OF OPIOID USE DISORDER IN A RURAL TEACHING CLINIC

JULIAN LANDECK, MD; KELSEY SCHMIDT, MD; KARYN CECELE, MD, AND TAYLOR BOLAND MD



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

RURAL HEALTH EQUITY TRACK (RHET)

- Fully participate in UW Madison Family Medicine Program
- 2 Residents per year
- Based at the Belleville Clinic
- Additional rural experiences - Critical access hospital



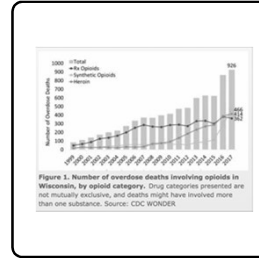
RURAL HEALTH EQUITY TRACK (RHET)

- LEADERSHIP CURRICULUM AND MENTORING OPPORTUNITIES
- MENTAL HEALTH AND AODA TRAINING INCLUDING TRAINING AS BUPRENORPHINE PRESCRIBERS
- CUSTOMIZABLE COMMUNITY FOCUS



BACKGROUND

- WISCONSIN EXPERIENCED 16.9 OPIOID-RELATED DEATHS/100,000 PERSONS IN 2017, HIGHER THAN THE NATIONAL AVERAGE
- MULTIPLE PLACEBO-CONTROLLED TRIALS ACROSS CONTINENTS AND DECADES DEMONSTRATE THE EFFECTIVENESS OF MAT IN OPIOID USE DISORDER



RURAL CHALLENGES

- 60% OF RURAL COUNTIES LACK A BUPRENORPHINE PRESCRIBER (ANDRILLA ET AL 2017)
- AMONG ACTIVE PRESCRIBERS, 60% ACCEPTING NEW PATIENTS
- COMMON BARRIERS:
 - MEDICATION MISUSE/DIVERSION (48%)
 - LACK OF AVAILABLE MENTAL HEALTH RESOURCES (44%)
 - TIME CONSTRAINTS (40%)
 - LACK OF SPECIALITY BACKUP FOR COMPLEX PROBLEMS (32%)
 - FINANCIAL OR REIMBURSEMENT CONCERNS (29%)
 - RESISTANCE FROM PRACTICE PARTNERS (14%)
 - LACK OF CONFIDENCE IN MANAGING OUD (10%)

OUR MAT FRAMEWORK

- STARTED OFFERING MAT WITH BUPRENORPHINE/NALOXONE OR MONTHLY NALTREXONE INJECTIONS IN JULY 2018
- BY MAY 2019, 5/9 RESIDENTS, AND 6/6 FACULTY HAD BUPRENORPHINE WAIVER
- STANDARDIZED PROTOCOL AND NOTE FOR INTAKE VISIT
- REFERRAL TO GREEN COUNTY AODA PROGRAM OR THERAPY IF INDICATED
- OFFER HOME AND IN CLINIC INDUCTIONS

OUR PROTOCOL

- RN INTAKE CALL
- SUBSTANCE USE HISTORY
- TREATMENT HISTORY
- SCHEDULE APPOINTMENT
- ESTABLISH PCP AT BELLEVILLE




OUR PROTOCOL


- MD INITIAL VISIT
- DIAGNOSIS AND TREATMENT APPROPRIATENESS
- BASELINE LABS
- SUBSTANCE USE HISTORY
- MEDICAL HISTORY
- SOCIAL AND LEGAL BARRIERS
- PAPERWORK
- TREATMENT PLAN




HOME INDUCTION




RN call




Titration by protocol with MD support



SOWS



Close follow-up




Exclusion criteria

OFFICE INDUCTION


Patient brings and self-administers buprenorphine

Titration over 3 hours

COWS




OUR PROTOCOL




Buprenorphine Follow-up

Once a week for 1 month
Every 2-4 weeks while stabilizing
Every 4-8 weeks once stable




Naltrexone Follow-up

1-2 weeks after initiation
Once a month for IM



Prescriptions

Refilled during visits
No phone refills (few exceptions)



Referral to higher level of care

Negative UDS or altered UDS
Unstable psychiatric condition
Frequent no-shows or cancellations
Inappropriate behavior

OUR PROTOCOL

BEHAVIORAL HEALTH RESOURCES

- PARTNERSHIP WITH COUNTY AODA SERVICES FOR INDIVIDUAL AND GROUP COUNSELING
- DRUG COURT PARTNERSHIP
- BEHAVIORAL HEALTH SPECIALIST (NON-AODA) IN CLINIC
- PEER RECOVERY SPECIALIST



ADDICTION MEDICINE SUPPORT

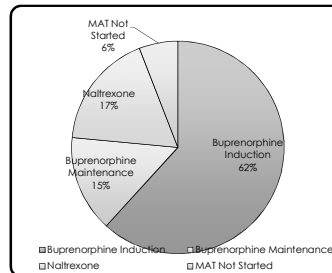
- UW ADDICTION CONSULTATION PROVIDER HOTLINE
 - FUNDED BY DEPARTMENT OF HEALTH SERVICES
 - STATEWIDE, M-F, 8 AM- 5PM
- PROJECT ECHO ACCEPT (ADDICTION AND CO-MORBID CONDITIONS: ENHANCING PREVENTION AND THERAPEUTICS)
 - MONTHLY VIDEOCONFERENCE
 - MULTIDISCIPLINARY
 - EDUCATIONAL TOPIC AND CASE DISCUSSIONS



◦ https://www.youtube.com/playlist?list=PLW4zgo_2n07fz5TF1s_ARv4kF5eQr5

OUR PATIENTS

- 40 PATIENTS
- 32 STARTED ON MEDICATION ASSISTED TREATMENT
- MEAN AGE 32 YEARS (25-60)
- 28% FEMALE
- 47% REFERRED FROM GREEN COUNTY



INITIAL VISIT TREATMENT PLAN

63% ENGAGED IN BEHAVIORAL HEALTH

STARTING BUPRENORPHINE



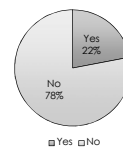
21 home inductions



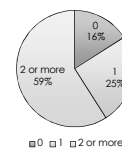
1 office induction

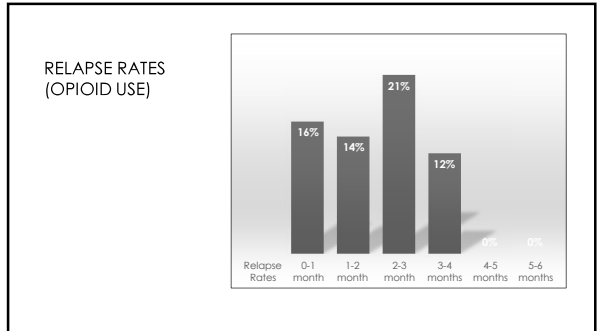
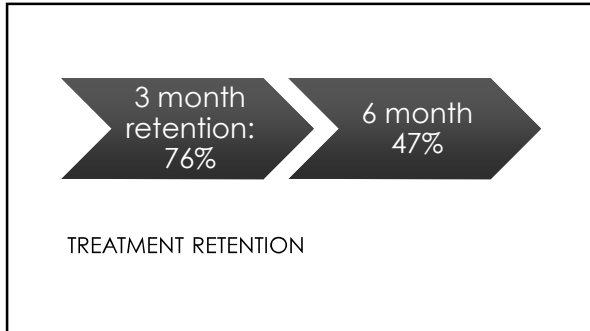
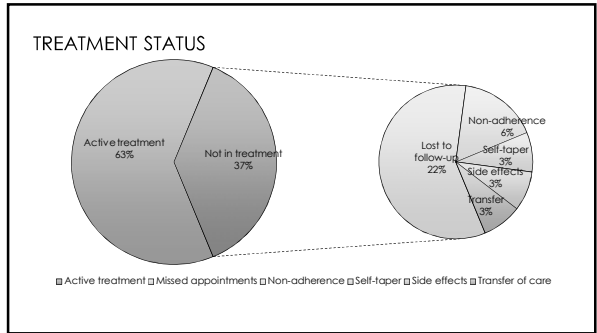
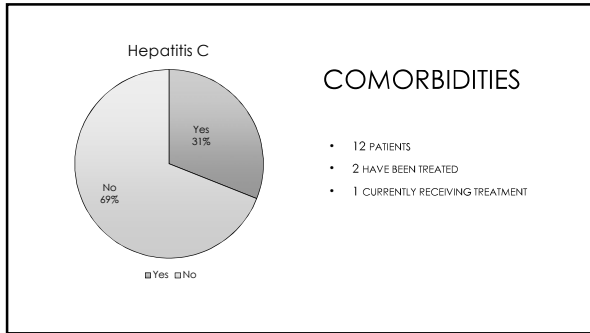
COMORBIDITIES

Chronic Pain



Psychiatric Diagnoses





Green County Health Community Coalition
 Hepatitis C treatment
 Needle Exchange Services
 Partnerships with County Jails/DOJ
 Enhanced training with Addiction Medicine specialists
 Partnering with Emergency Departments and Hospitals
 Group visits

NEXT STEPS

ACKNOWLEDGEMENTS

- RESIDENCY STAFF AND LEADERSHIP
- RHET STEERING COMMITTEE
- BELLEVILLE CLINIC STAFF, ESPECIALLY ANNA HELWIG RN
- RANDY BROWN, MD

REFERENCES

- ANDRILLA ET AL. BARRIERS RURAL PHYSICIANS FACE PRESCRIBING BUPRENORPHINE FOR OPIOID USE DISORDER. *ANNALS OF FAMILY MEDICINE*. 15, no. 4 (2017): 359-362.
- CDC'S WIDE-RANGING ONLINE DATA FOR EPIDEMIOLOGIC RESEARCH
- MARC A. SCHUCKIT. TREATMENT OF OPIOID-USE DISORDERS. *NEW ENGLAND JOURNAL OF MEDICINE* 375, no. 4 (2016): 357-58. [HTTP://DX.DOI.ORG/10.1056/NEJMB1604332](http://dx.doi.org/10.1056/NEJMB1604332).
- SUBSTANCE ABUSE AND MENTAL HEALTH SERVICES ADMINISTRATION: MEDICATION-ASSISTED TREATMENT (MAT) IN THE CRIMINAL JUSTICE SYSTEM: BRIEF GUIDANCE TO THE STATES

QUESTIONS?



Zachary Droeszler, MD

Projects Completed During Residency:

Scholarly Project:

Baraboo RTT Nursing Home Curriculum



Zachary Droeszler's passion for serving rural Wisconsin runs through his veins. Raised on a dairy farm in Kieler, WI, Zach strives to put family at the center of rural family medicine. He earned his undergraduate degree in biology from the University of Wisconsin-Madison.

Scholarly Project:

Lyme Disease CME:

As part of the St. Clare Hospital CME series, I gave a presentation on Lyme disease. The presentation included epidemiology, tick identification tips, disease presentation including timeframe, and treatment. I also discussed recommendations for the evaluation of patients presenting with "chronic" Lyme disease. It included an in-depth review of the Infectious Disease Society of America guidelines regarding this illness as well as preliminary discussion of the 2019 draft guidelines that had been released.

Prior to earning his medical degree from the UW School of Medicine and Public Health, Zach worked as a home health CNA. In medical school, Zach was in the Wisconsin Academy for Rural Medicine (WARM) program which tailored his medical training to the unique needs of rural Wisconsin communities. His commitment to advocating for and serving communities like his led him to serve as a student representative on the WARM admissions committee to help faculty and staff identify future students for this rural medicine preparation program. He also volunteered as an AHEC Health Careers Camp Counselor where he helped high school students learn about medical school and other careers in the health care field. Zach was drawn to rural family medicine by his passion for partnering with people of all ages in his community. He enjoys spending time with his family, which includes his wife and daughter, his close friends, and his fellow Badgers, Packers, Bucks, and Cubs fans.



The largest thank you to my wife, Malia, for being simply the best. Your support, sacrifice, and love made this journey possible. Thank you to my daughters, Evienne and Vera, for putting a smile on my face no matter what. I love you. Thank you to our families for their constant understanding and support, now and forever (I'm assuming you'll continue to do both, thanks!). A final thank you to the faculty, staff, and co-residents (especially intern buddy Molhy!) at the Madison program and especially at the Baraboo RTT. It is a special place with special people and a time I will cherish forever.

Teaching Nursing Home Guidelines and Workflow

University of Wisconsin - Department of Family Medicine and Community Health – Baraboo RTT Residency

Drafted 1/7/20

Scope:

These guidelines pertain to residents in the UW-DFMCH Baraboo residency program.

Background:

The Accreditation Council on Graduate Medical Education (ACGME) requires that FM residents “*must have at least 100 hours (or one month) or 125 patient encounters dedicated to the care of the older patient.*” (IV.C.7)

The requirements go on to say that “*the experience should incorporate care of older patients across a continuum of sites.*” (IV.C.7.b)

The Baraboo Program remains committed to teaching and demonstrating the richness of geriatric care in all patient care settings including clinic, hospitals, long-term care facilities, and rehabilitation facilities. At the conception of PGY2, residents must begin caring for a continuity panel of older patients at St. Clare Meadows Care Center (SCMCC), with one designated half-day of nursing home rounds, monthly.

Purpose:

The purpose of these guidelines is to define the Teaching Nursing Home (TNH) guidelines and clinical workflow.

Guidelines:

TNH STRUCTURE:

1. PGY1 residents are not required, nor have the capacity, to round at SCMCC
2. PGY2 residents will begin NH rounds upon completion of SMH MICU/OB senior rotations; typically August.
3. Prior to rounding, residents MUST attend a formal SCMCC orientation which will be coordinated by the Education Coordinator and SCMCC Administrative Supervisor.
4. The resident/attending dyad will conduct NH rounds together on the TNH panel one designated half-day per month. Sample below (*schedule subject to change*):
 - a. If resident or attending is not available on designated date, it is ok to move date.
 - b. If resident is not available (due to LOA, etc.) during a given month, attending will round on his/her own.
 - c. If attending is not available during a given month, Dr. Hannah or Dr. Lownik will precept the resident during the week the resident is assigned to round.
 - a. 5th Thursday most likely not needed.

	Attending	Resident	Day of the Week
First Tuesday of Month	Attending 1	PGY3 Resident A	Tuesday PM
Second Tuesday of Month	Attending 2	PGY3 Resident B	Tuesday PM
Third Thursday of Month	Attending 3	PGY2 Resident C	Thursday PM
Fourth Thursday of Month	Attending 4	PGY2 Resident D	Thursday PM
Fifth Thursday of Month	Attending 4	TBD (<i>if necessary</i>)	Thursday PM

5. The TNH schedule will be available in Lightning Bolt and can be viewed by anyone with LB access.
6. Weekly, the Clinical Unit Clerk will provide the SCMCC NH Unit Clerk with the resident/attending dyad schedule for the current week. SCMCC NH Unit Clerk will send an inbasket to the Clinical Unit Clerk of the list of patients that each Dyad will be seeing. The Clinical Unit Clerk is responsible for entering the NH patients into Epic to ensure accessibility for documenting and billing. Any discharges or acute patients needing to be seen will be provided to the Clinical Unit Clerk by the SCMCC RN to enter an appointment in Epic. In some circumstances an acute visit may not yet have been scheduled in Epic, and it is appropriate for physician rounder to put through level of service. Appointments will be scheduled in Epic – Geriatric Dept # 100470144 under the resident name.
 - a. Clinical Unit Clerk contact info: phone: 355-7416 fax: 355-7004
 - i. **NOTE:** If CUC is unavailable, the following individuals are able to add patients to that dept: Becky Brenson, Kellie Churchill, Kathy Statz, Carol Kotajarvi (Dells). Lori will attach inbasket to back-up if she is out of office.
 - b. Clinical unit clerk has autonomy to add newly admitted patients to the next rounder’s schedule.
 - c. SCMCC NH Unit Clerk contact info: chrystin.luetkens@ssmhealth.com
7. Acute Visits: It is OK for physician rounder to put through the level of service even if patient has not yet been “scheduled” in Epic. NH Unit Clerk can place a quick call to the Clinical Unit Clerk in order to add the appointment as timely as possible.
8. The goal of the TNH panel is to be comprised of approximately 16 patients. Each dyad will be responsible for caring for approximately 3-5 patients within that panel. Anticipate fluctuation based on volume/patient need.
 - a. **IMPORTANT:** When a new NH patient is assigned to a resident, the resident will populate themselves as a caregiver and note it on the problem list. This is also how GNP’s are designated. It is vital that PCP does NOT get changed. Dyad can be added to inbasket message i.e. Hannah/Droeszler.
9. A list of the TNH patient panel will be compiled and maintained securely within Epic.

TNH DIDACTICS:

- a. Will be incorporated into each NH half-day.
- b. Planned monthly geriatric curriculum topics, including reading assignments, will be provided at the beginning of each month by the TNH curriculum faculty lead.
- c. Residents should come prepared to discuss assigned readings with faculty during their designated NH half-day.
- d. A library of TNH didactic material will be maintained by the Education Coordinator on the shared Baraboo RTT Google Drive.

TNH Clinical Workflow

Resident will be listed as “primary” resident with paired attending. For example, PGY3 Resident A will be listed as primary resident for Attending 1’s patients. (see table)

All patients in the TNH resident patient pool will be added to the “Resides in Skilled Nursing Facility – St. Clare Meadows” problem list. In overview: **.ressnf** must be added to enter info for primary team; reason for stay.

NH Inbasket/Fax Workflow

(during standard clinic hours of operation)

NOTE: To reduce error, minimize paper, any communication that does NOT require signature will be sent via inbasket.

- Message/Fax arrives to Pod 4
 - Route to assigned resident as designated in the collaborative provider field or noted on the problem list
 - If the assigned resident is not in, can it wait for them?
 - Yes – ok.
 - No – route to any resident that is in
 - If no residents in that day, route to attending staffer or DOD
 - Request for admission orders
 - Route to resident who will be primary for patient (*see above for “primary” description*)
 - If primary resident not available:
 - Route to next available resident, preferably their resident partner
 - If no residents are available route to primary attending (*see Epic/Problem List*)
 - Once orders are completed, resident should route encounter response to SCMCC Pool and CC resident who will be rounding next as they will be doing the initial visit.
 - Request for discharge orders
 - Route to resident who was primary for patient.
 - If primary resident not available:
 - Route to next available resident, preferably their resident partner
 - If no residents are available, route to the primary attending. (*see Epic/Problem List*)
 - Once orders are completed, resident should route encounter response to SCMCC Pool
 - TCM visit after SNF discharge should be with PCP if at all possible
 - Update – no action needed
 - Route to primary resident
 - Update – action requested
 - Route to primary resident
 - If primary resident unavailable:
 - Route to available resident, preferably their resident partner
 - If no residents are available route to the primary attending
 - Action complete by resident (*does not pertain to clinical staff*)
 - Staff with attending following patient and/or route/CC encounter to attending following patient as FYI.

After Hours:

After hours communications route to Doc on Call for phones. (*After hours includes evenings, weekends and holidays that result in clinic closure*)

Billing: will add this piece once able with guidance from a veteran NH provider.

Date of next review: January 2020

Nursing Home Curriculum Topics

Plan: Each month have a topic that the resident and attending can discuss at their monthly nursing home rounds. Goal is to review AAFP article, an article from a geriatric journal/resource, and possibly a video. The resident and attending would review the articles ahead of time, and then discuss during their half-day rounding at the nursing home.

Ideal would be to come up with a 2 year rotation of topics (20-24 topics). Initial List below:

- Polypharmacy, Beers Criteria, Deprescribing
 - o Polypharmacy: Evaluating Risks and Deprescribing
Am Fam Physician. 2019 Jul 1;100(1):32-38.
<https://www.aafp.org/afp/2019/0701/p32.pdf>
 - o Reducing the Risk Of Adverse Drug Events in Older Adults.
Am Fam Physician. 2013 Mar 1;87(5):331-336
<https://www.aafp.org/afp/2013/0301/p331.pdf>
 - o American Geriatrics Society 2019 Updated AGS Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults
https://qioprogram.org/sites/default/files/2019BeersCriteria_JAGS.pdf
 - VIDEO: <https://www.youtube.com/watch?v=xQpRVqNMznM>. Geriatric Pharmacology. Irene Hamrick, MD
- Dementia Care, Cognitive Assessments
 - o Evaluation of Suspected Dementia Am Fam Physician. 2018 Mar 15;97(6):398-405.
<https://www.aafp.org/afp/2018/0315/p398.pdf>
 - VIDEO: Neuropsychology and Cognitive Patterns in Dementia. Lindsay Clark, PhD. <https://videos.med.wisc.edu/videos/84172>
- Mental Health (Depression, Anxiety, Agitation, Psychosis...)
- Insomnia
- Failure to Thrive
 - o Geriatric Failure to Thrive Am Fam Physician. 2004 Jul 15;70(2):343-350.
<https://www.aafp.org/afp/2004/0715/p343.pdf>
 - VIDEO: Dysphagia, Irene Hamrick, MD.
<https://www.youtube.com/watch?v=zLFuOx40Kls>
 - VIDEO: Nutrition in Older Adults. Irene Hamrick, MD
<https://videos.med.wisc.edu/videos/82725>
- Delirium
 - o Delirium in Older Persons: Evaluation and Management Am Fam Physician. 2014 Aug 1;90(3):150-158.
<https://www.aafp.org/afp/2014/0801/p150.pdf>
 - VIDEO: Delirium and Hospital Care. Elizabeth Chapman, MD
<https://videos.med.wisc.edu/videos/84749>
- Palliative Care and End of Life Care
- Transitions of Care
 - VIDEO: Transitional Care. Amy Kind, MD, PhD
<https://videos.med.wisc.edu/videos/83090>

- Movement Disorders
- Preventative Care for older adults
 - o Cancer Screening in Older Patients Am Fam Physician. 2016 Apr 15;93(8):659-667.
<https://www.aafp.org/afp/2016/0415/p659.pdf>
- Wound Care
 - VIDEO: Wound Care. Kim Karnes, Vanessa Brown.
<https://videos.med.wisc.edu/videos/88049>
- Chronic Pain in the Elderly
- Advance Care Planning
- Falls Assessments and Safety Planning
 - VIDEO: Fall prevention. Robert Przybelski, MD
<https://videos.med.wisc.edu/videos/80760>
 - VIDEO: Physical Therapy. Emily Zimmerman, PT
<https://videos.med.wisc.edu/videos/80942>
- Geriatric Community Resources
- Constipation
 - VIDEO: Bowel issues in Women. Heidi Brown, MD
<https://videos.med.wisc.edu/videos/79023>
 - VIDEO: Bladder issues in Women. Heidi Brown, MD
<https://videos.med.wisc.edu/videos/79022>
- Elder Abuse
 - VIDEO: <https://www.youtube.com/watch?v=GXwMjWhy-w8>. Elder Abuse, Irene Hamrick, MD.

The UWSMPH are med school videos, so please provide feedback if you find them helpful but they seem informative at my first glance of them. To access UWSMPH videos, you will need to sign in with your UW Net ID (ie if wisc email is droeszler@wisc.edu, NET ID is droeszler). All residents should have this access.

Rachel Erickson, DO

Projects Completed During Residency:

Scholarly Project:

Clinical Effects of a Single Platelet-Rich Plasma (PRP) Injection for the Treatment of Chronic Lateral Epicondylitis: a Randomized Control Trial

Community Health Learning Experience:

Verona 2020 Fitness and Lifestyle Challenge Group:

Verona's "2020" is a group visit model for patients with obesity, prediabetes, or diabetes that is focused on helping patients gain knowledge in using food as medicine and sharing tools to empower participants to take progressive steps on a lifelong path towards healthy lifestyles. The group visits included guided movement and nutritional guidance along with a provided healthy meal with recipes. Rachel was involved in monthly visits helping to review vitals and labs and presented a lecture on how to eat healthy when dining out. She also assisted in co-leading small group discussions and guided patients in choosing attainable goals.



Rachel Erickson has a strong passion for encouraging healthy lifestyles through preventive primary care and sports medicine. Originally from Iron Mountain, in the Upper Peninsula of Michigan, she earned her undergraduate degree in biomedical

sciences at St. Norbert College. Before earning her medical degree from the Des Moines University College of Osteopathic Medicine, Rachel worked as a medical assistant at a rheumatology and pain medicine clinic in Lansing, MI. While in medical school, her love of sports led her to work with local race organizers and high school football teams to provide care and osteopathic manual medicine for athletes. Her passion for the underserved took her to Monte Cristi, Dominican Republic, where she treated Dominican and Haitian patients. She also served as the ACOFP National Liaison for her medical school. Rachel revels in anything and everything to do with the great outdoors, especially hiking, kayaking, and running. She also enjoys playing soccer and convincing her 80-pound rescue dog that he's not allergic to exercise. Ultimately, Rachel wants to provide care in underserved rural areas in order to give back to communities like hers that have given her so much.



A huge thanks to my co-residents whose friendship, intelligence, and superior trivia skills made this three year journey all the better. Also to my family, especially my parents Jules and Rich, my Aunt T, and my gal Grandma Sal, who have continued to support me, encourage me, and send me (Yooper) food; I am forever grateful to you all. And to my dog Abraham, for all the welcome home wags and always being up for a post nights nap. I love you guys!

CLINICAL EFFECTS OF A SINGLE PLATELET-RICH PLASMA (PRP) INJECTION FOR THE TREATMENT OF CHRONIC LATERAL EPICONDYLOSIS: A RANDOMIZED CONTROLLED TRIAL



Rachel Erickson, DO
University of Wisconsin School of Medicine and Public Health,
Madison, Wisconsin



AMSSM 28th Annual Meeting
Regenerative Medicine Pre-conference
Houston, Texas
April 13th, 2019

DISCLOSURES

- I have no financial conflicts of interest related to the topic of platelet-rich plasma or this research study
- Funding Provided By: DePuy-Mitek Sports Medicine

COLLABORATORS

Kenneth S. Lee MD

UW Department Radiology

John Wilson MD, MS

UW Department of Orthopedics, Sports Medicine Division

BACKGROUND

- Chronic lateral epicondylitis (CLE) is perhaps the most common overuse tendinopathy encountered by clinicians¹
- CLE is often refractory conventional treatments²
 - PT, Bracing, NSAIDs, corticosteroid injections
- PRP early clinical evidence showing improved pain and function outcomes
 - In vitro and in vivo studies showing PRP application to injured tissue may address the structural failure of the tendon.⁴
- More studies needed to quantitatively assess the tissue morphology adaptation in response to PRP over time

BACKGROUND

- Krogh TP et al. *Am J Sports Med*, 2013
 - Randomized, double blinded control trial (n=60)
 - PRP and CS not superior to saline, CS reduced tendon thickness and color doppler activity
- Mishra AK, et al. *Am J Sports Med*, 2014
 - Multicenter, Randomized Controlled Trial (PRP n=116, active control=114)
 - No difference 12 weeks, 24 weeks: pain improvement scores 71.5% PRP vs 56.1% control group (P = .019)
- Mi, B et al., *Phys Sports Med*, 2017
 - Meta Analysis (8 RCTs, n=511)
 - Pain improved short term(2-4, 6-8 weeks): CS, intermediate (12 weeks) long term (6 months, 1 year): PRP

Clinical Effects of a Single Platelet-Rich Plasma (PRP) Injection for the Treatment of Chronic Lateral Epicondylitis: A Randomized Controlled Trial



Specific Aim

To assess efficacy of a single intratendinous PRP vs. CS injection via patient reported validated pain and function dependent composite outcomes over intermediate time frame

Study Design

Randomized, Double Blinded Placebo Controlled Trial



METHODS

PARTICIPANTS

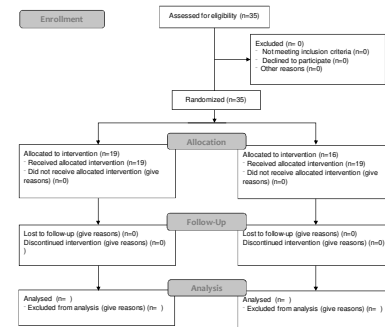
ELIGIBILITY CRITERIA

- Age 18-65
- Chronic(>3 months) common extensor pain
- Clinical exam and imaging findings consistent with CLE
- Self reported failure of physical therapy
- 2 or more conservative treatment failures: rest, NSAIDs, bracing

EXCLUSION CRITERIA

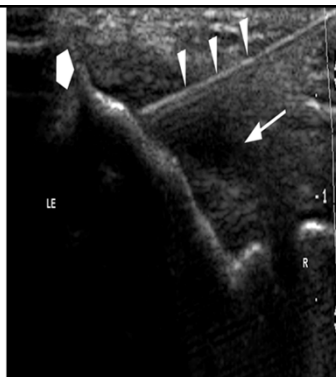
- Inability to comply with follow-up requirements of study
- History of bleeding disorders, low-platelet counts, other hematologic conditions
- Elbow pain with other possible etiologies (e.g., degenerative joint disease)
- Currently using anticoagulation or immunosuppressive therapy
- Anticoagulant or immunosuppressive therapy within the prior month
- Known allergy to acetaminophen or Lidocaine
- Self-reported pregnancy
- Worker's compensation injury
- Pending litigation
- Concurrent opioid use for pain

CONSORT 2010 Flow Diagram



INTERVENTION

- PRP Group (n=19)
 - 3 mL autologous platelet-rich plasma (PRP)
 - US guided injection with 5 fenestration passes at common extensor tendon origin
- Control Group (n=16)
 - 3 mL mixture 1mL 40 mg/mL triamcinolone, 2mL 1% lidocaine
 - US guided with 5 fenestration passes at common extensor tendon origin



RANDOMIZATION AND BLINDING

- Randomization via computer generated assignment
- Subjects and assessors blinded to subject group allocation
 - All participants underwent phlebotomy of 27mL whole blood draws to maintain blinding
 - Injection syringes cloaked
 - Subjects identified only by unique study number

SURVEY OUTCOME MEASURES

- Patient Rated Tennis Elbow Evaluation (PRTEE)
 - Pain and disability equally contribute to score
- Disabilities of the Arm, Shoulder, and Hand (QuickDASH)
- Single Assessment Numeric Evaluation (SANE)
 - "On a scale of 0 to 100, how would you rate your elbow's function with 100 being normal?"

METHODS

Statistical Analysis

- Primary outcome measures were PRTEE, QuickDASH, and SANE survey scores. Baseline (week 0) survey scores, 16-week, and 26-week treatment survey scores between the two groups were compared using independent two-tailed t-test.
- Intention to treat analysis
- PEAK PRP
 - 3mL 7.8x high concentration from 27ml whole blood
 - Leukocyte poor
 - Isolates approximately 90% of available platelets and growth factors

RESULTS

- Baseline comparison of mean PRP vs corticosteroid were not significantly different.
- PRTEE (PRP 53.7±13 vs control 58.75±11; p=0.54)
- QuickDASH (PRP 23.5± 3.1 vs control 27.3±5.5; p=0.19)
- SANE (PRP 65.6 ±10.6 vs control 54±15.96 ; p=0.18)
- MCID
 - PRTEE: 8-12 points
 - QuickDASH: 14
 - SANE: Not yet established

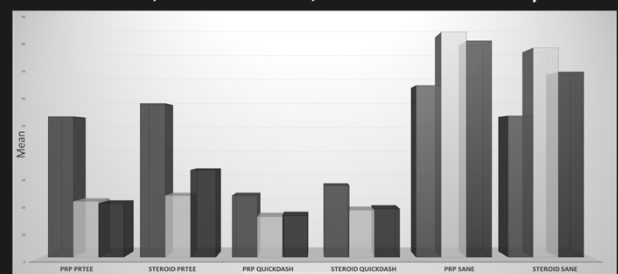
RESULTS

- 16-week follow up treatment means were not significantly different
- PRTEE (PRP 21.31 ± 11.7 vs control 23.5 ± 12.97; p=0.796)
- QuickDASH (PRP 15.5±2.2 vs control 17.968±3.3; p=0.18),
- SANE (PRP 86±7.2 vs control 80 ±8.6007; p=0.26).

RESULTS

- 26-week follow up treatment means were not significantly different
- PRTEE (PRP 20.5± 20.8 vs control 33.3±19.5; p=0.34),
- QuickDASH (PRP 15.9 ±4.7 vs control 18.5 ±6.1; p=0.47),
- SANE (PRP 82.7 ±14.8 vs control 70.8 ± 14.6, p =0.23)

Mean Comparisons of PRP vs Control for PRTEE, QuickDASH, and SANE Surveys



CONCLUSIONS

- 16 and 26 week patient-reported pain and function outcomes after ultrasound guided injection therapy with peak PRP vs control did not vary between groups, although both groups improved clinically in preliminary analysis.

SIGNIFICANCE

- Data suggests clinically beneficial outcomes between a single US-guided PRP and corticosteroid injection for chronic lateral epicondylitis are similar at the intermediate term (16 and 26 weeks), consistent with previously published studies⁵
- Further study: Subjects being followed for 52 weeks, with additional secondary outcomes including ultrasound imaging, and shear wave acoustoelastography (SWAE) and grip strength to be analyzed.

LIMITATIONS

- Intermediate time frame data only available
- Original study design time frame follows patients for 52 weeks, complete data not yet available
- Patient reported clinical outcomes are subjective
- Ultrasound imaging evaluation and grip strength yet to be analyzed
- Baseline and 52 week us imaging will be compared to evaluate for objective tissue morphology changes of healing
- Baseline and 52 week strength will be assessed to evaluate for objective changes in function

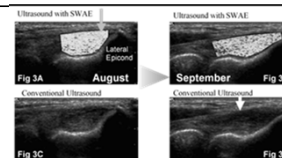
Thank You



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SHEARWAVE ACOUSTOELASTOGRAPHY (SWAE)



Kelli Heinrich, MD

Projects Completed During Residency:

Scholarly Project:

Excess Lab Draws in the Inpatient Management of Neonatal Hyperbilirubinemia



Community Health Learning Experience:

Verona Press Articles:

Kelli was one of the authors for a recurring column in the local newspaper, The Verona Press, which, in recent history, has included a monthly article written by a current Verona resident. An article she wrote appeared in a springtime issue of the Verona Press—right in the midst of the COVID pandemic. In a time of misinformation, confusion, and fear, the Verona Press gave her a platform to bring evidence-based information to our Verona community, while forcing her to continue to improve upon her use of patient-centered language.



I am forever grateful to have had such an outstanding group of co-residents these last three years. Each of them taught me something important about medicine and about life. Big thanks to my friends who live both near and far for being such a great source of support during this journey. And finally, thanks to my mom, dad, and sister for being the best a girl could hope for. I'd be somewhere else without you guys.

Though Kelli Heinrich grew up in Los Angeles, the Midwest has become her adoptive home. After earning her BA in biochemistry at Vassar College, Kelli moved to Chicago for medical school where Chicago stole her heart and caused her to fall in love with the Midwest.

She entered the Loyola University of Chicago Stritch School of Medicine with a strong interest in women's health and obstetrics. An immersion trip to Corozal Town, Belize, reinforced Kelli's belief that learning patients' stories is the best way to partner with them. While completing her family medicine clerkship, Kelli realized that her calling was to be a generalist that cared for both moms and babies, children and adults, the sick and the well. She appreciates the unique family medicine philosophy of care, and she looks forward to the beauty of being a family doctor whose focus is on the full lives of her patients. By listening to the stories of her patients, Kelli partners with them to identify and dismantle barriers to health. Outside of medicine, Kelli enjoys drinking good wine and eating good food. She has recently taken up quilting, which has proved to be a great hobby during the long, Midwestern winters.

Excess Lab Draws in the Inpatient Management of Neonatal Hyperbilirubinemia

Objectives

1. On completion of this session the participants should understand necessary lab orders for management of neonatal hyperbilirubinemia.
2. On completion of this session the participants should be able to describe how improved resident education and utilization of evidence-based guidelines may decrease unnecessary lab draws.
3. On completion of this session the participants should be able to identify that relevant metrics include 1) number of patients with inappropriate tests performed during hospitalization, and 2) resident knowledge changes based on pre- and post-presentation surveys.

Purpose:

It was identified that the inpatient Family Medicine service was ordering excessive and unnecessary labs for inpatient management of neonatal hyperbilirubinemia. We aimed to decrease the number of lab draws that were not indicated in the management of inpatient neonatal hyperbilirubinemia through improved resident education and utilization of evidence-based guidelines.

Methods:

Study Design: Quality improvement project

Setting: Family medicine inpatient teaching service at a large, academic medical center

Participants: Family medicine teaching service comprised of resident and faculty physicians

Intervention: Two senior residents presented a lecture on neonatal hyperbilirubinemia, including pathophysiology, online resources and the updated inpatient neonatal hyperbilirubinemia management guidelines to PGY-1s. Additionally, the same inpatient management guidelines were distributed to all faculty physicians via email and added to an internal online resident curriculum resource page.

Outcome Measures:

Primary: Number of patients with inappropriate tests performed during hospitalization

Secondary: Resident knowledge changes based on pre and post-presentation survey

Analyses: Chi squared analysis

Results:

We reviewed 11 patients admitted to our inpatient service with hyperbilirubinemia before the intervention and 9 patients after the intervention. There was a 22% decrease in the number of patients who had an inappropriate lab draw, 55% prior to intervention and 33% after the intervention. Using a Chi square analysis, our results were not statistically significant ($p = 0.34$). There was improvement on resident knowledge; with a 62.5% increase in correct responses to pre and post-intervention questions. Additionally, confidence levels per responses to the questionnaires also demonstrated improved level of confidence in managing patients with hyperbilirubinemia. Future research can aim to increase the sample size to better power the study.

Conclusions:

Our study demonstrated that implementation of guidelines through resident and faculty education was associated with a reduction in inappropriate lab draws, though this was not statistically

significant. We did demonstrate an improvement in resident knowledge and confidence based on pre and post-intervention surveys. We anticipate that with further resident and faculty education coupled with continued application of these guidelines this will reduce the number of inappropriate labs drawn from neonates with hyperbilirubinemia.

Ezra Lyon, MD

Projects Completed During Residency:

Community Health Learning Experience:

Health Care for Incarcerated and Formerly Incarcerated People

Scholarly Project:

Are Oral Glucocorticoids Effective for Hearing Loss in Children with Chronic Otitis Media with Effusion?:

Ezra co-wrote an FPIN HelpDesk Answer with Dr. Ildi Martonffy that has been submitted to Evidence-Based Practice for publication. They performed a literature review to answer whether oral glucocorticoids are effective for hearing loss in children with chronic otitis media. Their short answer was no. Multiple small- to medium-sized RCTs show that treatment of children with oral steroids for chronic otitis media with effusion is not associated with significant improvement in hearing loss.



Ezra Lyon, originally from Galesburg, IL, earned his BA in biology at Carleton College and attended graduate school in Ecology and Evolution at University of Minnesota. Before starting medical school at the Ohio State University, Ezra worked for 6 years as a computational biologist

in Madison. While in medical school, he continued his work in bioinformatics and helped develop assays to identify mutations in cancer cells. During his fourth year, he worked with the Mt. Carmel Homeless Outreach Team and at the Menominee Tribal Clinic in Keshena, WI. During residency, Ezra developed a special interest in health care for incarcerated and formerly incarcerated people. After graduation, he will practice rural, full-spectrum family medicine in Waupaca in north-central Wisconsin. He will continue to focus on underserved communities and preventive medicine at the individual and community levels. His other interests include treatment of substance use disorders, low-intervention childbirth and integration of mental health into primary care. Ezra enjoys reading, hiking in the woods with his wife and playing games with his two children.



I would like to thank my wife Stephanie Lyon and our children Akiva and Micah Lyon for their support and love through 7 years of medical education and 5 moves across 2 states. We are indebted to my parents Susan and Maury Lyon and our wonderful au pairs for helping take care of our children over these years. Thank you to my great co-residents and especially to Nina Piazza and Alyssa Bruehlman for adopting me as a third intern buddy and for innumerable lunches shared at St. Mary's. And a huge thank you and my enduring gratitude to everyone at Wingra for making clinic feel like a second home.

Health Care for Incarcerated and Formerly-Incarcerated People

Background:

Incarcerated people face barriers to good health and effective health care both in jail or prison and on return to the community. In Wisconsin, incarceration disproportionately affects African-American men who are already at higher risk of adverse health outcomes. I identified these problems through informal discussions with my patients in the hospitals and at Wingra Clinic, meeting with community partners from Nehemiah, independent review of the literature and attendance at a national conference on criminal justice health.

Objectives:

My objectives were three-fold: to increase knowledge of health problems faced by people with a history of incarceration both personally and in the residency, to improve connections with primary care for people leaving carceral settings and to increase access to effective treatment of substance use disorder for incarcerated people.

Methods:

I attended the annual conference of the Academic Consortium on Criminal Justice Health in March 2019 and met with organizers of the Transitions Clinic network, a network of clinics focused on improving transitions from carceral settings to primary care. I assembled a list of stakeholders (physicians, community partners) interested in improving these transitions in Madison. I conducted a literature review of the health of incarcerated people, treatment of substance use disorder in jails and prisons and transitions to primary care. I met with residency staff and identified jails in the Madison area willing to have residents spend 1-2 days working with jail medical staff. I met with Jillian Landeck and Taylor Boland to plan advocacy around expanding access to medication assisted treatment in jails and drafted a letter to Dane County officials.

Results:

I presented an overview of healthcare for formerly incarcerated people at Wingra Clinic resident education afternoon and for my departmental Primary Care Conference. I had planned to pilot a Healthcare for Incarcerated People elective at the Rock and Columbia County jails in March 2020 but was unable to visit either facility due to the COVID-19 pandemic. My project had no direct impact on the health of the target population. I expanded my personal knowledge of the challenges faced by incarcerated people and hope that I increased awareness of these problems in the residency as a whole.

Conclusions:

Physicians in our community and community partners are very interested in improving transitions of care between jail and primary care and in expanding access to medication assisted treatment in carceral settings. Our department and Access Community Health Centers are both well positioned to provide this care. My recommended next steps are for the department to establish connections with the Madison area jails and prisons to facilitate provision of MAT in the carceral settings and help with transitions of care. The proximal next step would be to have a meeting of stakeholders that have already expressed interest in this project. There is also interest among resident physicians and area jails in establishing an elective focused on the health of incarcerated people. I struggled to implement any changes in our current practice mainly due to personal factors and then due to closures / limited access related to the COVID-19 pandemic.

Acknowledgements:

ACCJH, Transitions Clinic staff (Anna Steiner, Shira Shavit), DFMCH Community Health faculty (Jennifer Edgoose, Karina Atwell, Shelly Shaw), Wingra faculty (Jonas Lee, Beth Potter), Jillian Landeck, Taylor Boland, Jean Haughwout (community physician), Anthony Cooper (Nehemiah)

Sadie Mitten, MD

Projects Completed During Residency:

Scholarly Project

Global Health Experiences in Cusco, Peru

Community Health Learning Experience:

Dryden Terrace Community Partnership:

Sadie's community health project focused on Dryden Terrace, a local Section 8 affordable housing complex that supports seniors and individuals with disabilities on the north side of Madison. Dryden Terrace has been identified as having exceptionally high rates of emergency response calls and hospitalizations based on community data. To help address and reduce these high rates of medical resource utilization, the UW DFMCH, Madison Fire Department, and Public Health of Madison and Dane County came together to create a longstanding community partnership with Dryden Terrace. By personally participating in the Dryden Terrace Community Partnership, Sadie's goal was to expand on these existing hotspotting efforts. This included continuation of Dining with Docs educational sessions as well as early-stage discussions of home visit development for those identified as being "highest need". Both have been temporarily placed on hold due to the COVID pandemic. In addition to this, she provided an updated literature review of current hotspotting articles and research studies that evaluate the efficacy of this practice.



I feel so very grateful for all of the amazing support that my family, friends, and the DFMCH have provided to me over these past 3 years. My family and friends (including co-residents!) have filled my life with so much laughter and encouragement on even the most challenging days. The DFMCH community has blessed me with constant support in learning and invaluable mentorship. I wouldn't trade this experience for anything. Thank you!



Sadie Mitten, originally from Tomahawk, WI, earned her BS in biology and gender & women's studies from the University of Wisconsin-Madison. She earned her medical degree from the Michigan State University College of Human Medicine. During medical school, Sadie's

passion for international medicine led her to rural Uganda where she learned about improving health in underserved regions. Her interest in the social determinants of health also led her to complete research on morbidity and mortality outcomes of alcoholism in elderly patients. Sadie served as president of MedFLAG, an organization that promotes improved patient-physician relationships, physician education, and community resource development for the health needs of the LGBTQ community. She connected to the community by volunteering for Fit Kids 360, a program for children and families that promotes physical and mental health. She hopes to practice full spectrum women's health and obstetrics, international medicine, and LGBTQ health. Sadie loves reading new books and wandering through bookstores, listening to live music, spending time with family, traveling the world, exploring the outdoors, hiking, camping, swimming, and water-skiing.

Global Health Experiences in Cusco, Peru

Lashika Yogendran MD, Kristi Smith DO, Sadie Mitten MD

We traveled to Cusco, Peru as participants in our Family Medicine Residency Global Health Pathway. We had three goals: training health care providers to be trainers of the Helping Babies Breathe curriculum, donating crocheted hats to Peruvian NICUs to help preterm infants with thermoregulation, and learning the standards of care for both chronic and acute conditions in Peru.

Overview of Health Systems in Peru:

Peru has a decentralized health system made up of 5 groups - Ministry of Health, EsSalud, Armed Forces, National Police, and the private sector. The Ministry of Health provides health services for 60% of Peru's population, EsSalud for 30%, and the remaining 3 entities covers the last 10% of the population¹. The Ministry of Health is funded primarily by tax revenue among other things. EsSalud is similar to a social security program, and is funded by payroll taxes from employers of sector workers.

Our Healthcare Experiences in Peru:

We had an opportunity to work in both a public hospital (Hospital Antonio Lorena) as well as at an EsSalud clinic in Cusco. These were two vastly different experiences. Lorena Hospital is a huge public hospital in Cusco where people without insurance can go for treatment. It is actually made up of an extensive maze of shipping containers as it was planned to be a temporary hospital until the actual permanent hospital was built. Unfortunately, due to corruption, the permanent hospital building has been delayed for the past 7 years. There are often long lines of patients and families waiting to see a doctor. The hospital does have different wards for adult, pediatric, and OB admissions, as well as a dialysis center. If there are patients needing specific specialty care, they are sent to Lima.

EsSalud Metropolitano clinic was a very different experience. It is attached to the EsSalud hospital in downtown Cusco and is staffed by mostly primary care physicians like family medicine doctors and pediatricians. We observed patients coming in for chronic medical condition follow-up much like how we practice in the United States, as well as for more acute care visits. This experience very much felt like we were back at home in Wisconsin in our own family medicine clinics.

Environmental Impacts on Health:

Anemia:

In Peru, 34% of children between 6-59 months of age have some degree of anemia, most commonly iron deficiency. This occurs for a variety of reasons including late introduction of iron-fortified foods, parasitic infections, and overall malnutrition. Additionally, the anemia rate in women of childbearing age is 18.7%, and this rate increases even more during pregnancy which further contributes to anemia in childhood².

Altitude:

Cusco sits at an altitude of 11,200 feet, so common lab values and vital signs have to be interpreted in the context of the altitude. For example, SpO₂ values slightly less than 90% were not concerning for the local providers we worked with, though they reflexively gave us pause. Additionally, local providers use a conversion factor of -2.2 g/dL to calculate the effective hemoglobin value. For example, a seemingly normal hemoglobin of 13.0 g/dL at altitude is actually low at a value of 10.8 g/dL when using this conversion.

Enfermedad Pulmonar Obstructiva Crónica (EPOC):

Due to the very common reliance on wood-burning stoves in homes for cooking, there was a high prevalence of EPOC (COPD) within the Cusco community, particularly among indigenous populations. Here, the expected goal oxygenation in patients with EPOC was ~85%. This is notably lower in comparison to the average US goal of 88-92% given Cusco's relatively high level of altitude.

Infectious Illness:

Peru has been making significant efforts over the past several decades to improve upon their existing water and sanitation infrastructure. However, ongoing gaps in access to these services exist, particularly in rural communities. This makes both residents and travelers significantly more prone to bacterial, viral (ie. Hepatitis A), and parasitic infections that can be transmitted by food consumption, oral hydration, direct person-to-person contact, etc. Because of this, there is a much higher rate of screening for these conditions in acutely ill patients.

Leishmaniasis:

Cutaneous leishmaniasis is a major health concern in Peru and is endemic to most of the country. Leishmaniasis is a vector-borne disease caused by a protozoan transmitted to humans from the bite of a



sandfly. The cutaneous manifestation is a characteristic painless ulcerated skin lesion with a raised border which can take months to years to heal^{3,4}. We had the opportunity to tour a hospital in Cusco which has an entire wing dedicated to patients with Leishmaniasis. Typically transmission occurs at elevations lower than Cusco (900-3000m) and is common in those who work in agriculture. Anecdotally, a local physician shared that many of the cases in Cusco occur in people practicing illegal mining in the forests. The treatment of choice in Cusco is Amphotericin B.

Cervical Cancer Campaigns:

Unfortunately in Peru, cervical cancer is the leading cause of death from cancer in women of child-bearing age. Not surprisingly, the capital city of Lima has significantly lower cervical cancer rates compared to the rest of the country. This public health problem highlights issues with access, socioeconomic status, and financial barriers within Peru.



We participated in cervical cancer screening campaigns created by the organization CerviCusco, where we went to locations around Cusco to provide low-cost cervical cancer screenings to women who otherwise did not have access to this important tool. We performed pap smears and breast exams for women in public spaces such as supermarkets and churches. We used a tent with separate compartments to help ensure patient privacy and also had foldable tables for patient use. We had reusable speculums as well as the supplies for the Pap smear itself. Due to limited resources, every patient had to use the same drape for their pap smears, as well as a small CHUX pad cut in thirds. Patients paid 3 soles to pay for the test, a surprisingly cheap cost



(\$0.88). We also had the opportunity to teach PA and medical students how to perform a pap smear in a patient-centered way.

Neonatal Health in Peru:

According to the WHO, 28% of neonatal deaths can be attributed worldwide to complications of preterm birth⁵. In areas with low resources, inexpensive sources of warmth (kangaroo care with hats) are important to help small neonates maintain their body temperature. Over the past several months, members of our group crocheted over 100 preterm baby hats to help with thermoregulation in addition to essential kangaroo care. We were able to donate the hats to two NICUs in Cusco, and were even able to pass them out to the individual babies. Serendipitously, our trip fell on Semana del Prematuro (Week of the Premie).



Helping Babies Breathe:

During our time in Cusco, Peru, one of our primary objectives was to train local medical staff for certification in the Helping Babies Breathe curriculum. This is an AAP-instituted program that is intended to teach the most basic but critical steps in neonatal resuscitation.⁶ This is specifically targeted towards community birth attendants without advanced medical knowledge. This training is accomplished by emphasizing the “golden minute” during which the following actions should be accomplished: drying, stimulating, vitals assessment, and basic respiratory support of the newborn. Based on a 2013 research article evaluating use of the HBB model, it was shown that this training could



reduce fresh stillbirths by 24% and early neonatal mortality (within 24 hours) by 47%.⁷ The greater region surrounding Cusco has a significant number of community birth attendants that are often used by women in labor due to inability to access healthcare for various reasons (transportation, finances, etc). By providing training to local health workers, our goal was to have them go on to disseminate this information to birth attendants, one community at a time, and help optimize future newborn outcomes. Based on our post-training assessment, 100% felt that they would be likely to use this curriculum to train community birth attendants, 50% thought this would be feasible to apply to surrounding community birth attendants, and 100% felt comfortable training others in this curriculum. To help facilitate this training, we will be donating HBB materials for this on-site implementation.



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Mehwish Moinuddin, DO

Projects Completed During Residency:

Community Health Learning Experience:

Community Voices Columnist for The Verona Press

Scholarly Project:

This is Your Shoulder on Drugs: a Case of Cocaine Injection Gone Wrong & Perplexing Pelvic Pain:

Mehwish had the opportunity to present a case poster presentation at the 28th Annual American Medical Society of Sports Medicine (AMSSM) Meeting in 2019. The case, titled, “This is Your Shoulder on Drugs: A Case of Cocaine Injection Gone Wrong,” was about a former high school baseball player that presented with bilateral anterior shoulder dislocation and associated labral injury, shortly after injecting cocaine. She was accepted to present a case at the 29th Annual AMSSM Meeting, titled “Perplexing Pelvic Pain”. This case was a former high school cross country runner with chronic pelvic pain that was recalcitrant to other standard of care treatments. OMT evaluation revealed osteopathic findings consistent with psoas syndrome. She was treated with OMT and had improvement in her symptoms. Due to the COVID-19 pandemic, the conference was transitioned to a virtual meeting, and the case poster was shared via an online platform.



Thank you to all the people who have been a part of this journey with me. Thank you to the faculty who have helped me grow into the physician I am today. Thank you to my peers, who have worked countless hours and have been such a vital source of support over the past 3 years. Thank you to my friends, for all of the late-night FaceTime sessions, travel adventures and reminding me to focus on the important things in life. And above all, thank to you my family. To my parents, thank you for teaching me the importance of hard work and perseverance. Thank you to my sister and brother-in-law for allowing me to make my own mistakes, but always being there to catch me when I fall. I could not have accomplished what I have, without the love and support from all of you, so thank you for joining me on this journey.



Mehwish Moinuddin comes to the Madison Family Medicine Residency Program with a passion for serving her community by fostering interdisciplinary partnerships. Originally from Burr Ridge, IL, Mehwish earned her BA in sociology from Northwestern University.

At NU, she worked as a student athletic trainer where she was first introduced to team-based care; this collaborative experience led to her to consider a career as a family medicine physician. After graduating from Northwestern, she went on to earn an MA from Midwestern University before attending Touro University Nevada College of Osteopathic Medicine. While in medical school, she worked as a clinical research coordinator at a cystic fibrosis center. She was also involved with many community organizations throughout the Las Vegas area. Her experiences have resulted in sports medicine, preventive medicine, and global health as key areas of interest. Mehwish has continued her passion for sports medicine during residency training by serving as a member of the medical team for local and collegiate athletic events, and as the Team Physician for Edgewood High School. She relaxes by spending time at the Union, reading and hiking. Following residency training, Mehwish will be a Sports Medicine Fellow at Penn State.

Changes in daily routines can help you sleep better

Soon, the leaves will begin changing colors as kids return to school and fall sports get in full swing.

Those mean some pretty big shifts in our daily routines, which have the potential to wreak havoc on our bodies, especially on how we sleep. If we're not careful, these changes can leave us more fatigued and tired than we felt all summer.

According to the National Sleep Foundation, people between the ages 18-65, function best on seven to nine hours of sleep. I aim

for about seven or eight, because that's the amount of time it takes me to feel well-rested.

With summer travels and changes in my work schedule there have been very few nights where I've been able to fall asleep quickly enough or stay asleep consistently to follow through with my goal. But I have found that making a few simple modifications during the day has helped me sleep better.

At the most basic level, we all know that sleep is important for us because it allows our body and mind to rest and recover for the next day. It is during this time that your body is regulating several hormone levels and your cells get rid of waste allowing your immune system to be restored.

Adequate sleep is vital for allowing your body to recover and choices you make and challenges you face during the day may be affecting your ability

to get enough quality sleep. By identifying some roadblocks that may be keeping you from getting enough sleep, small adjustments can lead to impactful results.

It is important to acknowledge that having a good night sleep is influenced by decisions you make throughout your daily routine. For me, simple choices like having caffeine in the afternoon and taking power naps too close to bed time are a couple of things that I have been working on eliminating to help me sleep better.

Personally – and I imagine for many of you, as well – a cup of coffee is essential to getting the day started.

While this morning dose of caffeine functions great, I used to find myself frequently having an afternoon latte for another spike in energy. But having caffeine too close to bed time can definitely affect your ability to fall asleep.

Each one of us has a different sensitivity to caffeine, so while I like to avoid a re-dose of caffeine after 2 p.m., some of you might need to stop even earlier in the afternoon than I do. In general, the recommendation is about 10 hours before bedtime.

Another choice I had been making some days, when time allowed, was an early evening nap after getting home from work.

All of my family members and close friends know how much I love a good nap. Even with just 15-20 minutes of free time, they know they can find me catching a quick snooze on the couch.

But I started to notice a connection between not being able to fall asleep as quickly on days I either took a nap too close to bed time or when my nap lasted more than the ideal 20 minutes.

The general recommendation is to avoid naps within six hours of going to bed.

The other modification I have made to affect my sleep positively deals with my mental health and overall well-being.

Many of my patients talk to me about how sometimes falling asleep is difficult because they have so many thoughts running through their head and they feel like it just can't be slowed down or turned off. I think a lot of us suffer from this every once in a while.

A few tricks that I have adapted to help manage this are by using an app on my phone to help with deep breathing and meditation as I lay in bed. I also try to incorporate exercise into my daily schedule, even if it's just a 15-minute walk after dinner.

Other techniques to deal with your busy mind are to keep a journal and write down your thoughts or create a gratitude list of things you're thankful for to help decrease some of the stress in your life.

These small changes I've made in my daily life are helping me function optimally. And I hope if this is something you struggle with, maybe a few simple modifications I've shared with you will be helpful.

If these aren't enough, discuss your sleep issues with your primary care physician. They can offer additional recommendations and also determine if you would benefit from additional testing for sleep conditions like sleep apnea or restless leg syndrome.

Sweet dreams, Verona!

Mehwish Moinuddin is a third year resident at UW Family Medicine Verona Clinic



Moinuddin

Be realistic, thoughtful when setting New Year's resolutions

With our bellies stuffed from Thanksgiving and Christmas, New Year's Day is just around the corner.

This means it's time to start brainstorming about those New Year's resolutions. This is an opportunity to reflect about this past year and think about changes we hope to be successful with for the upcoming year.

Maybe it's your year to travel more, to dedicate more time for yourself or to save more money. I know a lot of people, including myself, tend to have goals such as exercising more, progressing in their career, saving more money, losing weight and quitting an unhealthy habit.

While we start the year with the best of intentions to achieve these goals, it isn't always easy to achieve them. According to a story in U.S. News and World Report, about 80% of resolutions aren't met, and most have lost their resolve by mid-February.

I like to take this time of year to reflect on the past year and think about what is really important for me to develop over the next year. And to avoid being a part of the 80% of unmet resolutions, I have found using a few simple tips when setting my goals, has made me more successful.

The biggest modification I've made to my resolutions is to be more specific.

In previous years, I would set a resolution to exercise more, but I did not think about what that exactly meant to me.



Moinuddin

Would it be that I would exercise a certain number of days a week or month? Would it matter if I exercised for 20 minutes versus an hour? And would it matter if I did strength training or aerobic exercise.

Without the specificity, it was easy for me to push the limits and eventually lose the motivation to continue my resolution. Now, I try to be as specific as possible, which means that I my resolution is to workout at least three times a week for 45 minutes, either running or cycling.

It's also important to set resolutions that are realistic for your life.

For example, I had to think about it whether it was realistic to exercise 135 minutes per week, when sometimes I work 80 hours per week. I had to ask myself, would it be enough of a challenge, without being too overwhelming, or even too easy for me to dedicate that time toward physical activity.

It also made me think about where I would be exercising – whether I'd need to join a gym or a cycle studio for nights I wouldn't be able to run outside. I also had to consider whether my body would be able to realistically work out for a certain amount of time

after

not being as active.

So I set a resolution that kept in mind injury prevention and not wanting to overdo what was reasonable.

The last part of my goal is about accountability.

Sometimes, we need little support from others or even a gentle reminder of our resolutions, which is why I often share my goals with close friends and family. Having them ask how things are going is often just the reminder I need.

I've also found that my friends and I often have similar resolutions, so we can accomplish them together – like setting up a weekly workout and checking in throughout the week.

These tips have helped me be more successful in achieving my New Year's resolutions. I hope that if you're setting some of your own resolutions this upcoming year, whether it's quitting an unhealthy habit, starting a new hobby, or learning a new language, that you remember to set resolutions that are specific and attainable, and that you share them with those around you to stay accountable.

Happy Holidays and good luck with those resolutions!

Mehwish Moinuddin is a third year resident at UW Family Medicine Verona Clinic.

Pay attention to injury prevention with increased activity levels

I would guess many of you are like me, and had a New Year's resolution of increasing your amount of physical activity this year.

It might be plans to run your first 5K, compete in a triathlon, participate in a new workout class or just use your at-home gym more often. Many of my patients tell me about their new goals, which most of the time boil down to simply being more active.

My personal goal was to have 150 minutes of aerobic exercise/week based on the most recent American Heart

Association guidelines. But that meant doubling the amount I exercised in a week, and within a few weeks, I was struggling with tight muscles and overuse injuries.

Those were holding me back from staying consistent and achieving my goals, so over the last few weeks, I have focused on methods of preventing injuries in hopes of avoiding future injuries and in order to sustain my goals of increasing my level of activity.

Injury prevention is key for sustaining your exercise goals and requires supporting your new regimen by having a gradual progression, good nutrition and proper warmup and cooldown before and after activity.



Moinuddin

One of the most important ways of preventing injuries while working on your New Year's resolutions is by gradually advancing your workouts, with regard to time, as well as level of difficulty.

For me, this meant increasing the length of my workouts by 10-15 minutes each week over a three-week period to reach my goal. I also increased the difficulty level of my workouts gradually.

I started classes that were classified as "beginner" level, and once my body adjusted to these, I moved up to beginner-intermediate classes after a few weeks and then to intermediate-level classes. There is no one-size-fits-all when it comes to exercise progression, but you should absolutely tune into how you feel and how your body feels after your workout.

Another key factor in injury prevention is hydration and nutrition. This means, giving your body the fuel it needs to accomplish your new fitness goals and enough nutrients during your recovery.

To me, this is as simple as eating a diet that has a balance of protein, carbohydrates and fats and getting in as many vegetables and fruits with my meals. In addition to a balanced diet, adequate hydration before, during and after your workouts is essential.

The Food and Nutrition Board recommends that women get about 91 ounces of water (from all beverages and food) and men get 121 ounces. I find the easiest and most practical way

of accomplishing this to be carrying around a water bottle with me so I can drink water throughout the day and know how much I'm drinking.

One method of injury prevention I find is essential during my workout is starting with an appropriate warmup and ending with an appropriate cool-down.

It is best to start workouts with some dynamic stretches and movements. Dynamic warmups are active movements that prepare your body and muscles by increasing blood flow to your muscles, and they often mimic movements that will be involved with your upcoming workout.

After a workout, my cool-down includes static stretches, which is a stretch that you hold for a short period of time that helps maintain flexibility. For example, before a run, I try to do forward and side lunges to help prepare my leg muscles and end my run with static hip flexor and hamstring stretches.

Your dynamic warmup and static stretches will often vary depending on what your workout entails, but are both a vital part in keeping your body safe during and after exercise.

Increasing your level of activity can sometimes be daunting and can lead to injuries, but when done safely with attention to injury prevention, it can lead to you feeling better and maintaining a new lifestyle.

Mehwish Moinuddin is a second-year resident at UW Family Medicine Clinic Verona.

Evan Nolander, DO

Projects Completed During Residency:

Community Health Learning Experience & Scholarly Project:

The Role of the Physician in Support of
Community Health Workers:

Physicians were broadly recognized as important advocates by CHWs (community health workers) and their allies. It was determined that physicians could best support CHWs through the following: 1) listening, 2) showing up, 3) acknowledging and respecting other forms of expertise, and, possibly most important, 4) advocating for stable reimbursement for CHW services. Through hearing the concerns of CHWs, acknowledging their expertise in areas of community-specific social determinants of health, and subsequently advocating for improved reimbursement and recognition of CHW services, physicians could play an important role in promoting their CHW team members.



Evan Nolander advocates for the health of his patients and community by learning and telling patients' stories. His own story began in Albert Lea, MN, where Evan was born and raised; he earned his undergraduate degree in biology from the University of St. Thomas in St. Paul,

MN. Evan then moved to Boulder, CO to serve in the AmeriCorps where he learned the importance of community activism and patient empowerment. He attended medical school at the Kansas City University of Medicine and Biosciences. Evan is committed to community medicine with a focus on the role of Federally Qualified Health Centers (FQHCs) in U.S. healthcare and is completing his residency in Family Medicine to be on the front lines of change. In residency, Evan was a Community Health Track resident who focused on the role of the physician in supporting Community Health Workers. When Evan is not advocating for patients, he can be found travelling, backpacking, camping, or snowboarding. He also enjoys attending concerts, playing music, spending time with his family, and enjoying a meal with his wife.



Thanks to my wife, who has borne the majority of the burden that is 7 years of medical training. We made it!

The Role of the Physician in Support of Community Health Workers

Background/Purpose:

When exploring the factors that contribute or detract from the health of the individual and of the community, they are often divided into “upstream” and “downstream” effects. Examples of “upstream” effects on one’s health and wellbeing include the social determinants of health. The social determinants of health encompass where people are born, grow, work, live, and play, or factors such as access to healthy foods, clean drinking water, and safe neighborhoods. “Downstream” effects include more individualized interventions such as treatment of chronic disease, emergency services, or dialysis.¹ Regularly, the effect size and cost savings of upstream interventions dwarfs that of the higher-cost downstream interventions.²

Traditionally, the effect of the physician in community health is most often recognized as a “downstream” factor. As such, the direct effect on public health and the wellbeing of communities is often unfortunately small. It has been proposed that one method by which physicians can move their effect upstream is by better wielding advocacy to support front-line workers in public and community health. One group of these front-line workers includes the broad workforce that makes up Community Health Workers (CHWs).

Though there are many definitions of CHWs, an often-cited definition is that of the American Public Health Association: “a community health worker (CHW) is a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. This trusting relationship enables the CHWs to serve as a link between health/social services and the community to facilitate access and to improve the quality and cultural appropriateness of service delivery. A CHW also builds individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support and advocacy”.³ It is outside the scope of this paper, but there is plentiful data demonstrating the efficacy of CHWs to improve social determinants of health and the overall health of their communities.

In 2018, the Wisconsin Department of Health Services Chronic Disease Prevention Program was a recipient of a 5-year CDC grant. This grant supports state investments in implementing and evaluating evidence-based strategies to prevent and manage cardiovascular disease (CVD) and diabetes in high-burden populations/communities with the goal of contributing to improved health outcomes. As one evidence-based strategy, the CDC funding opportunity supports the development of the statewide CHW infrastructure to promote long-term sustainability and reimbursement for CHWs. This initiative builds on a long history of CHW initiatives and leadership that have laid the foundation for an established statewide infrastructure. The statewide CHW infrastructure is a collaborative effort among various state and local agencies that contribute to initiatives such as sustainable financing, reimbursement, advocacy, community organizing, and workforce development that is supported in collaboration by the Wisconsin Department of Health Services Chronic Disease Prevention Program; the University of Wisconsin-Madison Population Health Institute MATCH Group; Great Rivers HUB located in La Crosse, WI; UniteMKE located in Milwaukee; and statewide and local organizations that have championed the CHW movement, like United Voices Collaborative, Milwaukee AHEC and Planned Parenthood of Wisconsin. It is through these combined efforts that the WI CHW Network was formed.

Throughout 2019-2020, the WI CHW Network began Community Conversations in an attempt to have a qualitative method to accomplish the following goals:

1. Identify CHWs in the state and continue to build relationships
2. Operationalize health equity by centering the voices of CHWs, build capacity, and identify CHW regional leadership
3. Hear from the workforce about the needs and opportunities related to professional development, certification, training, etc.
4. Compile qualitative information to influence future CHW policy/legislation and sustainability of the workforce⁴

As a resident physician, I was welcomed into this process as an ally and stakeholder. Through this, I attempted to determine the methods by which physicians can support and serve their CHW colleagues with the goal of increasing the visibility, sustainability, and efficacy of CHW interventions.

Methods:

National and statewide data were gathered through telephone interviews with stakeholders in New Mexico and Minnesota, two states with more established CHW networks and credentialing, as well as attendance of both local and statewide CHW Community Conversations and the first annual Wisconsin CHW Network Summit. In addition to collecting qualitative data from state and local interviews, internal documentation from the University of Wisconsin-Madison Population Health Institute MATCH Group was reviewed to compile a comprehensive assessment of information from various sources. Internal documentation primarily focused on conversations and Q&A sessions conducted with CHWs and Stakeholders at the numerous Community Conversations, as well as recorded the goals and steps taken by the MATCH group.

The University of Wisconsin-Madison Population Health Institute Mobilizing Action Towards Community Health (MATCH) Group defines itself as a group that “develops and deploys programs and resources and engages in collaborative partnerships that support strategic community-driven efforts to ensure that all people have a fair chance to be healthy in their homes, schools, workplaces, and neighborhoods, MATCH aims to change practice, focus priorities, and shift power to support shared action on root causes of health and equity.”

The CHW Community Conversations were coordinated by the Statewide CHW Network Coordinator alongside an MPH student intern from Indiana University and received guidance and support from the statewide CHW Advisory Group made up of the WI Department of Health Services, University of Wisconsin-Madison Population Health Institute MATCH Group, UniteMKE, Planned Parenthood of Wisconsin, Great Rivers HUB, Milwaukee AHEC, and the Milwaukee Consortium for Hmong Health. Additionally, in order to strengthen relationships with regional CHW leaders and provide new leadership opportunities to CHWs across Wisconsin, the Community Conversations were co-facilitated by CHWs from the specific community in which the Conversations took place.

Results:

Physicians were broadly recognized as important advocates by CHWs and their allies. It was determined that physicians could best support CHWs through the following: 1) listening, 2) showing up, 3) acknowledging and respecting other forms of expertise, and, possibly most important, 4) advocating for stable reimbursement for CHW services. Through hearing the concerns of CHWs, acknowledging their expertise in areas of community-specific social determinants of

health, and subsequently advocating for improved reimbursement and recognition of CHW services, physicians could play an important role in promoting their CHW team members.

Conclusions:

- 1) Listening: All too often, physicians, either intentionally or unintentionally, overwhelm conversations and mute the voices of community members with less formal education or societal prominence. Frequently, CHWs expressed their wishes to be heard and acknowledged as the voices and defenders of their individual communities. The CHWs bravely shared their experiences of feeling disenfranchised or undervalued by the medical community they were contributing to in large, often unpaid ways.
- 2) Showing Up: CHWs predominantly work with underserved and marginalized communities and oftentimes experience similar social determinant of health barriers as the clients they serve. Due to this, and the historical context in which they reside, mistrust exists of medicine, government, police, banks, and other institutions that frequently have contributed directly or indirectly to systemic disenfranchisement. Likewise, it is not an infrequent occurrence for individuals or organizations to present themselves as a community partner only to disappear as quickly as they appeared after funding dries up or their individual goals are achieved (e.g. residency community health requirements). If a provider or organization wishes to have a true, sustained relationship with CHWs and their communities, a sustainable, regular relationship must be formed. This requires regular attendance of meetings, community events, religious services, charity events, etc.
- 3) Acknowledging and Respecting Other Forms of Expertise: CHWs are trusted experts on the needs of their communities. They are able to recognize individuals and groups in need and provide services that address social determinant of health, often times by resource procurement and conducting client home visits. Any physician who has performed a home visit understands the value and learning that stems from meeting an individual in their world. Though CHWs are aware of their expertise, for physicians to acknowledge and promote this provides much needed validity to their role.
- 4) Advocating for Stable Reimbursement: Currently, Wisconsin does not have Medicaid reimbursement for CHW services unlike our neighbor states. CHWs are funded differently depending on their employers, but unfortunately, a large proportion of CHWs provide services with little or no sustainable reimbursement. Furthermore, despite often not seeing reimbursement, CHWs are also rarely “off the clock”. A common theme throughout discussion with CHWs and their allies were stories of 2AM phone calls for food, shelter, or emotional support. This dynamic extracts a large emotional cost on CHWs. Coupled with the great personal cost of attaining certification/training, spending time away from family, and frequent use of personal resources, these issues create an unsustainable level of burden for CHWs. Stable reimbursement and support solves some, but not all, of these issues. Multiple states are currently working on getting the services of CHWs recognized by Medicaid and Medicare, but significant hurdles remain in front of that endeavor. As such, a growing movement is focused on utilizing HUBs and community-based organizations (CBOs) to employ/house CHWs without infringing on their necessary autonomy. An excellent way for physicians in Wisconsin to support CHWs is to advocate for sustainable funding mechanisms and support their individual organization in becoming a partner CBO that utilizes and reimburses for CHW services.

Acknowledgements:

This project was conducted with the financial support of the Wisconsin Department of Health Services Chronic Disease Prevention Program and direct supervision and guidance from Marcia Morales Villavicencio, whose work enables her to continue to support the establishment of the statewide CHW network. Many thanks to Morgan Krhin, who was instrumental in numerous portions of this project and a regular, welcoming presence. Thank you to Dr. Jennifer Edgoose and Shelly Shaw for their guidance throughout the last three years. Great appreciation to the many wonderful CHWs and their allies for welcoming me into their groups and discussions. Thanks to Carol Hanson of the State of New Mexico and Julie Munn at St. Kate's University in St. Paul, MN.

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Molly Olson, DO

Projects Completed During Residency:

Scholarly Project:

Relationship of an OMT Precepting Course for Family Medicine Residency Faculty with Perceived Knowledge of OMT

Scholarly Project:

Quantifying Blood Loss During C-Section at St. Clare Hospital: A Quality Improvement Project:

Accurate measurement of blood loss during C-section is important for early identification and treatment of postpartum hemorrhage. At St. Clare Hospital, current procedures include estimated blood loss (EBL) during C-section, but precise quantification of blood loss (QBL) is not current protocol. A review of C-sections performed at St. Mary's Hospital and St. Clare Hospital from January-October 2019 showed that the average blood loss is 150 ml greater per case at St. Mary's where QBL is employed. The California Maternal Quality Care Collaborative's procedures for routine two step quantification for blood loss at C-section were reviewed and compared to current St. Clare protocol. Opportunities for improvement were identified, including exchanging suction canisters after delivery of the infant and routine weighing of lap sponges. These opportunities were reviewed with staff for potential implementation.



Molly Olson was raised on a farm in rural eastern Iowa and is drawn to serving rural and underserved communities. After graduating from Iowa State University with a BS in kinesiology & health and Spanish, she earned her medical degree and MPH from Des Moines

University. While in medical school, Molly sharpened her interests in rural medicine by completing an educational pathway designed to prepare students to practice as primary care doctors in rural Iowa. Her desire to provide care in underserved communities also led her to participate in global health experiences in Honduras and Belize. Molly has a strong interest in osteopathic manual medicine (OMM) and completed a one-year predoctoral fellowship in OMM where she assisted in teaching the first- and second-year OMM courses and evaluated and treated patients in the DMU OMM Clinic. In residency, Molly continued to hone her skills in OMM, serving as an osteopathic chief resident, as well as exploring her interests in obstetrics, completing an elective C-section training curriculum. Upon graduation, Molly plans to practice full-spectrum family medicine in rural northeast Iowa. In addition to her passion for rural communities, Molly enjoys running, cycling, reading, baking, and spending time with her family.



I have so many people to thank for their support during this long journey of becoming a family physician. First, thank you Tim, for being the most supportive husband; I can't even begin to thank you for all of your kindness and patience. To the rest of my family, thanks for listening when I needed it, reaching out when I wouldn't admit I needed it, and understanding my absence at many an event along the way. To my teachers, thank you for your time; thank you for imparting your knowledge and for helping me to always yearn to learn more and do better. A special thank you to Drs. Hannah, Lownik, the rest of the Baraboo faculty, and especially Angie Womble for making Baraboo such a great place to learn.

Relationship of an OMT Precepting Course for Family Medicine Residency Faculty with Perceived Knowledge of OMT

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Abstract

Doctors of osteopathic medicine (D.O.s) are trained in osteopathic manipulative treatment (OMT), a hands-on method of diagnosis and treatment of somatic dysfunction, or areas within the body framework with impaired or altered function.¹ As of the 2020 match, nearly 30% of new residents matching into family medicine are D.O.s², many of whom desire to provide OMT to their patients. Therefore family medicine residency faculty, regardless of M.D. or D.O. degree, should have familiarity with osteopathic principles and OMT and should feel comfortable supervising D.O. residents performing OMT. Previous research has indicated that further support for this supervision is needed.³ The authors developed an OMT precepting course for family medicine residency faculty and delivered this course at two national family medicine conferences. A short written precepting tool for use while supervising residents was also presented. Pre- and post-course surveys were conducted to assess faculty familiarity with osteopathic principles and precepting OMT before and after the course. Fifty-four participants completed pre- and post-course surveys. Participants rated improved familiarity with all concepts after completion of the precepting course. Participants also stated they would use the precepting tool in practice and would recommend the course to others. Based on this work, an OMT precepting course is an effective way to improve the ability of family medicine residency faculty to supervise D.O. residents performing OMT.

Introduction

Osteopathic principles and practice (OPP) and osteopathic manual treatment (OMT) are important aspects of osteopathic medical training and distinguish doctors of osteopathic medicine (D.O.s) from their allopathic colleagues. Through training in OPP and OMT, osteopathic medical students and residents learn how to identify areas of the body with altered structure and/or impaired physiologic function (somatic dysfunction) and how to restore function in this areas using manual treatment (OMT).¹ Research on OMT has shown beneficial effects in a number of medical conditions, including low back pain, headaches, and pneumonia.⁴⁻⁶ A recent study found that over 80% of osteopathic medical students intend to incorporate OMT into their clinical practices.⁷

D.O.s are strongly represented in primary care specialties, including family medicine. In the 2020 NRMP match, the first year of a unified match for all residency programs, 29.9% of PGY-1 family medicine positions were filled by osteopathic medical students.² Given substantial interest in OMT among graduating D.O. students, many of whom are pursuing family medicine, it is important for family medicine residencies to provide ongoing education in OPP and OMT to their osteopathic residents. However, research indicates family medicine residency faculty may not feel equipped to provide this education; in particular, allopathic faculty may have little familiarity with OMT. A recent survey of program directors from AOA-accredited and AOA/ACGME dually-accredited

programs found over half of program directors were concerned about the ability of their allopathic faculty to precept OMT.³ The same study found less than half of these residencies provide education on precepting OMT to their faculty.

Given these findings, the authors sought to develop training for allopathic family medicine residency faculty in how to precept OMT. A two-hour training course was developed and presented at two national family medicine conferences. Course participants were also provided with an OMT precepting tool, a short written guide to use one-on-one with residents during patient encounters in which residents wish to employ OMT. Pre- and post-course surveys were conducted to determine if participants' perceived knowledge of OPP and comfort with precepting OMT was influenced by course participation.

Methods

Subjects and Setting

One of the authors (S.J.) developed an OMT precepting course that was first presented locally to University of Wisconsin family medicine residency faculty. The same course was then modified and presented by two authors at the Society of Teachers of Family Medicine Annual Spring Conference in May 2018 (M.W. and S.J.) and the American College of Osteopathic Family Physicians Annual Convention and Scientific Seminars in March 2019 (M.O. and S.J.). The course was designed for family medicine residency faculty and was included as a pre-conference workshop at both conferences.

Instrument

All participants were asked to complete pre- and post-course surveys. Both surveys asked participants to rate their familiarity/comfort with osteopathic principles, musculoskeletal anatomy, palpatory skills, osteopathic diagnoses and treatment techniques, precepting OMT, documentation of OMT, and billing and coding for OMT. Participants rated their familiarity/comfort on a seven-point scale, with 1 indicating little familiarity/comfort and 7 indicating a high level of familiarity/comfort. The pre-course survey collected information about each participant's medical training (M.D. vs. D.O.) and characteristics of the residency program in which they teach. The post-course survey asked participants to rate their satisfaction with the program and the precepting tool and if they would recommend the program to others. The post-course survey also solicited general feedback about the course and precepting tool.

Procedures

The precepting course contained general information on osteopathic principles, the concept of somatic dysfunction, selection of appropriate treatment techniques, and contraindications for OMT. Participants also received instruction on supervision requirements for OMT and appropriate billing and coding for OMT. All participants received a copy of an OMT precepting tool, a short written guide containing pertinent questions to ask residents when precepting an OMT encounter along with tips for OMT billing and coding. A copy of this tool is included in figure 1.

All participants were given paper copies of the surveys. Pre-course surveys were distributed and collected before the sessions began. Post-course surveys were distributed and collected after both sessions. Participants were asked provide letters from their mothers' maiden names and digits from their phone numbers to create unique participant codes which allowed matching of pre- and post-course responses but prevented personal identification of individual participants.

Data Analysis

The analysis calculated summary statistics and used Wilcoxon signed rank tests to look for any change in participant responses from pre- to post-course. Data from participants who completed both pre- and post-course surveys were included in the analysis.

Results

Pre- and post-course survey results were obtained from 54 participants. Participant characteristics are summarized in table 1. The participants were family medicine residency faculty from programs of various sizes. Over three-fourths of course participants (42/54) were D.O.s. Most participants in the ACOFP course taught at programs with dual AOA/ACGME accreditation or ACGME accreditation with Osteopathic Recognition, while only about half of the participants in the STFM course taught at programs with AOA accreditation or Osteopathic Recognition (note study was conducted prior to current single accreditation system). All participants had at least one D.O. resident in their programs with an average of about 10 D.O. residents per program. Most participants (89%) currently engaged in some form of OMT precepting, mostly in outpatient clinics; half of participants also precept OMT in the hospital setting. One participant indicated they precept OMT in the nursing home while another indicated they precept in athletic settings (training room).

Table 2 includes participants' responses regarding their familiarity with various osteopathic concepts and comfort with precepting OMT before and after the OMT precepting course. These items were rated on a 1-7 ordinal scale. Mean response values, along with standard deviations, are reported. Participants indicated increased familiarity with all topics from pre-course to post-course evaluation. Wilcoxon signed rank tests were used to detect any change in response from pre- to post-course. For all items, there was a statistically significant increase in perceived familiarity with osteopathic concepts from pre- to post-course ($p < 0.01$, two-tailed). Although aggregate data from both courses are included here, these findings persisted when separating ACOFP and STFM course data.

As the target audience of the program is allopathic faculty, a separate analysis of the M.D. participants ($n=12$) was also conducted. M.D. participants rated increased familiarity with osteopathic concepts from pre- to post-course, including comfort with precepting OMT. Overall, M.D. participants had low familiarity with osteopathic concepts prior to the course (most scores 3 or below), while after the course, ratings improved to an average of 4 to 5 per concept. Wilcoxon signed rank tests found a statistically significant increase in responses from pre- to post-workshop for all items, with the exception of comfort with palpatory skills ($p < 0.01$, two-tailed).

Finally, table 4 includes information about participants' satisfaction with course and its materials. These items were also rated on a 1-7 ordinal scale. Participants rated the course highly, with a mean rating of 6.3 out of 7 when asked if they would recommend the program to others. Participants also rated the precepting tool as easy-to-use and that they would use the tool in their daily practices.

Conclusions

The current study found that an OMT precepting course is an effective way to improve family medicine residency faculty's perceived familiarity with osteopathic concepts, including precepting OMT. These findings were noted across two conference settings and for both M.D. and D.O. participants. These findings are important as they demonstrate a relatively simple intervention—a short precepting course, paired with a precepting tool—can achieve modest improvements in

faculty's perceived familiarity with OPP and OMT. It is hoped this increased familiarity will translate into enhanced teaching and supervision for D.O. residents, improving opportunities for D.O. residents to learn OPP and OMT and encouraging them to perform additional OMT during clinical encounters. Thus, the implications of these findings may extend beyond faculty ability to supervise OMT. If more D.O. residents are performing OMT during residency, this could translate into more D.O.s using OMT in practice. Previous research has shown that using OMT during residency is the main predictor of using OMT in future clinical practice.⁸

There are a few limitations of the current study. As the course has only been delivered and evaluated at two conferences, the sample size is small. The course should be delivered in multiple settings and employed by multiple residency programs with further evaluation to determine its effectiveness in preparing allopathic faculty to precept OMT. The current study also measures participants' subjective ratings of their familiarity with osteopathic concepts. Objective measures of faculty knowledge of OPP and OMT may provide a more useful assessment of their readiness to precept OMT. Data could also be collected from residents to evaluate their faculty when precepting OMT and whether this is changed by course participation. Finally, while the intended audience of the course is allopathic family medicine residency faculty, most of the initial residency faculty to participate in the course were osteopathic physicians. While D.O. faculty commented in their post-course evaluations that they found the course helpful and planned to take it back to their respective programs to train allopathic faculty, the course should be presented to more M.D.s to determine what knowledge gaps in OPP and OMT still exist after course participation.

In summary, an OMT precepting course improves family medicine residency faculty's familiarity with osteopathic concepts and precepting OMT. Further research is needed to evaluate whether this familiarity translates into enhanced quality of precepting or additional volume of precepting in residency settings.

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OMT Precepting Tool

- 1) Is presentation of injury/pain acute or chronic (>4 weeks)? Contraindications to OMT?
- 2) Has patient had manual medicine for this presentation in the past? If yes, how did they respond?
- 3) What is the body region with the greatest somatic dysfunction? What is the possible primary dysfunctional structure?
- 4) What techniques are being considered? (soft tissue, muscle energy, myofascial release, counterstrain, etc.)
- 5) What is the plan for follow up?
 - a. Timing: 1 week, 3-4 weeks?
 - b. After 3-4 treatments, is manipulation still helping/necessary?
 - c. What side effects will the patient notice because of this treatment? What can be done to reduce them?

List of contraindications to OMT

Most contraindications are **relative**, though following list is a few to follow more closely.

1. Cancer
 - a. Any technique in immediate vicinity of cancer;
 - b. Lymph pump
2. Bone disorder (osteoporosis, RA, tumor, Down syndrome)
 - a. No HVLA, caution with other techniques
3. Vertebral artery disease
 - a. No cervical HVLA, caution with direct techniques

Billing/Coding Tips

1. Document physical exam findings and osteopathic findings (TART)
 - a. Must have documentation of the somatic dysfunctions for each body region treated
 - b. 10 possible body regions: head, cervical spine, thoracic spine, lumbar spine, sacrum, innominates/pelvis, upper extremity, lower extremity, ribs, and abdomen
2. Use allopathic diagnosis as your "primary" diagnosis code(s)
3. Add regions treated (this correlated directly with the somatic dysfunction documentation in your note)

M99.00 Head	M99.01 Cervical region
M99.02 Thoracic region	M99.03 Lumbar region
M99.04 Sacral region	M99.05 Pelvic region
M99.06 Upper extremity	M99.07 Lower extremity
M99.08 Rib cage	M99.09 Abdomen and other regions

4. Bill the appropriate level of service
 - a. Most often will be a 99213 (level 3) or 99214 (level 4)
5. Add the appropriate billing code for the number of regions treated, with -25 modifier

98925 1-2 regions	98926 3-4 regions
98927 5-6 regions	98928 7-8 regions
98929 9-10 regions	

Figure 1.
OMT Precepting Tool.

	All Participants	ACOFP Course	STFM Course
Number of Participants	54	33	21
M.D.	12	0	12
D.O.	42	33	9
Residency Accreditation			
AOA	1	0	1
ACGME	12	2	10
Dual accreditation	18	13	5
ACGME with osteopathic recognition	23	18	5
Number of Residents in Program			
Mean ± S.D.	21.4 ± 8.8	20.6 ± 9.7	22.6 ± 7.1 ^a
Min	5	5	6
Max	48	48	36
Number of D.O. Residents in Program			
Mean ± S.D.	9.9 ± 8.1	11.3 ± 8.4	7.5 ± 7.1 ^b
Min	1	3	1
Max	48	48	25
Participant Preceptorship of OMT			
Any Current Precepting	48/54	32/33	16/21
Precepting in Clinic ^c	38/42	25/28	13/14
Precepting in Hospital ^c	21/42	18/28	3/14

Table 1.
Participant Characteristics.

^aOn the STFM pre-course surveys, only 18 out of 21 participants indicated the number of residents in their programs. Two of the participants were teaching in new residency programs.

^bOn the STFM pre-course surveys, only 19 out of 21 participants indicated the number of D.O. residents in their programs. Two of the participants were teaching in new residency programs.

^cFor the items regarding OMT precepting, all 54 participants responded yes/no as to whether they currently engage in OMT precepting. Of the 48 participants who engage in precepting, only 42 participants answered the items regarding location(s) of this precepting—clinic, hospital, or other location (4 participants from the ACOFP course omitted responses, while 2 participants from the STFM course omitted responses).

Item	Mean (S.D.) Pre-Course Response	Mean (S.D.) Post-Course Response	Z-value	p-value two-tailed
Foundations of osteopathic principles	5.37 (1.71)	6.06 (1.09)	-3.92	<0.001
Remembering musculoskeletal anatomy	5.02 (1.35)	5.75 (0.96)	-4.37	<0.001
Comfort with your palpatory skills ^a	5.47 (1.55)	5.97 (1.08)	-3.23	0.001
Ability to make an osteopathic diagnosis ^a	5.04 (1.95)	5.85 (1.32)	-4.00	<0.001
Performance of osteopathic techniques ^a	4.81 (1.96)	5.74 (1.27)	-4.25	<0.001
Precepting OMT	4.74 (1.82)	5.91 (1.14)	-4.94	<0.001
Documentation of OMT ^a	5.00 (1.93)	6.13 (1.16)	-4.72	<0.001
Billing and coding for OMT	5.06 (2.05)	6.09 (1.14)	-4.26	<0.001

Table 2.

Wilcoxon Signed Rank Tests for Pre- and Post-Course Familiarity Items. All Responses n=54.

^aFor these items, a single participant omitted a pre- or post-course response, therefore the opposing response was also not included in the data analysis. Total responses for these items n=53.

Item	Mean (S.D.) Pre-Course Response	Mean (S.D.) Post-Course Response	W-value/ Z-value	p-value two-tailed
Foundations of osteopathic principles	3.00 (1.48)	5.33 (1.37)	0/-3.06	<0.01/0.002
Remembering musculoskeletal anatomy	3.25 (1.29)	5.04 (1.25)	0/-2.80	<0.01/0.005
Comfort with your palpatory skills ^a	3.36 (1.36)	4.86 (1.31)	3/-2.31	Not significant
Ability to make an osteopathic diagnosis ^a	1.91 (1.22)	4.36 (1.63)	0/-2.67	<0.01
Performance of osteopathic techniques	1.75 (0.97)	4.33 (1.61)	0/-2.93	<0.01/0.003
Precepting OMT	2.33 (1.50)	5.08 (1.44)	0/-2.93	<0.01/0.003
Documentation of OMT ^a	2.09 (1.22)	4.82 (1.47)	0/-2.80	<0.01/0.005
Billing and coding for OMT	2.08 (1.44)	4.83 (1.34)	0/-2.93	<0.01/0.003

Table 3.

Wilcoxon Signed Rank Tests for Pre- and Post-Course Familiarity Items of M.D. Participants. All Responses n=12.

^aFor these items, a single participant omitted a pre- or post-course response, therefore the opposing response was also not included in the data analysis. Total responses for these items n=11.

Item	Overall Mean (S.D.)	ACOFM Mean (S.D.)	STFM Mean (S.D.)
Please rate ease of use of precepting tool	6.08 (0.98)	6.19 (0.93)	5.90 (1.04)
Likelihood you will use this tool in your daily practice	5.74 (1.54)	5.94 (1.37)	5.43 (1.78)
Likelihood you would recommend this program to others	6.30 (1.04)	6.45 (0.90)	6.05 (1.20)

Table 4.
Post-Course Ratings of OMT Precepting Course and Precepting Tool.

Nina Piazza, MD

Projects Completed During Residency:

Community Health Learning Experience & Scholarly Project:

Examining UW's MEDiC through the Health Equity Lens: Ideas for Change:

Working alongside Wingra co-resident Alyssa Bruehlman, Nina's Scholarly Project included background research gathering supportive evidence for their Community Health Learning Experience report. Topics studied included standards of care in primary care, historical context of insurance coverage and health disparities in Dane County, and current models of academically affiliated student-run clinics nationwide. Findings were summarized in an abstract that was submitted to the Towards One WI Conference; however, unfortunately due to public health concerns, that conference was cancelled. The final community health project report will be submitted to leaders of UW's own student-run clinic. In addition, Nina is also submitting a Family Physicians Inquiry Network HelpDesk Answer, "Oral Ondansetron Does Not Reduce Need for IV Fluids in Non-Dehydrated Children," along with Ildi Martonffy.



Nina Piazza grew up in Rochester, NY, and she earned her undergraduate degree in biology and Chinese from Williams College. Following graduation, she taught at an elementary school in rural China. Upon returning to the U.S., Nina attended the University of Rochester

School of Medicine and Dentistry where she was involved in the medical education pathway, acted as a "Big Sib" mentor, worked on community-based research about long-acting reversible contraceptive use among inner-city teenagers, and helped to establish and lead a new student-run clinic. Nina was drawn to family medicine because of its focus on serving the underserved and on forming longitudinal relationships with patients. During residency, she participated in the community health pathway, working on a project examining health equity in student-run clinics. She also was involved in residency leadership, acting as co-chief resident in her third year. She is looking forward to returning to Rochester, NY in the fall to join the faculty group in the University of Rochester's family medicine residency, and to work in their academic FQHC. In her free time, Nina enjoys hiking, canoeing, baking, and cooking. She can also be found playing percussion in community orchestras.



I am so grateful for my friends and family who have supported me throughout my years of training, especially my husband, Nick, my parents, and my sister. I feel so lucky to have had such a wonderful group of co-residents to lean on for the past 3 years, and to have so many amazing role models in our faculty. Special thanks to the Wingra family, as well as to the community health faculty who have dedicated so many hours of mentorship and support.

Examining UW's MEDiC through the Health Equity Lens: Ideas for Change

Nina Piazza, MD and Alyssa Bruehlman, MD

Student-run clinics (SRCs), including the University of Wisconsin School of Medicine and Public Health's MEDiC, offer opportunities to provide care to underserved patients and for health professional students to practice clinical skills within a context of community outreach. In all SRCs, there exists a tension between the priorities of educational volunteerism and the provision of quality care for vulnerable, mostly uninsured and minority patients. As part of our community health learning experience during family medicine residency, we sought to investigate how SRCs as a whole, and MEDiC in particular, can better prioritize being patient-centered organizations rather than student-centered organizations. The following report summarizes our findings and recommendations.

Background:

MEDiC's first free clinic was offered within a men's shelter at Grace Episcopal Church in 1991,¹ at a time when an estimated 17% of Americans under age 65 were uninsured.² Over the next two decades, the percentage of uninsured Americans remained fairly stable; however, the absolute number of uninsured Americans continued to grow.² In 2008, Wisconsin started the BadgerCare Plus program which expanded insurance access to children, families, and childless adults at a time when the country was entering a recession.³ In 2010, MEDiC officially became a sponsored program within UW SMPH,¹ the same year in which the Affordable Care Act (ACA) was passed to improve health insurance coverage to lower income Americans.⁴ Wisconsin did not adopt federally funded Medicaid expansion but instead instituted a partial expansion in 2014, leaving an estimated 82,000 Wisconsinites at risk of being un- or under-insured.^{5,6}

Based on the data since Wisconsin's partial Medicaid expansion, approximately 4.8% of individuals under age 65 in Dane County remain uninsured, compared to an average of 8% statewide and 10% nationally.^{7,8,9} While Wisconsin and Dane County have experienced a lower prevalence of uninsured residents compared to national averages,^{3,9,10} minority populations bear an unequal burden of these statistics. Latinx comprise a disproportionate number of the uninsured, attributed partially to immigration status.^{7,8} Black Dane County residents are 2.3 times more likely to be uninsured than non-Hispanic whites.¹¹ Even when controlling for income or insurance status, people of color are more likely to be affected by health disparities,¹² and Wisconsin received a grade "D" in overall health disparities based on a 2016 report from UW's Population Health Institute.¹³

Since MEDiC's founding three decades ago, there have been meaningful improvements in healthcare insurance and access in Madison, including the partial expansion of Medicaid, growth of community clinics including the Access Community Health Centers network, and health system-sponsored financial assistance programs like UW Health's Community Care. MEDiC has also increased its locations and services during this time. Despite these changes, there is undoubtedly an ongoing need for access to affordable and high-quality comprehensive primary care services.

Current State:

MEDiC currently runs three core adult medical clinics held once weekly which are staffed by a rotating group of health professional students and volunteers. These clinics are all acute care clinics and are not set up to provide long term primary care. The Southside clinic is located at the Access Erdman clinic site and sees a higher percentage of undocumented and uninsured patients. The Grace and Salvation Army clinics are located at a men's and women's shelter, respectively, and focus mostly on the acute care, "walk-in" needs of the shelter residents. Many patients who visit the Salvation Army and Grace clinics have health insurance or would qualify for Medicaid, and some are already established in primary care homes.

The clinic operations at MEDiC are run largely by first- and second-year medical students, and leadership roles are held for a one-year term. During a clinic session, pre-clinical medical and other health professional students (nursing, pharmacy, PT, PA, and NP) are paired as a clinical team who will evaluate patients. The preceptors at MEDiC are a combination of resident and faculty physicians from a variety of specialties including neurology, family medicine, internal medicine, cardiology, emergency medicine, preventive medicine, and critical care, among others.

If patients present with a purely acute need (URI, rash, etc), the clinical team is able to provide medications and supplies that are stocked at the clinic sites, write prescriptions, offer reassurance, or triage to a higher level of care (i.e. the emergency department). If a chronic issue is discovered, such as poorly controlled diabetes or elevated blood pressure, it is up to the team to decide how this should be managed, whether by providing a short term supply of medications, referring to primary care, or deferring to the patient's primary care provider should they have one. The newly established "Bridges to Care" program at the Southside Clinic allows for longer term management of hypertension through protocolized medication titration and lab monitoring. There is no formal system in place for managing other comorbidities nor continuity of providers to follow these patients within MEDiC's schedule, and current referrals processes are limited. Because of this format, MEDiC clinics are not able to serve as a medical home for patients.

In contrast to this model, there are national guidelines for appropriate standards of care in a medical home, as laid out by the ACP, AHRQ, and The Primary Care Collaborative.^{14,15,16} Some of these tenets include the importance of keeping continuity with one provider within a team, addressing the whole scope of a person's health, and including patients and community organizations in the practice's evaluation process. There is also an emphasis on care coordination within the medical neighborhood.

Other student clinics around the country model these national standards with simultaneous focus on patient-centeredness and student education. At Northwestern University, students are embedded within the CommunityHealth Chicago clinic, which runs as an education-centered medical home. Students are paired with the same attending over all four years of medical school, allowing for continuity. Their data shows better outcomes in preventive health measures, as compared to other student-run clinics.¹⁷ The Vanderbilt Shade Tree Clinic also cares for a panel of patients with ongoing continuity, and they have found that patients in their panel had fewer hospitalizations.¹⁸ At the University of Rochester, the St. Joseph's Neighborhood Center offers comprehensive primary care services, with the medical student clinic providing an extension of their services, being fully embedded into their model of care and continuity.^{19,20} There are multiple studies showing that continuity of care is very positive for medical student satisfaction and education. While some

patients return to MEDiC over multiple visits, it is not currently equipped to act as a continuity clinic.

Recommendations:

There are several areas in which MEDiC could further optimize its operations to be more patient-centered.

1. *Students should be assigned tasks appropriate to their level of training*

The vast majority of MEDiC's student volunteers are in their pre-clinical years of training (e.g. Phase 1 medical students). Subsequently, the histories obtained, physical exams performed, and assessments formulated are by students who have only partial and still emerging clinical reasoning skills. When more advanced medical students are present in the current phase 3 elective, it is in a practice preceptorship role and rarely in direct patient care. MEDiC clinics could greatly benefit from more consistent involvement of students who are at more advanced stages of training (for medical students, Phases 2 and 3) in order to improve the care that patients receive. This involvement could come from a structured clinical rotation incorporated into existing curricula, though could also remain primarily within the realm of volunteerism. Senior student learners can more appropriately assess and present patient information and thereby can provide a more streamlined and comfortable experience for patients. Students who are earlier on in training can remain involved by performing tasks appropriate for their current knowledge level such as obtaining vital signs, eliciting chief complaints, performing medication reconciliations, operating as scribes during encounters, and learning physical exam maneuvers from other team members if applicable.

2. *Supervision should come from providers working within the scope of their active practice*

Paralleling the concept of appropriate student involvement, supervising providers should work within the clinical sphere in which they are trained and experienced. Staffing MEDiC clinics with as many primary care, urgent care, or emergency department providers as possible would help address the unexpected and varied nature of patient concerns while ensuring safety and quality of care. Beyond the volunteer physicians at each clinic session, we also recommend that MEDiC involve primary care clinicians more closely with the overall leadership of clinic operations.

3. *Clinics should establish a referral and follow-up process for patients needing care outside of what the clinic can provide*

MEDiC's current referrals system to primary care or specialists lacks standardization and structure. Currently there are 3 primary care referrals available from MEDiC clinics per month for uninsured patients, and there is no standardized approach to determine who receives those referrals. There are multiple complexities in navigating the needs of patients who may or may not have insurance or a primary care provider. This is furthermore muddled by the varying intake processes at clinics across the county. Furthermore, many patients seen at MEDiC have chronic conditions and a level of medical complexity which would best be served by a continuity provider. This makes it all the more essential for MEDiC to clearly establish a systematic referrals process with the ultimate goal of

streamlining connections to continuity care, not only for medically complex patients, but for everyone that they see.

MEDiC volunteers could play a more active role in this referral process. For example, volunteers could act as healthcare navigators for specific patients to help connect them with local clinics. For those patients who do have primary care providers, volunteers could more routinely fax notes to providers when their patients are seen in a MEDiC clinic. The MEDiC system as a whole could establish workflows for prioritizing referrals based on condition and urgency. MEDiC can also consider partnering with the local community organization ABC for Health to connect patients with greater insurance coverage options.

4. *If the clinic model is unable to provide continuity of care, then the clinic should focus on optimizing urgent care services and referrals*

Given the more intermittent nature of both patient encounters and volunteer involvement at MEDiC, the clinic's ability to provide continuity of care for chronic conditions is inherently limited. This speaks to the essential need for improvement in referrals processes as outlined above. Still, many patients seek care at MEDiC for acute care needs and certainly these services could be optimized as well. One idea could include building a list of the 15-20 most common urgent care conditions seen across the UW system or MEDiC clinics over the past 2-5 years. Once a list of most common diagnoses is established, this could help guide student education materials and clinical practice guidelines for these conditions, pharmacy medication supply, and workflows surrounding follow-up and referrals.

5. *Patients should have direct input in the evaluation of clinic services*

In making system improvement, including patient perspectives is important. As recommended by ACP, AHRQ, and PCC guidelines, most healthcare organizations involve patient representation on boards and committees. We encourage MEDiC to find creative ways to elicit input from its patient population. Ideas include but are not limited to in-person surveys, telephone interviews, focus groups, and a patient representative on the leadership team.

Conclusion:

In an ideal world, all patients would have access to insurance and a primary care medical home, however this is not the reality in which we live. Evidence shows patients who have a primary care home have best outcomes, and so connecting patients to primary care should be the ultimate goal of safety-net clinics like MEDiC. This report aims not only to define areas in which MEDiC operations could improve (education, staffing, referrals), but also to consider the potential implications on equity and access to care for MEDiC's patients. We encourage MEDiC leaders to focus on providing the same quality of care that patients would receive at UW Health and advocating for improved access to care in the Madison area, even if those services exist beyond what MEDiC can offer.

There is a shortage of medical homes available in Madison that are able to accept patients without insurance. MEDiC volunteers are well suited to advocate for the patients that they serve, in that they see firsthand a large number of patients who need to be connected to care. It would behoove the

organization to prioritize advocacy within our community for the establishment of more options for uninsured community members.

SRCs can be a valuable learning experience, but education should not be at the cost of health equity. We recommend that the MEDiC organization continue its valuable work in this field and more closely assess its current practices through the lens of the ideas mentioned above. While the current global pandemic has had devastating consequences, it has also created space for healthcare organizations to re-examine and innovate the care they provide to their communities. We encourage the leadership of MEDiC to take this temporary closure as an opportunity to do the same and reframe the work that they do with health equity and patient-centeredness at the forefront.

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Kelsey Schmidt, MD

Projects Completed During Residency:

Scholarly Project:

Innovative Partnerships to Support MAT in a Rural Teaching Clinic

Community Health Learning Experience:

Green County Mental Health Matters and Farmers' Health:

Throughout residency, Kelsey enjoyed getting to network in her own community and work with the "Mental Health Matters" committee to decrease mental health stigma and improve access to care. She also enjoyed working on Farmers' Health research topics and education. She was able to give several presentations regarding farm related illnesses, farm stress and mental health, as well as farm culture. In total there were about 40 attendees who gained knowledge and were able to better care for their patients who are farmers.



For Kelsey Schmidt family medicine is about two things: care and the community. A native Wisconsinite, Kelsey earned her undergraduate degree in biomedical engineering and her medical degree from the University of Wisconsin-Madison.

While an undergraduate, she studied abroad in Budapest, Hungary; in medical school, she travelled to Nepal to work as a Quality Improvement facilitator. These experiences led Kelsey to see the parallels between the community approaches to health in rural Wisconsin and communities thousands of miles from home. She took the lessons learned in Nepal back to the Monroe Clinic where she worked to improve the Community Care program. She also assisted with health literacy projects and volunteered with homeless families through the Road Home and Family Promise organizations. In the clinic, Kelsey delights in being able to hear her patients' stories and learn from their life lessons as she gets to know and provide care for many generations of the same family. During residency Kelsey worked with a county wide collaboration called "Mental Health Matters" to help address mental health disparities in Green County. She also developed a Farmers' Health curriculum and was engaged in research topics which combined her family's ties to agriculture with her profession. Kelsey enjoys running, cooking, and traveling, and she remains connected to her Wisconsin heritage by catching a Badger basketball game and spending time with her husband and daughter on their family farm near Monroe, WI.



Special thanks to the many collaborators I had on these projects. These include the members of the Mental Health Matters Committee, members of the Rural Health Equity Track, residency staff and program directors, Chris Frakes, Jackie McCarville, John Shutske, and Rebecca Steffes. Huge shout out to my friends, co-residents, and family for all of their support during my medical training. I am especially grateful to Tyler, Isabel & my parents - I couldn't have done it without you.

SUPPORTING THE TREATMENT OF OPIOID USE DISORDER IN A RURAL TEACHING CLINIC

JULIAN LANDECK, MD; KELSEY SCHMIDT, MD; KARYN CECELE, MD, AND TAYLOR BOLAND MD



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

RURAL HEALTH EQUITY TRACK (RHET)

- Fully participate in UW Madison Family Medicine Program
- 2 Residents per year
- Based at the Belleville Clinic
- Additional rural experiences - Critical access hospital



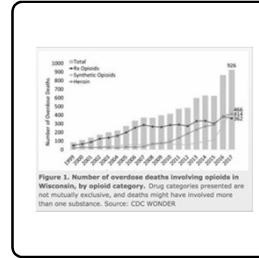
RURAL HEALTH EQUITY TRACK (RHET)

- LEADERSHIP CURRICULUM AND MENTORING OPPORTUNITIES
- MENTAL HEALTH AND AODA TRAINING INCLUDING TRAINING AS BUPRENORPHINE PRESCRIBERS
- CUSTOMIZABLE COMMUNITY FOCUS



BACKGROUND

- WISCONSIN EXPERIENCED 16.9 OPIOID-RELATED DEATHS/100,000 PERSONS IN 2017, HIGHER THAN THE NATIONAL AVERAGE
- MULTIPLE PLACEBO-CONTROLLED TRIALS ACROSS CONTINENTS AND DECADES DEMONSTRATE THE EFFECTIVENESS OF MAT IN OPIOID USE DISORDER



RURAL CHALLENGES

- 60% OF RURAL COUNTIES LACK A BUPRENORPHINE PRESCRIBER (ANDRILLA ET AL 2017)
- AMONG ACTIVE PRESCRIBERS, 60% ACCEPTING NEW PATIENTS
- COMMON BARRIERS:
 - MEDICATION MISUSE/DIVERSION (48%)
 - LACK OF AVAILABLE MENTAL HEALTH RESOURCES (44%)
 - TIME CONSTRAINTS (40%)
 - LACK OF SPECIALITY BACKUP FOR COMPLEX PROBLEMS (32%)
 - FINANCIAL OR REIMBURSEMENT CONCERNS (29%)
 - RESISTANCE FROM PRACTICE PARTNERS (14%)
 - LACK OF CONFIDENCE IN MANAGING OUD (10%)

OUR MAT FRAMEWORK

- STARTED OFFERING MAT WITH BUPRENORPHINE/NALOXONE OR MONTHLY NALTREXONE INJECTIONS IN JULY 2018
- BY MAY 2019, 5/9 RESIDENTS, AND 6/6 FACULTY HAD BUPRENORPHINE WAIVER
- STANDARDIZED PROTOCOL AND NOTE FOR INTAKE VISIT
- REFERRAL TO GREEN COUNTY AODA PROGRAM OR THERAPY IF INDICATED
- OFFER HOME AND IN CLINIC INDUCTIONS

OUR PROTOCOL

- RN INTAKE CALL
- SUBSTANCE USE HISTORY
- TREATMENT HISTORY
- SCHEDULE APPOINTMENT
- ESTABLISH PCP AT BELLEVILLE




OUR PROTOCOL


- MD INITIAL VISIT
- DIAGNOSIS AND TREATMENT APPROPRIATENESS
- BASELINE LABS
- SUBSTANCE USE HISTORY
- MEDICAL HISTORY
- SOCIAL AND LEGAL BARRIERS
- PAPERWORK
- TREATMENT PLAN




HOME INDUCTION




RN call




Titration by protocol with MD support



SOWS



Close follow-up




Exclusion criteria

OFFICE INDUCTION


Patient brings and self administers buprenorphine

Titration over 3 hours

COWS




OUR PROTOCOL




Buprenorphine Follow-up

Once a week for 1 month
Every 2-4 weeks while stabilizing
Every 4-8 weeks once stable




Naltrexone Follow-up

1-2 weeks after initiation
Once a month for IM



Prescriptions

Refilled during visits
No phone refills (few exceptions)



Referral to higher level of care

Negative UDS or altered UDS
Unstable psychiatric condition
Frequent no-shows or cancellations
Inappropriate behavior

OUR PROTOCOL

BEHAVIORAL HEALTH RESOURCES

- PARTNERSHIP WITH COUNTY AODA SERVICES FOR INDIVIDUAL AND GROUP COUNSELING
- DRUG COURT PARTNERSHIP
- BEHAVIORAL HEALTH SPECIALIST (NON-AODA) IN CLINIC
- PEER RECOVERY SPECIALIST



ADDICTION MEDICINE SUPPORT

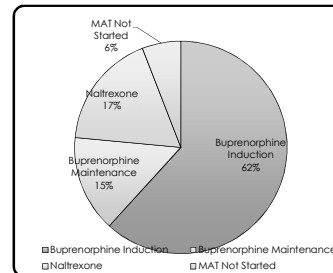
- UW ADDICTION CONSULTATION PROVIDER HOTLINE
 - FUNDED BY DEPARTMENT OF HEALTH SERVICES
 - STATEWIDE, M-F, 8 AM- 5PM
- PROJECT ECHO ACCEPT (ADDICTION AND CO-MORBID CONDITIONS: ENHANCING PREVENTION AND THERAPEUTICS)
 - MONTHLY VIDEOCONFERENCE
 - MULTIDISCIPLINARY
 - EDUCATIONAL TOPIC AND CASE DISCUSSIONS



◦ https://www.youtube.com/playlist?list=PLW42g0_2n07fz5TF1s_ARv4kF5eQr5

OUR PATIENTS

- 40 PATIENTS
- 32 STARTED ON MEDICATION ASSISTED TREATMENT
- MEAN AGE 32 YEARS (25-60)
- 28% FEMALE
- 47% REFERRED FROM GREEN COUNTY



INITIAL VISIT TREATMENT PLAN

63% ENGAGED IN BEHAVIORAL HEALTH

STARTING BUPRENORPHINE



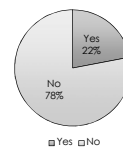
21 home inductions



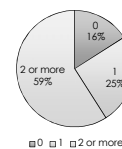
1 office induction

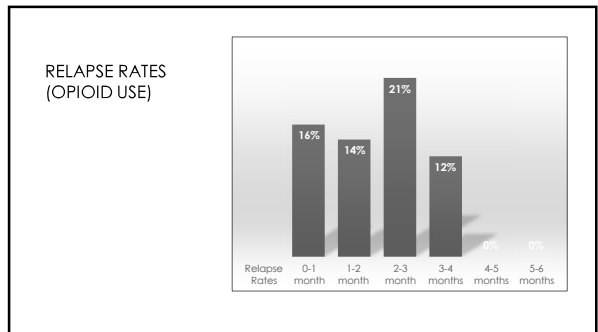
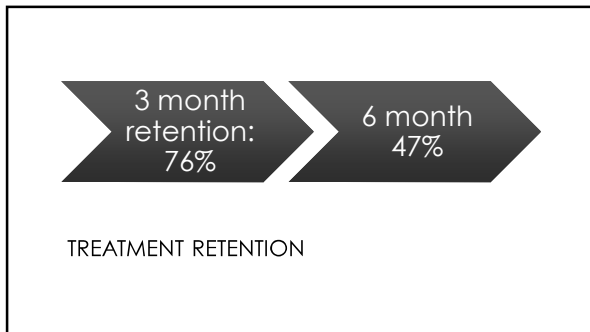
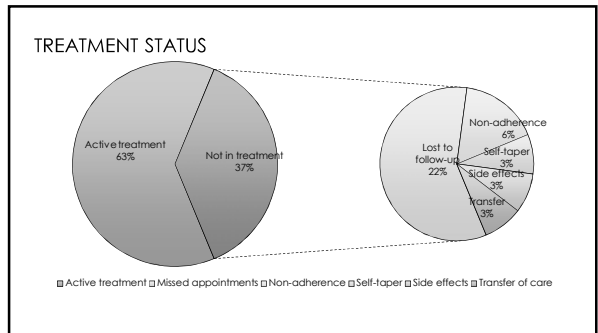
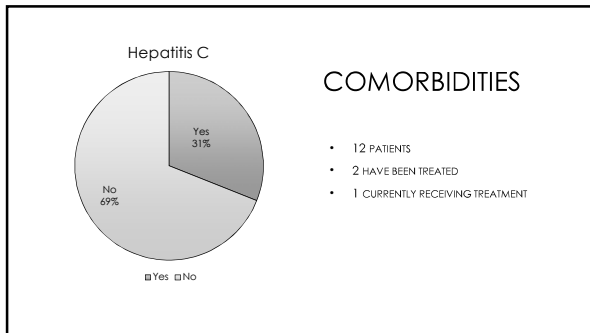
COMORBIDITIES

Chronic Pain



Psychiatric Diagnoses





Green County Health Community Coalition
 Hepatitis C treatment
 Needle Exchange Services
 Partnerships with County Jails/DOJ
 Enhanced training with Addiction Medicine specialists
 Partnering with Emergency Departments and Hospitals
 Group visits

NEXT STEPS

ACKNOWLEDGEMENTS

- RESIDENCY STAFF AND LEADERSHIP
- RHET STEERING COMMITTEE
- BELLEVILLE CLINIC STAFF, ESPECIALLY ANNA HELWIG RN
- RANDY BROWN, MD

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QUESTIONS?



Kristi Smith, DO

Projects Completed During Residency:

Scholarly Project

Global Health Experiences in Cusco, Peru

Community Health Learning Experience:

Mikayla's Grace:

Kristi's community health learning experience has been to crochet burial gowns, hats, booties, and blankets to donate to Mikayla's Grace, an organization that provides comfort and support to parents with babies in the NICU or who experience the loss of their baby. She made 6 burial gowns sets (each with a pair of booties and a hat), one blanket, and approximately 120 preemie and newborn hats. The knitting and crochet club worked together to make an additional 2 sets and 2 blankets. Of the 120 preemie hats collectively made by herself and a few other residents, she donated 100 to NICUs in Peru and the rest to Mikayla's Grace.



Kristi Smith's approach to patient care is informed by her first-hand experiences: she doesn't just treat diseases, she cares for people. Originally from Ada, OK, Kristi relocated to the Oklahoma City area after high school. Prior to earning her undergraduate degree in biology from the

University of Central Oklahoma and her medical degree from the Kansas City University of Medicine and Biosciences, Kristi worked as a medical assistant in a family medicine clinic. While working with patients whose health worsened because of missed warning signs, she developed a passion for family medicine. She has a passion for global health in underserved areas. Throughout residency she has participated in the Global Health Pathway and completed a rotation in Peru. In addition to these interests, she is also attracted to osteopathic manual medicine, addiction medicine, and women's health. Kristi enjoys crocheting, traveling, baking, and visiting local restaurants and breweries. She likes all sorts of movies and occasionally hosts Bad Movie Nights for her friends because "a really bad movie can be just as entertaining as a really good movie."



I'm not sure how to say thank you. The darkest time of my life has been during residency after the death of my daughter. The support my family, friends, and colleagues in every role in the program have given me as I've tried to patch up my soul and learn to function in the midst of grief is unbelievable. I can't possibly thank everyone individually. Thank you for every kind word or silent presence. For allowing space. For feeding me. For working extra when I couldn't. For allowing me to feel comfortable asking for help. Most importantly, thank you for loving and remembering Remy. Thank you Ryan, for loving and grieving with me. Thank you Remy for making me to love so deeply.

Global Health Experiences in Cusco, Peru

Lashika Yogendran MD, Kristi Smith DO, Sadie Mitten MD

We traveled to Cusco, Peru as participants in our Family Medicine Residency Global Health Pathway. We had three goals: training health care providers to be trainers of the Helping Babies Breathe curriculum, donating crocheted hats to Peruvian NICUs to help preterm infants with thermoregulation, and learning the standards of care for both chronic and acute conditions in Peru.

Overview of Health Systems in Peru:

Peru has a decentralized health system made up of 5 groups - Ministry of Health, EsSalud, Armed Forces, National Police, and the private sector. The Ministry of Health provides health services for 60% of Peru's population, EsSalud for 30%, and the remaining 3 entities covers the last 10% of the population¹. The Ministry of Health is funded primarily by tax revenue among other things. EsSalud is similar to a social security program, and is funded by payroll taxes from employers of sector workers.

Our Healthcare Experiences in Peru:

We had an opportunity to work in both a public hospital (Hospital Antonio Lorena) as well as at an EsSalud clinic in Cusco. These were two vastly different experiences. Lorena Hospital is a huge public hospital in Cusco where people without insurance can go for treatment. It is actually made up of an extensive maze of shipping containers as it was planned to be a temporary hospital until the actual permanent hospital was built. Unfortunately, due to corruption, the permanent hospital building has been delayed for the past 7 years. There are often long lines of patients and families waiting to see a doctor. The hospital does have different wards for adult, pediatric, and OB admissions, as well as a dialysis center. If there are patients needing specific specialty care, they are sent to Lima.

EsSalud Metropolitano clinic was a very different experience. It is attached to the EsSalud hospital in downtown Cusco and is staffed by mostly primary care physicians like family medicine doctors and pediatricians. We observed patients coming in for chronic medical condition follow-up much like how we practice in the United States, as well as for more acute care visits. This experience very much felt like we were back at home in Wisconsin in our own family medicine clinics.

Environmental Impacts on Health:

Anemia:

In Peru, 34% of children between 6-59 months of age have some degree of anemia, most commonly iron deficiency. This occurs for a variety of reasons including late introduction of iron-fortified foods, parasitic infections, and overall malnutrition. Additionally, the anemia rate in women of childbearing age is 18.7%, and this rate increases even more during pregnancy which further contributes to anemia in childhood².

Altitude:

Cusco sits at an altitude of 11,200 feet, so common lab values and vital signs have to be interpreted in the context of the altitude. For example, SpO₂ values slightly less than 90% were not concerning for the local providers we worked with, though they reflexively gave us pause. Additionally, local providers use a conversion factor of -2.2 g/dL to calculate the effective hemoglobin value. For example, a seemingly normal hemoglobin of 13.0 g/dL at altitude is actually low at a value of 10.8 g/dL when using this conversion.

Enfermedad Pulmonar Obstructiva Crónica (EPOC):

Due to the very common reliance on wood-burning stoves in homes for cooking, there was a high prevalence of EPOC (COPD) within the Cusco community, particularly among indigenous populations. Here, the expected goal oxygenation in patients with EPOC was ~85%. This is notably lower in comparison to the average US goal of 88-92% given Cusco's relatively high level of altitude.

Infectious Illness:

Peru has been making significant efforts over the past several decades to improve upon their existing water and sanitation infrastructure. However, ongoing gaps in access to these services exist, particularly in rural communities. This makes both residents and travelers significantly more prone to bacterial, viral (ie. Hepatitis A), and parasitic infections that can be transmitted by food consumption, oral hydration, direct person-to-person contact, etc. Because of this, there is a much higher rate of screening for these conditions in acutely ill patients.

Leishmaniasis:

Cutaneous leishmaniasis is a major health concern in Peru and is endemic to most of the country. Leishmaniasis is a vector-borne disease caused by a protozoan transmitted to humans from the bite of a



sandfly. The cutaneous manifestation is a characteristic painless ulcerated skin lesion with a raised border which can take months to years to heal^{3,4}. We had the opportunity to tour a hospital in Cusco which has an entire wing dedicated to patients with Leishmaniasis. Typically transmission occurs at elevations lower than Cusco (900-3000m) and is common in those who work in agriculture. Anecdotally, a local physician shared that many of the cases in Cusco occur in people practicing illegal mining in the forests. The treatment of choice in Cusco is Amphotericin B.

Cervical Cancer Campaigns:

Unfortunately in Peru, cervical cancer is the leading cause of death from cancer in women of child-bearing age. Not surprisingly, the capital city of Lima has significantly lower cervical cancer rates compared to the rest of the country. This public health problem highlights issues with access, socioeconomic status, and financial barriers within Peru.



We participated in cervical cancer screening campaigns created by the organization CerviCusco, where we went to locations around Cusco to provide low-cost cervical cancer screenings to women who otherwise did not have access to this important tool. We performed pap smears and breast exams for women in public spaces such as supermarkets and churches. We used a tent with separate compartments to help ensure patient privacy and also had foldable tables for patient use. We had reusable speculums as well as the supplies for the Pap smear itself. Due to limited resources, every patient had to use the same drape for their pap smears, as well as a small CHUX pad cut in thirds. Patients paid 3 soles to pay for the test, a surprisingly cheap cost



(\$0.88). We also had the opportunity to teach PA and medical students how to perform a pap smear in a patient-centered way.

Neonatal Health in Peru:

According to the WHO, 28% of neonatal deaths can be attributed worldwide to complications of preterm birth⁵. In areas with low resources, inexpensive sources of warmth (kangaroo care with hats) are important to help small neonates maintain their body temperature. Over the past several months, members of our group crocheted over 100 preterm baby hats to help with thermoregulation in addition to essential kangaroo care. We were able to donate the hats to two NICUs in Cusco, and were even able to pass them out to the individual babies. Serendipitously, our trip fell on Semana del Prematuro (Week of the Premie).



Helping Babies Breathe:

During our time in Cusco, Peru, one of our primary objectives was to train local medical staff for certification in the Helping Babies Breathe curriculum. This is an AAP-instituted program that is intended to teach the most basic but critical steps in neonatal resuscitation.⁶ This is specifically targeted towards community birth attendants without advanced medical knowledge. This training is accomplished by emphasizing the “golden minute” during which the following actions should be accomplished: drying, stimulating, vitals assessment, and basic respiratory support of the newborn. Based on a 2013 research article evaluating use of the HBB model, it was shown that this training could



reduce fresh stillbirths by 24% and early neonatal mortality (within 24 hours) by 47%.⁷ The greater region surrounding Cusco has a significant number of community birth attendants that are often used by women in labor due to inability to access healthcare for various reasons (transportation, finances, etc). By providing training to local health workers, our goal was to have them go on to disseminate this information to birth attendants, one community at a time, and help optimize future newborn outcomes. Based on our post-training assessment, 100% felt that they would be likely to use this curriculum to train community birth attendants, 50% thought this would be feasible to apply to surrounding community birth attendants, and 100% felt comfortable training others in this curriculum. To help facilitate this training, we will be donating HBB materials for this on-site implementation.



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Chelsea Thibodeau, DO

Projects Completed During Residency:

Scholarly Project:
OMT in Pregnancy

Community Health Learning Experience:
Reducing Maternal and Newborn Racial Disparities in
Dane County:

There are well-documented racial disparities in outcomes for African American pregnant people and infants in Dane County and Wisconsin, including low birth weight, infant mortality, and maternal life expectancy. Chelsea's goal in focusing on this topic was to learn more about different initiatives working to reduce these disparities and identify the most effective ways in which we as Family Medicine physicians can use our privilege and power to support equitable health care in our communities. Her takeaways from her experience are many. Most importantly this work has reinforced the importance of partnering with community leaders and stakeholders as the experts in how best to support their communities, and her commitment to acknowledging and working to dismantle the institutional bias inherent in our health systems.



I am sending immense love and gratitude to my fellow residents for being such incredible people to work alongside and build friendship and community with. I owe so much growth and knowledge to all our department faculty and staff for their support and guidance, and to the Northeast Clinic staff for teaching me all about how things run and for being so dang fun to work with. Thanks to my family, who have supported me unconditionally from afar even when they really had no idea what I was doing. Last and biggest thanks to my partner Steve for his love, patience, and expert househusbandry.



Chelsea Thibodeau grew up in Duluth, MN on Lake Superior. After earning her undergraduate degree in biology and music from Macalester College, she attended the Des Moines University College of Osteopathic Medicine. While in medical school, Chelsea found her

voice for advocacy. She participated in policy advocacy with the Iowa Medical Society and Planned Parenthood of the Heartland. She also served as the president of her medical school's chapter of Medical Students for Choice where she worked to foster education and advocacy in reproductive health topics. She chose to practice family medicine because it provides unique opportunities to powerfully advocate for patients and communities. Chelsea has special interests in reproductive health, social justice and advocacy, LGBT health, osteopathic manipulative treatment, adolescent medicine, and behavioral health in primary care. Chelsea has also volunteered with Big Brothers Big Sisters, where she established a strong relationship with a pre-teen who provided a meaningful way to indulge her love of kids and keep her grounded in her community. Chelsea enjoys classical piano and live music concerts, craft breweries, and cycling and hiking, especially along Lake Superior's North Shore.

OMT for OB

September 20, 2019

Alice Shallcross, DO PGY-3
Chelsea Thibodeau, DO PGY-3
Sarah James, DO FACOFP

Objectives

- Define the physiologic changes of pregnancy
- Define common presentations and chief complaints of prenatal concerns
- Understand the evidence related to pregnancy and OMT.
- Recognize the absolute vs. relative contra-indications to providing OMT for the pregnant patient
- Utilize OMT techniques used during the antepartum, labor, post-partum and breastfeeding period
- Recognize OMT in providing comprehensive, holistic care in obstetrics

Physiologic Changes of Pregnancy

Cardiovascular

- Progesterone causes smooth muscle relaxation
- CO increased 30-50% by 6 wks and peaks around 24 wks and slight decrease after 30 wks
- Both HR and SV increase and by 2nd trimester BP drops as SVR decreases. BP returns to normal during 3rd trimester

Physiologic Changes of Pregnancy

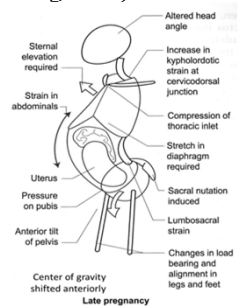
Pulmonary

- Progesterone signals brain to lower CO₂ by increasing tidal & minute volume and RR
- O₂ consumption increases by 20% to meet increased metabolic needs
- IRV, ERV, RV, capacity and plasma CO₂ decreases partially due to elevated diaphragm

Physiologic Changes of Pregnancy

Musculoskeletal (in late pregnancy)

- Increased lumbar lordosis
- Forward flexion of the neck
- Joint laxity in the longitudinal ligaments of the lumbar spine
- Widening and increased motion of sacroiliac joints and pubic symphysis
- Increase in the anterior tilt of the pelvis
- Increased use of hip extensor, abductor, and ankle plantar flexor muscles



Physiologic Changes of Pregnancy

MSK

- Joint pain is associated with increased estradiol and progesterone levels
- Relaxin: relaxes myometrium & pubis symphysis and softens the cervix
- Study on wrist joint laxity:
No correlation with estradiol, progesterone, and relaxin levels
Correlation with maternal cortisol

Evidence Based Medicine

- Prevalence: Low back pain and pelvic pain are common in pregnancy
- >2/3 of pregnant people will have low back pain in their pregnancy
 - 20% of pregnant people have pelvic pain
 - Pain often progresses throughout pregnancy
 - Affects daily activities, ability to work, and causes sleep problems

Evidence

- High relapse rates of pain in subsequent pregnancies
- Half of pregnant people with back pain do not get any treatment (!!)
- Cochrane review concludes:
 - “ Low-quality evidence from single trials suggested no significant difference in pain or function between two types of pelvic support belt, between osteopathic manipulation (OMT) and usual care or sham ultrasound (sham US)”.
 - “Low-quality evidence from single trials suggested that OMT significantly reduced pain and improved function.”

Evidence

PROMOTE Study: Pregnancy Research on Osteopathic Manipulation Optimizing Treatment Effects (2015)

RCT of 400 women in third trimester assigned to one of three groups:

- Usual care only (UCO)
- Usual care plus OMT (OMT)
- Usual care plus placebo ultrasound treatment (PUT)

Evidence – PROMOTE Study

- The standardized OMT protocol addressed cervical, thoracic, lumbar, sacrum, and pelvis body regions.
- The OMT group received standardized OMT for 20 minutes in 7 sessions.
- Primary outcomes (pain and back-related functioning) measured using two questionnaires:
- Low back pain measured with Quadruple Visual Analog Scale (QVAS)
- Back related functioning evaluated with Roland-Morris Low Back Pain and Disability Questionnaire (RMDQ)

Evidence – PROMOTE Study

Pain scores:

- Improved in OMT and PUT groups
- Worse in the UCO group
- OMT group demonstrated improved pain scores compared to the UCO group
- OMT group compared to the PUT group was not significantly different

Evidence – PROMOTE Study

Back-related functioning:

- OMT group demonstrated improved scores compared to the UCO group
- OMT group compared to the PUT group was not significantly different

Safety

Separate PROMOTE Study published in JAOA

- looked at high risk status + labor and delivery outcomes

Two statistically significant outcome differences:

- OMT group 2.3-2.6x less likely to be classified as high risk (any clinical factor requiring change in eval frequency, meds, or activity level)
- OMT group 2.3-4x more likely to experience prolonged labor, but no increased incidence in labor complications (conversion to C/S, operative delivery, lac/epis)

OB Contraindications to OMT

HVLA is a relative contraindication!

- Vaginal bleeding
- Ectopic pregnancy
- Untreated DVT
- Maternal uncontrolled BP/unstable VS
- Preterm labor, PPROM
- Fetal distress
- Placental abruption, previa
- Cord Prolapse
- Uterine inversion
- Shoulder dystocia, PPH, birth complications



Case One

30 year old G1P0 at 38w5d with pregnancy complicated by obesity who presents for an OB visit and complains of worsening low back pain

- HPI
 - Onset- 4 weeks
 - Location- lumbar region
 - Description- constant achy feeling and soreness
 - Severity- hasn't slept in four days, constant pain, 7/10
 - Radiation- to bilateral hips, left > right
 - Aggravating features- prolonged sitting and standing, twisting or bending
 - Relieving features- none
 - Treatments- pelvic support belt, heat, ice, Tylenol, walking, stretches (cat/cow stretch)

Osteopathic Findings

- Increased lumbar lordosis
- Lumbar and thoracic hypertonicity
- Lumbar-sacral junction compression
- Innominate rotation
- Psoas hypertonicity
- OA and cervical somatic dysfunction

Treatments for low back pain

1. Seated Forward-Leaning T-Spine Articulator
2. Lateral Recumbent Lumbosacral Soft Tissue
3. Cervical Soft Tissue

Seated Forward-Leaning T-Spine Articulator

- Patient is sitting
- Physician is standing in front of patient, using their knee(s) to stabilize the patient on the table
- Patient crosses arms and leans forward against physician
- Physician wraps arms around patient and places hands at the transverse process or costotransverse junction of the thoracic spine
- Patient drawn forward to restrictive barrier
- LVMA springing is applied until release is felt
- May add sidebending and/or rotation
- Can focus on rib or segmental motion

Seated Forward-Leaning T-Spine Articulator



Lateral Recumbent Lumbosacral Soft Tissue

- Patient is laying on lateral recumbent position with top knee and elbow bent to 90 degrees
- Physician stands near patient's abdomen with arms braced on patient's axilla and iliac crest
- Physician's hands are placed on the medial aspect of the paraspinal muscles
- Physician applies following three motions with their arms along the thoracic and lumbar spine
 - Pull arms laterally to stretch the ilia from the patient's arm, causing lumbar area to sidebend
 - Twist arms apart, pushing patient's shoulder posteriorly and ilia anteriorly
 - Push the fingertips in a lateral motion along the paraspinal muscles

Lateral Recumbent Lumbosacral Soft Tissue



Cervical Soft Tissue

- Patient is supine
- Sit at head of bed next to patient's head
- Stabilize forehead with one hand
- Place fingers of other hand at the medial aspect of cervical paraspinal muscles
- Draw fingers anteriorly in a kneading fashion
- Continue this motion until you feel relaxation of the tissues

Cervical Soft Tissue



Case Two

36 year old G3P2 at 28w6d with pregnancy complicated by AMA and obesity presents for routine OB care and complains of right buttocks pain as well as right-sided hip and groin pain

- HPI
 - Onset- 2 weeks
 - Location- right SI joint and gluteal region, R lateral hip and inguinal region
 - Description- constant throbbing pain in buttock, achy in the hip
 - Severity- constant 5/10. up to 10/10 when radiating
 - Radiation- radiates down the posterior right leg to the level of the knee
 - Aggravating features- bending forward, prolonged sitting, prolonged walking
 - Relieving features- laying down, support belt
 - Treatments- heat pack, rest

Osteopathic Findings for SI Joint pain

- OA restrictions
- L5 Anterior
- ASIS compression
- Anterior/Posterior Innominate Rotation
- SI compression
- Piriformis hypertonicity
- Sacral somatic dysfunctions
 - Sacral torsions
 - Unilateral sacral flexion or extension
 - Sacral base anterior/posterior

Treatments for SI joint pain

- Occipital-Atlantal Decompression
- Sacroiliac Articulation
- Frogleg Sacral Articulation

Occipital-Atlantal Decompression

- Patient supine
- Sit at the head of the bed, next to patients head
- Place fingers on the occiput close to the occipital condyles
- Put tension anterior towards patient's eyes
- Move elbows medially to apply traction between your fingers
- Ask patient to take in slow breaths
- Hold until you feel release. May take 20-30 seconds

Occipital-Atlantal Decompression



Sacroiliac Articulation

- Patient is supine
- Physician is standing at the side of the SI joint dysfunction
- Flex patients knee and hip. Hold at patients knee and apply mild compression through patients femur towards the acetabulum.
- While maintaining compression, externally rotate the hip and circumduct the leg into a straightened position
- Repeat this motion but start with internal rotated hip and then circumduct the leg into a straightened position
- Repeat 4-5 times until motion improves
- Treat the other side



Frogleg Sacral Articulation

- Patient is supine
- Physician is standing near patient's pelvis
- Patient places hips into external rotation and knees are flexed with feet touching each other
- Caudal hand is placed on the sacrum with fingers at the base and palm at the apex
- Instruct patient to inhale and then slowly exhale
- During exhalation, patient extends legs and physician pulls caudally on the sacral base
- Repeat three times



Case Three

29 year old G2P2002 postpartum at 6 weeks presents for routine postpartum visit. Patient delivered a healthy newborn male weighing 8lb,5 oz. She is breastfeeding and endorsing right sided rib pain.

- HPI
 - Onset- 3 days
 - Location- right anterior ribs 10-12
 - Description- sharp pain with deep inspiration
 - Severity- 9/10 during inspiration, 3/10 at rest
 - Radiation- around right side rib cage to the mid thoracic back
 - Aggravating features- deep inspiration, fetal movement, twisting
 - Relieving features- shallow breath
 - Treatments- Tylenol, stretching

Osteopathic Findings for Rib pain

- Exhalation somatic dysfunction (inhalation restriction)
- Anterior or posterior rib tender points
- Rib cage lateral shifts
- Diaphragmatic restriction
- Thoracic inlet dysfunction
- Thoracic spine dysfunction

Treatments for Rib Pain

- Supine Diaphragm Myofascial Release
- Thoracic Inlet Myofascial Release
- Lateral Recumbent Scapulothoracic Myofascial Release

Supine Diaphragm Myofascial Release

- Patient lays supine on the table
- Physician stands at patients side near abdomen
- Spread fingers over the lower ribs laterally or place hands in the AP position just under the xiphoid anteriorly and TL junction posteriorly
- Assess rotation, sidebending, and flexion/extension of diaphragm
- Move fascia into either direct or indirect barrier
- Add respiratory component to assist in release of tissue
- Hold 20-60 seconds until release is felt

Lateral Recumbent Scapulothoracic Myofascial Release



Other Common Osteopathic Findings Post-partum

- Effects of relaxin on pelvic ligaments, different labor positions, epidural placement, and post-operative immobility all contributing
- Pubic Symphysis dysfunction
- Coccydynia
- Sacral dysfunction: torsions, bilateral sacral flexion
- Weakness of the abdominal fascia
- Pelvic floor dysfunction
- Innominate dysfunction
- Cervical, upper extremity and upper thoracic tension (breastfeeding and carrying newborn around contribute)
- Cranial dysfunction- depression/anxiety

Postpartum Period

- Focus on the maternal and newborn dyad- this is the art of family medicine and what sets us apart from all specialties- we take care of the entire maternal child health unit.
- Common concerns: breastfeeding, head carriage from carrying newborn, coccyx pain, low back pain (especially with epidural placement), buttock and hip pain, constipation, post-operative pain from C-section, post-partum blues/depression.
- We will not be discussing specific common breastfeeding concerns in regards to newborn, however for latching concerns, consider cranial OMT techniques for the newborn.
- From the maternal perspective- any of the stretches that follow and techniques mentioned during this presentation may also be used for post-partum care.

Questions?

"It would be a mistake, though, to consider care by family medicine doctors or midwives inferior to that offered by obstetricians simply on the grounds that obstetricians need not refer care to a family physician or midwife if no complications arise during a course of labor."

-Ina May Gaskin

May we continue to advocate for our role as osteopathic physicians in childbirth. We have an integral role to improve birth outcomes.



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Katrina Weimer, MD

Projects Completed During Residency:

Scholarly Project:

When is Aspirin in Pregnancy Recommended?



Community Health Learning Experience:

Sleep and Stress Management for the Farmer:

Kat collaborated with Dr. John Shutske, a PhD agricultural engineering specialist with the University of Wisconsin-Madison Division of Extension, to write an article about the importance of sleep in the management of farm stress. In the article, she explores the correlation between sleep and stress, overall health and decision-making, as well as provide resources for farmers and the general public. It is intended to be included as a resource on the extension office's website (<https://fyi.extension.wisc.edu/farmstress/>). They are looking forward to collaborating on future articles and establishing ongoing CHLE projects between the Department of Family Medicine and Community Health and the Division of Extension.



Thank you so much to my family and friends who provided endless support during this journey! To my co-residents and my fellow Bellevillians who made this the best adventure, I am forever grateful. Thank you for the leadership and guidance to my Belleville mentors – Drs. Jen Lochner and Rich Roberts, as well as my Maternity Care Pathway mentor – Dr. Lee Dresang.

Although Katrina Weimer spent most of her life in Akron, OH with a short period in Luxembourg, she credits her college years at West Virginia University in Morgantown, WV as the greatest influence on who she is today. While studying forensic biology and biology in West

Virginia, Katrina recognized her calling to pursue a career in medicine. Katrina returned to Ohio to earn her medical degree from the University of Toledo College of Medicine and Life Sciences. Katrina was drawn to family medicine and caring for underserved populations while volunteering at the UTCOM Community Care Free Clinic. During a summer family medicine experience, she was exposed to her newfound interest in rural healthcare. Her attraction to family medicine was confirmed when she saw firsthand the importance of hands-on full-spectrum family medicine in the lives of her patients. These experiences have led Katrina to pursue training in full-spectrum family medicine while also continuing her work in rural medicine and advocacy. In addition to playing basketball and volleyball, hiking, rock climbing, and water sports, Katrina can often be found thrifting and working on (and completing!) home improvement projects.

When is aspirin in pregnancy recommended?

CASE

You are seeing a 32-year-old pregnant multiparous patient with a history of early pregnancy loss, polycystic ovary syndrome, body mass index (BMI) of 38 kg/m², and “borderline” hypertension at her first prenatal visit at 10 weeks 3 days. Her social and family histories are noncontributory, and she has had a previous negative workup for antiphospholipid antibody syndrome. She is taking a prenatal vitamin. Her blood pressure today at her 14-week visit is 145/82 mmHg. She asks if she should be taking aspirin to prevent another pregnancy loss.

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DOI 10.1097/EBP.0000000000000538

Bottom Line

Aspirin in pregnancy should be used to prevent preterm preeclampsia in patients with certain risk factors (see **TABLE 1**). Insufficient evidence was found for its use in the prevention of stillbirth, intrauterine growth restriction, or preterm birth. No benefit was found in the use of aspirin for the prevention of early pregnancy loss.

Evidence Summary

There is broad consensus between The American College of Obstetricians and Gynecologists (ACOG), Society for Maternal-Fetal Medicine (SMFM), US Preventative Services Task Force, National Institutes of Health, and the World Health Organization that low-dose aspirin should be used for the prevention of preterm preeclampsia and its complications for women with risk factors (see **TABLE 1**)^{1,2}. Treatment should ideally be initiated between 12 and 16 weeks of gestation and continued until delivery per ACOG and SMFM guidelines³. A 2017 multicenter, double-blind, placebo-controlled study (The Combined Multimarker Screening and Randomized Patient Treatment with Aspirin for Evidence-Based Preeclampsia Prevention trial) of 1,776 singleton pregnancies at high risk demonstrated a decreased rate of preterm preeclampsia (odds ratio, 0.38; 95% CI, 0.20–0.74) with the use of prophylactic aspirin.⁴ This is supported by a 2007 systematic review of 59 randomized trials that found a 17% reduction in risk of preeclampsia (number needed to treat

19 for high-risk women) and a reduced risk of fetal death and preterm induction for hypertensive disease.⁵

No demonstrable increase was found in adverse fetal effects, maternal bleeding including incidence of postpartum hemorrhage, or placental abruption with the use of prophylactic aspirin.^{3,5} Aspirin use should be avoided in women with contraindications, including allergy or hypersensitivity to NSAIDs, history of gastrointestinal bleeding, active peptic ulcer disease, severe hepatic dysfunction, or age <18 years (due to the risk of Reye syndrome).³ There is not clear evidence that one dosage is superior because there was a wide range of aspirin dosing studied in the meta-analysis. It is reasonable to recommend 81-mg aspirin because it is readily available, and in theory, the lower dose could lead to fewer complications. Although still undergoing investigation, currently no evidence exists to recommend the use of low-dose aspirin for the prevention of early pregnancy loss and insufficient evidence to recommend for fetal growth restriction, stillbirth, or spontaneous preterm birth.³ This includes the use in women with antiphospholipid antibody syndrome for whom a 2018 systematic review found insufficient evidence of benefit or harm with its use for the prevention of thrombosis or pregnancy loss; the most recent ACOG recommendations for use in this clinical situation were based on an earlier systematic review.^{3,5}

CASE WRAP-UP

You discuss the indications, risks, and benefits of aspirin use with your patient. You do not recommend aspirin for preventing early pregnancy loss, but based on her three moderate risk factors for developing preterm preeclampsia (chronic hypertension, BMI > 30, and nulliparity), you recommend starting 81-mg aspirin at 12 weeks of gestation. She does not develop preeclampsia and goes into spontaneous labor, delivering a healthy infant at 39 weeks.

EBP

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The authors declare no conflicts of interest.

TABLE. Aspirin recommendations to reduce the risk of preeclampsia in pregnancy^{1,2}

Risk level	Risk factors	Recommendation
High	History of hypertensive disorder of pregnancy (including preeclampsia)	Recommend low-dose aspirin if the patient has one or more of these high-risk factors
	Chronic hypertension	
	Type 1 or 2 diabetes	
	Renal disease	
	Autoimmune disease (SLE, antiphospholipid syndrome)	
	Multifetal gestation	
	Nulliparity	
Moderate	Obesity (BMI > 30 vs BMI > 35)	Consider low-dose aspirin if the patient has two or more of these moderate-risk factors
	Family history of preeclampsia (mother, sister)	
	Socioeconomic factors (African American race, low socioeconomic status)	
	Age ≥ 35 years (vs ≥40 years old)	
	Personal history factors (eg, previous low birth weight or small for gestational age, previous adverse pregnancy outcome, more than 10-year pregnancy interval)	

SLE=systemic lupus erythematosus.

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Lashika Yogendran, MD

Projects Completed During Residency:

Scholarly Project:

Global Health Experiences in Cusco, Peru

Community Health Learning Experience:

Dryden Terrace Community Health Project:

Lash's community health project was working at Dryden Terrace with the Dining with Doctors program. This is a program that was started a few years ago with the initial intent to see if providing a monthly meeting with Dryden Terrace residents would prevent some of the numerous 911 calls from that building. Lash and her co-residents worked on creating and presenting information on specific healthcare topics that would be of interest to the Dryden Terrace residents. Unfortunately, due to COVID-19, they were not able to do the entire spring programming they had planned but she is hoping to continue this work as she enters her academic fellowship year.



Lashika Yogendran's passion for global health grew naturally from her personal experiences. Born in Saudi Arabia, she has also lived in Toronto, North Carolina, Shanghai, Brooklyn, and Chicago. Lashika earned her BA in chemistry and classics from the City University

of New York – Brooklyn College before going on to earn her MD and MS from the Chicago Medical School at Rosalind Franklin University of Medicine and Science. During medical school, Lashika completed extensive global health work. She volunteered in hospitals in Cuzco, Peru and worked in a clinic in Uganda. These experiences shaped her worldview and she hopes to pursue global health work after residency. Closer to home, she was involved with her medical school's oncology interest group and helped organize the annual St. Baldrick's Day fundraiser to raise money for pediatric cancer research. Lashika is drawn to family medicine by its care for diverse patient populations and the focus on care across the life-span. Lashika enjoys playing volleyball, cheering on the Chicago Cubs, checking out new restaurants, and playing trivia – she has even appeared on "Who Wants to Be a Millionaire."



Thank you to my family for supporting me these past 3 years. Also, the biggest thank you to my Northeast family for providing the best clinical home for my residency experience. I'm honored to be able to call Northeast home for another year.

Global Health Experiences in Cusco, Peru

Lashika Yogendran MD, Kristi Smith DO, Sadie Mitten MD

We traveled to Cusco, Peru as participants in our Family Medicine Residency Global Health Pathway. We had three goals: training health care providers to be trainers of the Helping Babies Breathe curriculum, donating crocheted hats to Peruvian NICUs to help preterm infants with thermoregulation, and learning the standards of care for both chronic and acute conditions in Peru.

Overview of Health Systems in Peru:

Peru has a decentralized health system made up of 5 groups - Ministry of Health, EsSalud, Armed Forces, National Police, and the private sector. The Ministry of Health provides health services for 60% of Peru's population, EsSalud for 30%, and the remaining 3 entities covers the last 10% of the population¹. The Ministry of Health is funded primarily by tax revenue among other things. EsSalud is similar to a social security program, and is funded by payroll taxes from employers of sector workers.

Our Healthcare Experiences in Peru:

We had an opportunity to work in both a public hospital (Hospital Antonio Lorena) as well as at an EsSalud clinic in Cusco. These were two vastly different experiences. Lorena Hospital is a huge public hospital in Cusco where people without insurance can go for treatment. It is actually made up of an extensive maze of shipping containers as it was planned to be a temporary hospital until the actual permanent hospital was built. Unfortunately, due to corruption, the permanent hospital building has been delayed for the past 7 years. There are often long lines of patients and families waiting to see a doctor. The hospital does have different wards for adult, pediatric, and OB admissions, as well as a dialysis center. If there are patients needing specific specialty care, they are sent to Lima.

EsSalud Metropolitano clinic was a very different experience. It is attached to the EsSalud hospital in downtown Cusco and is staffed by mostly primary care physicians like family medicine doctors and pediatricians. We observed patients coming in for chronic medical condition follow-up much like how we practice in the United States, as well as for more acute care visits. This experience very much felt like we were back at home in Wisconsin in our own family medicine clinics.

Environmental Impacts on Health:

Anemia:

In Peru, 34% of children between 6-59 months of age have some degree of anemia, most commonly iron deficiency. This occurs for a variety of reasons including late introduction of iron-fortified foods, parasitic infections, and overall malnutrition. Additionally, the anemia rate in women of childbearing age is 18.7%, and this rate increases even more during pregnancy which further contributes to anemia in childhood².

Altitude:

Cusco sits at an altitude of 11,200 feet, so common lab values and vital signs have to be interpreted in the context of the altitude. For example, SpO₂ values slightly less than 90% were not concerning for the local providers we worked with, though they reflexively gave us pause. Additionally, local providers use a conversion factor of -2.2 g/dL to calculate the effective hemoglobin value. For example, a seemingly normal hemoglobin of 13.0 g/dL at altitude is actually low at a value of 10.8 g/dL when using this conversion.

Enfermedad Pulmonar Obstructiva Crónica (EPOC):

Due to the very common reliance on wood-burning stoves in homes for cooking, there was a high prevalence of EPOC (COPD) within the Cusco community, particularly among indigenous populations. Here, the expected goal oxygenation in patients with EPOC was ~85%. This is notably lower in comparison to the average US goal of 88-92% given Cusco's relatively high level of altitude.

Infectious Illness:

Peru has been making significant efforts over the past several decades to improve upon their existing water and sanitation infrastructure. However, ongoing gaps in access to these services exist, particularly in rural communities. This makes both residents and travelers significantly more prone to bacterial, viral (ie. Hepatitis A), and parasitic infections that can be transmitted by food consumption, oral hydration, direct person-to-person contact, etc. Because of this, there is a much higher rate of screening for these conditions in acutely ill patients.

Leishmaniasis:

Cutaneous leishmaniasis is a major health concern in Peru and is endemic to most of the country. Leishmaniasis is a vector-borne disease caused by a protozoan transmitted to humans from the bite of a



sandfly. The cutaneous manifestation is a characteristic painless ulcerated skin lesion with a raised border which can take months to years to heal^{3,4}. We had the opportunity to tour a hospital in Cusco which has an entire wing dedicated to patients with Leishmaniasis. Typically transmission occurs at elevations lower than Cusco (900-3000m) and is common in those who work in agriculture. Anecdotally, a local physician shared that many of the cases in Cusco occur in people practicing illegal mining in the forests. The treatment of choice in Cusco is Amphotericin B.

Cervical Cancer Campaigns:

Unfortunately in Peru, cervical cancer is the leading cause of death from cancer in women of child-bearing age. Not surprisingly, the capital city of Lima has significantly lower cervical cancer rates compared to the rest of the country. This public health problem highlights issues with access, socioeconomic status, and financial barriers within Peru.



We participated in cervical cancer screening campaigns created by the organization CerviCusco, where we went to locations around Cusco to provide low-cost cervical cancer screenings to women who otherwise did not have access to this important tool. We performed pap smears and breast exams for women in public spaces such as supermarkets and churches. We used a tent with separate compartments to help ensure patient privacy and also had foldable tables for patient use. We had reusable speculums as well as the supplies for the Pap smear itself. Due to limited resources, every patient had to use the same drape for their pap smears, as well as a small CHUX pad cut in thirds. Patients paid 3 soles to pay for the test, a surprisingly cheap cost



(\$0.88). We also had the opportunity to teach PA and medical students how to perform a pap smear in a patient-centered way.

Neonatal Health in Peru:

According to the WHO, 28% of neonatal deaths can be attributed worldwide to complications of preterm birth⁵. In areas with low resources, inexpensive sources of warmth (kangaroo care with hats) are important to help small neonates maintain their body temperature. Over the past several months, members of our group crocheted over 100 preterm baby hats to help with thermoregulation in addition to essential kangaroo care. We were able to donate the hats to two NICUs in Cusco, and were even able to pass them out to the individual babies. Serendipitously, our trip fell on Semana del Prematuro (Week of the Premie).



Helping Babies Breathe:

During our time in Cusco, Peru, one of our primary objectives was to train local medical staff for certification in the Helping Babies Breathe curriculum. This is an AAP-instituted program that is intended to teach the most basic but critical steps in neonatal resuscitation.⁶ This is specifically targeted towards community birth attendants without advanced medical knowledge. This training is accomplished by emphasizing the “golden minute” during which the following actions should be accomplished: drying, stimulating, vitals assessment, and basic respiratory support of the newborn. Based on a 2013 research article evaluating use of the HBB model, it was shown that this training could



reduce fresh stillbirths by 24% and early neonatal mortality (within 24 hours) by 47%.⁷ The greater region surrounding Cusco has a significant number of community birth attendants that are often used by women in labor due to inability to access healthcare for various reasons (transportation, finances, etc). By providing training to local health workers, our goal was to have them go on to disseminate this information to birth attendants, one community at a time, and help optimize future newborn outcomes. Based on our post-training assessment, 100% felt that they would be likely to use this curriculum to train community birth attendants, 50% thought this would be feasible to apply to surrounding community birth attendants, and 100% felt comfortable training others in this curriculum. To help facilitate this training, we will be donating HBB materials for this on-site implementation.



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