Fellowship Symposium

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

December 7, 2023 — 8:00 am – 12:00 pm

Department of Family Medicine Administrative Office

Oak Room, 2nd Floor

610 Whitney Way, Madison WI, 53705

This symposium will feature short presentations by fellow representatives of the following Department of Family Medicine and Community Health fellowships:

Integrated Health (IH)
LGBTQ+ Health (LH)
Primary Care Research (PCR)

Schedule of Events

Time	Event
7:45 am - 8:00 am	**Room opens – Presenting Fellows Technology Check**
8:00 am – 8:30 am	**Breakfast**
8:30 am – 8:40 am	**Welcome & Opening Remarks** Earlise Ward, PhD, LP Director, PCR Fellowship
8:40 am – 8:45 am	**Intro: Primary Care Research Fellowship** Earlise Ward, PhD, LP Director
8:45 am – 9:05 am	**Asma Ali, PharmD, PhD (PCR)** "Unearthing Implicit Beliefs: Beyond Symptoms in Social Determinants of Health"
9:05 am – 9:25 am	**Laura Andrea Prieto, PhD (PCR)** "Community Informed Recruitment Strategies for a Qualitative Study on Physical Activity Experiences of Latino/a Individuals with Parkinson Disease and their Care Partners"
9:25 am – 9:45 am	**David Mallinson, PhD (PCR)** "Racial and Geographic Variation in Prenatal Care Coordination Receipt in Wisconsin, 2010-2019"
9:45 am – 10:05 am	**Sydney Tan, MD (PCR)** "Efficacy of a Mobile Health Mindfulness-based Intervention on Resident Well-being"
10:05 am – 10:25 am	**Miena Hall, MD, IBCLC (PCR)** "Effectiveness of Breast Ultrasound to Assess Pregnant WIC Participants at Risk for Insufficient Milk Production"
10:25 am – 10:45 am	**Break**
10:45 am – 10:50 am	**Intro: LGBTQ+ Health Fellowship** Bill Schwab, MD Co-director
10:50 am- 11:10 am	**Laurence Moore, MD, MPH, AAHIV-S, (LH)** "Community Engagement for Advancing LGBTQ+ Health"
11:10 am – 11:15 am	**Intro: Integrative Health Fellowship** Vincent Minichiello, MD Director
11:15 am – 11:35 am	**Ravi Hirekatur, MD (IH)** "Integrative Approach to Inflammatory Bowel Disease"
11:35 am - 11:45 am	**Closing Remarks** Bruce Barrett, MD, PhD Co-director, PCR Fellowship David Feldstein, MD Associate Director, PCR Fellowship
11:45 am – 11:55 am	**Lunch Setup**
11:55 am	**Lunch**

Abstracts

Name: Asma Ali, PharmD, PhD (PCR)

Title: Unearthing Implicit Beliefs: Beyond Symptoms in Social Determinants of Health

Abstract:

Background: Anti-Muslim discrimination has increased by 216% over the last year. Discrimination against historically marginalized populations is associated with distrust in the healthcare system. Trust is an important mediating factor between patient-provider communication and health outcomes. Trust-based communication is important for clinicians to obtain information related to social determinants of health (SDOH). SDOH account for 50% of health outcomes compared to only 20% by clinical care. This work highlights SDOH in Muslims with type 2 diabetes (T2D) who receive healthcare services in the US. **Methods:** Semi-structured qualitative one-hour one-on-one interviews were conducted with Muslim participants. Three trained researchers independently conducted inductive analysis using NVivo software. Adult Muslim participants who were diagnosed with T2D for at least 6 months and used oral medications and/or injections for diabetes treatment were included in the study. Maximum variation sampling was used to capture the heterogeneity of the Muslim population. Spoken languages and country of origin were used as a basis for representation of the diversity in the recruitment of Muslim participants. Five groups of 5 participants who speak Arabic, Rohingya, Dari, English, or Urdu languages were recruited. **Results:** A total of 22 participants originally from Asia, Africa, Middle East, and US were included in the study. Most of the participants were either immigrants or refugees. Themes were distributed across the 5 main SDOH domains. Economic stability did not only include low income, but it also included working in demanding stressful jobs or multiple employments that hindered access to healthy food. Low levels of education and low to no English proficiency were prominent factors in hindering effective patient-provider communication or ability to read instructions on medication bottles. Factors related to healthcare access and quality included health knowledge and advocating for oneself with healthcare providers. These two factors of health knowledge and self-advocacy with providers showed an interaction with education level. Neighbourhood and built environment themes included harsh winter weather, lack of access to convenient transportation, and lack of understanding of the public transportation system. Varying types of social support (instrumental, informational, and emotional) by family members and friends were important in facilitating or hindering healthy behaviours and access to care.

Conclusions: SDOH screening through short questionnaires may offer important information beyond clinical care. However, some SDOH factors might be missed using general questionnaires. It is pertinent for healthcare providers to build trust-based relationships and to listen to their patients' need with empathy and compassion. Healthcare providers can use cues to investigate SDOH through respectful conversations with patients. For instance, a missed appointment can be a cue for healthcare providers to ask about transportation access or even the convenience of the appointment time and scheduling.

Name: Laura Andrea Prieto, PhD (PCR)
Title: "Community Informed Recruitment Strategies for a Qualitative Study on Physical Activity Experiences of Latino/a Individuals with Parkinson Disease and their Care Partners"
Abstract:

Latinos and Latinas with Parkinson disease (PD) have a higher incidence rate, faster disease progression, and less well-managed symptoms than White non-Latino/as with PD. PA is crucial for PwP as it can aid in the management of motor and non-motor symptoms and enhance quality of life; nevertheless PA research includes participants who are majority White non-Latino/as, thus, little is known about PA for Latino/a PwP and even less so about their family care partners, who usually provide informal unpaid care. This study will employ a descriptive qualitative design to delineate the PA experiences of Latino/a PwP and their CPs, specifically factors that impact motivation, access, and participation in PA. Prior to formal recruitment a community advisory group (n = 7) and individual consultations (n=4) with community leaders and Latino and Latina adults with and without PD was established to gain feedback on recruitment materials and interview questions. This presentation will discuss the changes made to the study materials, the recruitment plan, applications to similar studies, and implications for future steps in the study.

Name: David Mallinson, PhD (PCR)

Title: "Racial and Geographic Variation in Prenatal Care Coordination Receipt in Wisconsin, 2010-2019"

Abstract:

Prenatal Care Coordination (PNCC) is a Wisconsin Medicaid program that supplements standard prenatal care with tailored medical, educational, and social services for pregnant beneficiaries. The goal of PNCC is not just to improve birth outcomes but also to reduce disparities in adverse birth outcomes across the state. Whether the program reaches populations that are most burdened by adverse birth outcomes—specifically, Black non-Hispanic (NH) populations, highly urban communities, or highly rural communities—is uncertain. In this analysis, we track PNCC assessment and service receipt rate by race/ethnicity, urbanicity, and region. We analyzed 250,596 Medicaid-paid deliveries (2010-2019) from a longitudinal birth cohort that links Wisconsin birth records to Medicaid claims. We measured PNCC receipt for each delivery during the prenatal period (none; assessment/care plan only; services beyond assessment). Additionally, we categorized deliveries by strata of maternal characteristics: race/ethnicity, urbanicity of residence county; and region of residence county. We tracked annual PNCC assessment and service receipt rates for the entire sample and by previously described strata. Among all deliveries, 7.3% linked to claims for PNCC assessment/care planning only, and 15.4% linked to claims for PNCC services beyond assessment. The rate of PNCC service receipt remained stable across the duration of 2010 to 2019, whereas the rate of PNCC assessment/care planning only steadily decreased with time. PNCC service receipt rates were stable and relatively high in Black NH or Hispanic populations and in highly urbanized regions in the state. In contrast, PNCC service receipt rates were relatively low in Asian/Pacific Islander NH or white NH populations and in highly rural regions of the state, and service receipt rates steadily declined over the decade. These findings highlight that PNCC outreach in Black NH populations and highly urban communities is strong. However, the diminishing outreach of PNCC in Wisconsin's most rural areas—which are characterized by insufficient healthcare and social support—signal a need to revitalize PNCC in these populations. Subsequent analyses should investigate variable effects of PNCC on birth outcomes by race/ethnicity, urbanicity, and region.

Name: Sydney Tan, MD (PCR)
Title: "Efficacy of a Mobile Health Mindfulness-based Intervention on Resident Well-being"
Abstract:

Burnout is an increasingly prevalent challenge in the medical field and especially prominent in residency. Burnout negatively affects learning and decision-making, physician performance, and patient outcomes. Studies have shown that mindfulness-based interventions (MBIs) are effective at reducing burnout and strengthening well-being in physicians. Furthermore, mobile health MBIs have similar benefits to in-person interventions while offering the advantages of increased scalability, lack of physical constraint, and lower costs. However, there is a paucity of studies on MBIs specifically for resident physicians and none that utilize mobile health technology. Our goal is to harness the well-studied effects of MBIs to address the growing challenges of burnout in medical training and establish the efficacy of MBIs on performance and outcomes. In a national randomized control trial, we aim to determine the impact of our novel mobile health MBI on resident burnout, well-being, and performance. We expect that our mobile health MBI will decrease resident burnout, increase well-being measures, and improve self-efficacy in resident performance.

Name: Miena Hall, MD, IBCLC (PCR)
Title: "Effectiveness of Breast Ultrasound to Assess Pregnant WIC Participants at Risk for Insufficient Milk Production"

Abstract:

Background: Lactation insufficiency affects approximately 5-15% of breastfeeding dyads. Insufficient glandular tissue (IGT) is a primary cause of low milk production which can result in insufficient weight gain, dehydration, and breastfeeding jaundice in the newborn and feelings of inadequacy and stress in the lactating parent. Due to inequities in access to postpartum support, breastfeeding rates among low-income populations remain well below national averages. The identification of IGT during pregnancy is needed, so that pregnant WIC participants can benefit from anticipatory guidance regarding their likelihood of lactation insufficiency postpartum.

Methods: We propose the use of ultrasound to measure mammary gland secretory tissue growth to develop a prospective model to identify pregnant individuals who are at risk for IGT. Six pregnant multiparous Madison and Dane County WIC participants (GA < 22 weeks) who previously required formula supplementation and have intention to breastfeed will be recruited. Demographic data, current pregnancy history, infant feeding intention, previous pregnancy and breastfeeding experiences, past medical and surgical history, medications, family history, and social history will be recorded. We will collect ultrasound and depth camera images of the participants' mammary glands at 20 weeks 0 days to 21 weeks 6 days gestation, 32 weeks 0 days to 33 weeks 6 days gestation, and 2 weeks 0 days to 3 weeks 6 days postpartum. We will extract and manually segment parenchymal features from ultrasound data to train a Convolutional Neural Network (CNN). Biometric mammary gland measurements from depth cameras will be mapped and associated with ultrasound data. Evaluation of models by root mean squared error of prediction (RMSEP), coefficient of determination (R^2), and Concordance Correlation Coefficient will be performed to measure the correlation between predicted and observed glandular volume and mammary gland tissue distribution. Postpartum, all subjects will be optimally supported to address breastfeeding issues and insufficient milk production through the WIC lactation team and the UW Breastfeeding Medicine Clinic. At 2 weeks postpartum, we will assess lactation sufficiency and measure a point-of-care breastmilk sodium level. At 6 weeks postpartum, we will interview on infant feeding practices and final lactation sufficiency. Glandular change during pregnancy and postpartum will be correlated with breastmilk sodium concentration and lactation sufficiency. Other risk factors for low milk production will be controlled for in multivariate analysis. **Discussion:** Our goal is to develop

predictive models of human mammary gland volume using ultrasound imaging to calculate glandular change over the course of pregnancy and correlate postpartum milk production sufficiency with glandular development. We also seek to create a community partnership between the Madison and Dane County WIC office and the University of Wisconsin (UW) Breastfeeding Medicine Clinic. The creation of predictive models correlating mammary gland growth and postpartum milk production will allow application of images readily collected from point-of-care ultrasound to develop improved lactation clinical care plans in the antepartum period, thereby improving postpartum care for the lactating dyad in at-risk populations.

Name: Laurence Moore, MD, MPH, AAHIV-S (LH)
Title: "Community Engagement for Advancing LGBTQ+ Health"
Abstract:
As a community, LGBTQ+ people have faced unique health challenges that have required mobilization and collective action, often in the face of stigma and distrust. Some current challenges include marginalization of transgender persons and those living with HIV; our field has played a key role in organizing as well as advancing health equity. A core motivation of my fellowship has been to leverage this tradition for community engagement. To spread awareness of LGBTQ+ relevant health topics, build self-efficacy and confidence with community engagement, I developed and delivered a series of trainings virtually and around the state on topics of HIV care, HIV prevention, STI treatment and diagnosis, Substance Use and Transgender Health.

Name: Ravi Hirekatur, MD (IH)
Title: "Integrative Approach to Inflammatory Bowel Disease"
Abstract:

Inflammatory Bowel Disease (IBD) is a multi-factorial, autoimmune, chronic inflammatory disease. Some of the known causative factors include genetics, environmental factors such as diet and lifestyle, impaired gut microbiome, effect of gut-brain axis, and immune dysfunction among many others. Modifiable factors in treating this illness can be grouped into 3 major categories: lowering inflammation (which includes anti-inflammatory medications and immunomodulators), re-establishing gut microbiome, and addressing gut-brain axis. It is often frustrating to both physicians and patients as the disease has a complex relapsing-remitting pattern with some patients not responding to medications alone. This has led to a unique collaboration between Gastroenterology and Integrative Health departments at the University of Wisconsin (UW Health), Madison. This review article discusses a 3-pronged approach to treat patients who are already on medications, with CAM approaches that include anti-inflammatory diet and supplements to lower inflammation and to re-establish gut microbiome, and mind-body methods to address gut-brain axis, with available evidence for these CAM approaches.