2018 Innovation & Research Forum – Projects

Assessment of primary care provider practices following initiation of hospitalization and subsequent outreach secondary to psychiatric crisis.

Nathaniel Lombardi, Ph.D. Behavioral Health Postdoctoral Fellow University of Minnesota Department of Family Medicine and Community Health

Project Collaborators Christine Danner, Ph.D., LP (Research supervisor)

Poster

Project Complete by March 3 No

What did you do and why was it important? Additional research is needed to better understand the current role of primary care providers in managing the transition from outpatient to inpatient care for mental health in the event of a psychiatric crisis, and to further elucidate potential direct and indirect effects of engagement with primary care on readmission rates. The purpose of the current project is to take an initial step towards obtaining this clarity. The current project will assess primary care providers' experiences and practices with patients for whom they have initiated the process for hospitalization secondary to psychiatric crisis, their experiences and practices with outreach and follow-up with those patients, and their perspectives on standardization of practices in the future.

How did you do it?
The current project will collect descriptive data utilizing a cross-sectional design. An anonymous questionnaire, rationally derived for the current project, will be administered to a convenience sample of current primary care providers (Residents, Faculty) in the University of Minnesota Family Medicine Residency programs at North Memorial, St. John's, St. Joseph's, and the University of Minnesota Medical Center. The questionnaire will assess experiences and practices following initiation of the process for hospitalization for patients experiencing psychiatric crisis, experiences and practices with outreach and follow-up with those patients, and provider perspectives regarding potential standardization of practices in the future. The questionnaire will be administered through use of electronic survey software on a onetime basis. Note: This project does not currently have IRB approval, though is being submitted to the University of Minnesota's IRB for evaluation regarding exempt/nonexempt status, following which appropriate steps will be taken as needed. It is hoped that initial data will have been collected and analyzed at the time of the Forum.

What did you learn?
This current project aims to take an initial step towards better defining the current role of primary care providers within the transition following psychiatric hospitalization, in addition to laying the foundation to better understand the potential direct and indirect effects of engagement with primary care on rates of psychiatric readmissions.

What is next?
Future projects may examine potential standardization of processes and procedures.

IRB Approval NA **HIPAA Compliance** NA **Funding** None

2018 Innovation & Research Forum – Projects

Barriers, Facilitators, and Decision-Making Processes about HPV Vaccination for Hmong-American Adolescents

Serena Xiong, MPH, is a doctoral student in epidemiology at the University of Minnesota School of Public Health.

Project Collaborators Bai Vue, MA; Houa Vang; Naly Vang; Kathie Culhane-Pera, MD, MS; Shannon Pergament, MSW, MPH; Jay Desai, PhD; and Hee Yun Lee, PhD.

Minnesota Academy of Family Physicians Foundation Grant

Mentors Dr. Hee Yun Lee

Poster

Project Complete by March 3 Yes

What did you do and why was it important? Objective: To identify Hmong parents' and adolescents' barriers, facilitators, and decision-making processes about HPV vaccines for Hmong-American adolescents. Background: Although vaccination rates against the Human Papillomavirus (HPV) have been increasing for the majority of Americans, studies have shown that there are low rates of HPV vaccine uptake in Asian American and Pacific Islander (AAPI) populations. There are no studies that have assessed HPV vaccination rates in the Hmong-American population, an AAPI group with reportedly greater risk of later stage cervical cancer and low cervical cancer screening rates. HPV vaccine rates in 2015 for Hmong children ages 9-17 at a local federally-qualified health center (FQHC) in Minnesota were 32% in girls and 20% in boys, which are much lower than nationally published HPV coverage rates (57% and 35%, respectively). These low HPV vaccine rates warrant an exploratory study aimed as identifying barriers, facilitators, and decision-making processes about HPV vaccines for Hmong-American adolescents.

How did you do it?
Methods: We conducted focus groups with Hmong adolescents aged 14 to 17 years and their parents. Participants were recruited from a local FQHC based on their HPV vaccination completion status. Using a community-based participatory action research approach, bilingual-bicultural community researchers conducted 4 focus groups with parents (all mixed gender) and 4 focus groups with adolescents (2 groups of girls and 2 groups of boys) in English or in Hmong. Focus groups were audiotaped, transcribed and translated into English concurrently, and analyzed to identify major themes by using participatory thematic analysis.

What did you learn?
Results: The following major themes emerged: (1) Barriers: Distrust of Western medicine; Concerns about side effects and pain; Lack of knowledge about HPV and HPV vaccine; Low risk-assessment (i.e., low perceived risk and susceptibility); and access (barriers of language, literacy, cost, distance, limited time). (2) Facilitators: Adequate knowledge about HPV and HPV vaccine; and Respect for authority (look to doctors, nurses, and teachers to educate, counsel, and recommend vaccine; accept if required for school). (3) Decision-making processes: Dependency (parents depend on clinics, schools, and teens to inform, educate, and counsel them); Variable patterns (some parents decide, some parents defer to kids, some kids accept or refuse parents' decisions); and Parent-teen factors influence variability (parents' language, literacy, thoughts, feelings; teen's age, gender; parent-teen relationship).

What is next?
Conclusion: Findings from the focus groups support that a linguistically-appropriate and culturally-tailored HPV educational program for Hmong parents could be successful in promoting HPV vaccine uptake and acceptability in the Hmong-American community. Hence, themes gleaned from the focus groups have been used to inform the content of an educational HPV website for Hmong parents and adolescents.

IRB Approval Yes **HIPAA Compliance** NA

Funding This research project was funded by the Centers for Disease Control and Prevention (CDC) and National Cancer Institute (NCI) (3U48DP005022-03S6).

2018 Innovation & Research Forum – Projects

Can We Laugh Away Ageism?

Chelsey Sand, PGY2, Creekside Family Medicine Residency **Project Collaborators** Don Pine, M.D. Teresa Quinn, M.D. Deborah Mullin Ph.D.

Poster

Project Complete by March 3 Yes

What did you do and why was it important? There is strong evidence that ageism is prevalent in the United States in the general population and in medical trainees. Ageism is a significant issue for medical trainees because a significant percentage of patients cared for by family physicians are elderly. Some of the faculty observed ageist behavior in the program among past residents but not in current residents. Thus we were uncertain if ageism was present among current residents. Funding was received for additional geriatric education at the residency. We planned to utilize a validated questionnaire to assess ageism and then carry out an improvisation performance as an intervention to combat ageism. A follow-up survey was planned to test the effectiveness of the intervention. The post survey included questions about resident perceptions of the value of the performance.

How did you do it?
A team of actors from the Theater of Public Policy interviewed two experienced geriatricians about issues they perceive with aging patients and then created a performance based on the interviews. The Theater of Public Policy is an improvisation group that focuses on advancing the understanding of complex issues through improvisation. Family medicine residents and faculty attended this performance. Participants completed a pre and post survey using the UCLA Geriatrics Attitudes Scale and the Refined Aging Semantic Differential. The UCLA Geriatrics Attitudes Scale (GAS) is a 14-item scale developed to assess health care providers' attitudes toward older persons and caring for older patients. The Refined Aging Semantic Differential scale is a visual analog scale with negative and positive adjective responses anchoring the scale with a total of 24 adjective pairings. The post survey was a duplication of the pre-survey but also included four extra open ended questions to evaluate the response of participants to the performance.

What did you learn?
Thirty five participants (15 residents and 20 non-residents) completed a pre-survey. Sixteen participants (8 residents and 8 non-residents) completed a post survey. There was no statistically significant change between pre-survey and post survey responses. Responses were in the "somewhat agree"category for the GAS survey once the negative items were recoded for both pre and post surveys. This somewhat agree category suggests that respondents feel older patient (65 years and older) add value to society, are interesting, pleasant people, who are not a burden to the healthcare system. Responses on the Refined Aging Semantic Differential scale were rated more positively at a 2.9 out of 7 on the visual analog scale with positive being 1 and negative being 7. Post survey comments were split between positive and negative opinions regarding the improvisation performance. Participants seemed to have positive opinions regarding the discussion, but less positive reactions to the improvisation performance. All the participants who completed the post survey believed that ageism exists in our society. Seven out of sixteen participants stated they had new thoughts about aging after the performance. Six out of sixteen participants believed their perception of aging had changed as a result of the performance. Of the eight residents who completed post surveys, three found the performance helpful and only one thought the performance changed their perception of aging.

What is next?
Our survey results did not show any ageism among participants. However, research suggests that ageist bias is common among health care providers. We are concerned that there is implicit bias among residents and faculty and that this was not detected through the survey used. Results could also have been affected by small sample size and a social desirability bias among participants. We are interested in assessing for ageism further through other surveys, for example the Project Implicit (a non-profit organization and international collaboration between researchers who are interested in implicit social cognition) has created a survey to assess for implicit bias. We are considering having incoming interns complete this survey prior to participating in our program's geriatric curriculum and then reassessing later in residency.

IRB Approval NA **HIPAA Compliance** NA **Funding** Grant for improving geriatric education from the University of Minnesota.

2018 Innovation & Research Forum – Projects

Centering Pregnancy: Yoga Outreach

Jennie Manning, PGY3, United Family Medicine Residency

Project Collaborators Yoga instructors: Bianca Matter; Dr. Cassie Jones, MD; Paula Coyne, LP MA **Mentors** Faculty mentor: Dr. Lisa Phifer, MD

Minnesota Academy of Family Physicians Foundation Grant

Podium **Project Complete by March 3** Yes

What did you do and why was it important? I integrated yoga into our clinic's existing Centering Pregnancy group prenatal care visits. The Centering Pregnancy model brings 4-10 women with similar due dates together for 9 group prenatal visits with 2 residents and 1 faculty physician. Residents facilitate discussion about important pregnancy topics and moms learn from each other. We piloted having a 30-minute instructor-led yoga session during Centering Session #2 ("Common Discomforts of Pregnancy") and trained residents to lead 5-10 minutes of yoga during Centering sessions #3-9. This is important because yoga is a powerful tool to reduce stress and anxiety, improve sleep, and maintain fitness, particularly during a vulnerable period such as pregnancy. Maternal psychosocial stress can impact neonatal outcomes, like preterm birth. Many of our pregnant patients at United Family Medicine lack access to yoga based on their socioeconomic status yet face additional vulnerability due to negative health impacts of chronic stress of poverty, inequality, and lack of social support.

How did you do it?

I recruited three yoga instructors and trialed a 30-minute yoga session at Centering Pregnancy Session #2 with one patient group. Reception was positive. We then applied for the MAFP Innovation Grant to purchase yoga mats and blocks and hire our instructors to teach once per Centering course during eahc session #2. I personally completed Street Yoga training for leading trauma-sensitive yoga and then I designed a short workshop to teach residents how to lead 5 minutes of yoga during Centering Pregnancy sessions #3-9. I developed visual yoga pose guides for the residents. We measured initial participant and provider feedback over several months which was favorable. We began to measure the impact of the instructor-led yoga session on patients' stress level before and after that session. We are recently starting to give away yoga mats to patients after Centering session #2 to see if this increases their participation in yoga outside of the clinic for the duration of their pregnancy.

What did you learn?

From December 2015 to March 2018, 15 groups of patients have participated in a 30-minute yoga class during their Centering Pregnancy care. On average residents led yoga at 2-3 sessions following the initial session. Providers' perception was generally that yoga fits nicely within the Centering Pregnancy curriculum but that it was difficult to lead yoga themselves given session time constraints and lack of confidence with yoga. They felt the instructor-led classes were a great introduction to yoga for pregnancy and reduced the intimidation surrounding yoga. The majority of patients enjoyed doing yoga at Centering. On average patients reported a 1-2 point decrease in stress level on a 10-point scale after 30 minutes of yoga. More than half had done yoga prior to Centering. The most commonly reported outcomes of yoga were feeling more relaxed, less stressed, happier and more connected to their pregnancy. A few patients felt awkward or more pain during yoga. Many practiced yoga once or a few times per week during the remainder of pregnancy after doing yoga at Centering. Overall, we learned that our pregnant patients were very willing to participate in yoga and interested in yoga but it is very difficult to maintain a resident-led yoga program since residents leading Centering had limited capacity for additional responsibilities.

What is next?

I am currently working with the Centering Pregnancy Committee to build capacity to continue the instructor-led yoga session after I graduate. This will require identifying instructors who are willing to commit to teaching over the next year and assigning a clinic staff person who can coordinate instructor scheduling. The committee could consider training the Centering Coordinator, which is currently an RN, to lead yoga. I think we should continue giving out yoga mats to the next few groups and monitoring whether that intervention changes their participation in yoga at home. I would also like to make a copy of our yoga pose guide in Spanish, Amharic and other frequently encountered languages so that our interpreters can aid their patients in participating in yoga.

IRB Approval Not applicable **HIPAA Compliance** Yes **Funding** MAFP Innovation Grant

2018 Innovation & Research Forum – Projects

Concussion Alert

Mickey Moran, MS 2, University of Minnesota Medical School, Duluth Campus

Project Collaborators Emily Onello, MD

Minnesota Academy of Family Physicians Foundation Grant

Mentors Emily Onello, MD

Poster

Project Complete by March 3 No

What did you do and why was it important? The medical literature has little information on concussion rates and mechanisms in youth hockey players ages 10-14. Currently, team managers and parents utilize standardized concussion reporting forms on paper. However, the development of a reporting tool that combines individual concussion reports could provide a clearinghouse and database of youth hockey head injuries. Such a database can provide critical information about the frequency, intensity and mechanisms of youth hockey head injuries. Development of a HIPAA-compliant reporting tool that could utilize current smartphone technology may encourage rapid rink-side reporting of head injuries by players, parents, coaches and game officials. If reporting is made easier by using readily available smartphones or devices, it is possible that youth hockey related head injury reporting will increase allowing a more realistic picture of concussion incidence and severity for health professionals and youth sports organizers. This deeper understanding could inform decision-making about rules of play and equipment leading to safer play and fewer concussive events.

How did you do it?
Medical student Moran, with a background of playing, coaching, and officiating hockey, developed an electronic concussion reporting tool using Qualtrics software. This innovation allows parents and coaches to report concussions from the sidelines. The data is loaded onto a HIPAA compliant database.

What did you learn?
Technology exists to create a facile and detailed concussion reporting tool that can be accessed via smartphones, personal computers, or tablets as long as there is internet access. Challenges in privacy protection, maintaining confidentiality of data, recruitment of athletes/leagues, and costs of creating a free application for smart phones remain barriers to implementation of the Concussion Alert tool.

What is next?
Possible next steps include a trial of Concussion Alert being used in a district for Minnesota Hockey and/or development of an application that can be downloaded on smartphones. Minnesota Statute 121A.38 currently requires high school hockey players that are suspected to have a concussion to be removed from play until gaining medical clearance. If the statute were expanded to include all youth athletes, this model could be modified to link to medical clinics and proper authorities for compliance monitoring.

IRB Approval Not applicable **HIPAA Compliance** Yes

Funding MAFP

2018 Innovation & Research Forum – Projects

Correlation of Nitric Oxide, Sinus CT, and SNOT Scores

Jeremie Oliver, MS 2, Mayo Clinic School of Medicine, Rochester, MN

Project Collaborators Kaiser Lim, MD; Erin O'Brien, MD

Minnesota Academy of Family Physicians Foundation Grant

Mentors Erin O'Brien, MD

Podium

Project Complete by March 3 Yes

What did you do and why was it important? Computed tomography (CT) of the paranasal sinuses is the gold standard for diagnosis of chronic rhinosinusitis (CRS). Detection of nasal nitric oxide (nNO) levels has been investigated as a diagnostic tool in sinus disease, as sinus obstruction results in a lower level of nNO. The primary aim was to determine the correlation of passive (baseline) and dynamic (humming) nNO to CT findings of sinus inflammation and symptoms as measured by Sinonasal Outcome Test (SNOT-26), in order to validate the utilization of nasal nitric oxide detection methods as a Point-of-Care tool to be used by Primary Care providers to diagnose and monitor treatment response.

How did you do it?
Fourteen subjects were recruited. Baseline and humming nNO levels were measured using a Siever chemiluminescence NO analyzer. Each subject completed the SNOT-26 survey. The CT was scored using the Lund-Mackay (LM) system (positive CT defined by LM score > 3). Correlation was measured by linear regression analysis (LRA) comparing SNOT-26, LM, and nNO measurements.

What did you learn?
LM scores had a positive pairwise correlation with total SNOT-26 scores (R^2 = 0.1457, corr: 0.3817) and nasal-specific SNOT-26 scores (R^2 = 0.4036, corr: 0.6353). Baseline nasal nNO scores had a negative pairwise correlation with LM scores (R^2 = 0.1172, corr: -0.3424), total SN0T-26 scores (R^2 = 0.1515, corr: -0.3893), as well as nasal-specific SNOT-26 scores (R^2 = 0.0805, corr: -0.4343).
Detected nNO levels at baseline validate total LM scores from CT imaging, as well as increasing SNOT scores with higher total LM scores. However, nNO detected levels while humming did not demonstrate the same correlation.

What is next?
Nasal NO may be a useful, inexpensive Point-of-Care screening test for CRS to be used by Primary Care clinicians, and for longitudinal monitoring of treatment response.

IRB Approval Yes **HIPAA Compliance** Yes

Funding Mayo Clinic Small Grants Program

2018 Innovation & Research Forum – Projects

Depression in rural vs urban populations: comparing collaborative care model vs usual care

Hailon Wong, MD PGY2 in Family Medicine Mayo Clinic originally from Oklahoma

Project Collaborators Kyle Moore, DO Kurt Angstman, MD Gregory Garrison, MD

Poster

Project Complete by March 3 Yes

What did you do and why was it important? Depression is commonly encountered in primary care and some studies show a higher prevalence in rural settings. Collaborative care management (CCM) using regular nurse phone follow ups and coordinating that with the physician who can decide on the next steps has been shown to be a promising approach to get people to achieve remission quicker when compared to usual care (UC). Usual care is where the physician sees the patient, diagnoses the depression, starts treatment and sees the patient for follow up. We wondered if CCM could help offset some of the rural effects of depression and wanted to investigate this approach to depression treatment compared to usual care. We felt this was important because finding more effective treatment approaches to depression is important not only for its own sake but its effective treatment can lead to better control of other medical/psychosocial comorbidities. There are many different variables that factor into a depression diagnosis and whether or not it will respond to treatment. Geographic location, such as whether a patient lives in a rural vs an urban setting, may be one of these factors. As residents in a program with both rural and urban components, we felt we were in a unique position to learn more about if and how living in a rural setting affects the treatment of depression.

How did you do it?
We conducted a retrospective chart review of 5815 adults with depression in a primary care practice and divided this population into two cohorts (rural vs urban) based on their home zip codes. We then further divided these two cohorts into two treatment groups: usual care (UC) and collaborative care management (CCM). This created four separate groups: rural UC, rural CCM, urban UC, and urban CCM. We collected baseline demographic data and initial PHQ-9 depression screening scores. After six months, we looked at the repeat PHQ-9 scores and analyzed the data using an intention-to-treat analysis and regression modeling to obtain adjusted odds ratios for the clinical outcomes of remission and persistent depressive symptoms.

What did you learn?
We learned that in our population, there were no major differences in urban and rural populations in terms of depression remission and persistent depressive symptoms (PDS) when they were treated with usual care. Both rural and urban usual care (UC) were inferior to rural CCM and urban CCM. Urban CCM was particularly effective for the treatment of depression. Put another way, using rural UC as the reference group, for the outcome of remission at six months, rural CCM noted significantly increased adjusted odds ratio of 7.56 (95% CI 4.77-11.96, $p<0.001$). Urban CCM also noted significantly increased adjusted odds ratio of 9.43 (95% CI 6.17-14.39, $p<0.001$). Urban UC was not statistically different from rural UC for remission (AOR 1.30, 95% CI 0.83-2.04, $p=0.251$). For the outcome of PDS at six months (with rural UC as the reference), rural CCM noted significantly decreased adjusted odds ratio of 0.17 (95% CI 0.12-0.23, $p<0.001$). Urban CCM also noted significantly decreased adjusted odds ratio of 0.13 (95% CI 0.10-0.17, $p<0.001$). Urban UC was not statistically different from rural UC for PDS (AOR 0.93, 95% CI 0.68-1.27, $p=0.646$).

What is next?
CCM significantly improved outcomes for both cohorts. Residents receiving CCM in an urban setting had the best outcomes at six months in both achieving clinical remission and reduction of PDS, consistent with our hypothesis. However, there was no difference noted in rural vs urban outcomes in UC. This was not consistent with our hypothesis. Thus, there was a rural vs urban disparity noted in the effective treatment of CCM but this disparity was not seen in the less effective UC. Possible mechanisms including greater compliance, demographic differences or greater motivation among CCM enrollees are worth investigating.

IRB Approval Not applicable **HIPAA Compliance** Not applicable **Funding** None

2018 Innovation & Research Forum – Projects

Differences in Smoking-Related Symptomatology Between Pregnant and Non-Pregnant Smokers During Ad Libitum Smoking and Following Overnight Abstinence

Katherine Crist, MS2, University of Minnesota - Twin Cities

Project Collaborators Katherine Crist BA, Nicole Tosun MS, Katherine Harrison MPH, Sara Lammert MPH, Alicia Allen PhD, Sharon Allen MD, PhD

Minnesota Academy of Family Physicians Foundation Grant

Mentors Sharon Allen, MD, PhD

Podium

Project Complete by March 3 Yes

What did you do and why was it important? Women who smoke have more difficulty quitting and maintaining long-term smoking abstinence compared to men. Evidence on addictive behavior suggests that sex hormones (i.e., progesterone) may play a role. This study's aim is to explore differences in smoking-related symptomatology (SRS; craving, urges, affect) between pregnant smokers (high progesterone) and non-pregnant smokers (low progesterone) during ad libitum smoking and following overnight abstinence. We expected that pregnant smokers would experience less severe SRS during ad lib smoking and following overnight abstinence.

How did you do it?
Participants were pregnant (16-37 weeks gestation) or non-pregnant smokers (oral contraceptive users) who were enrolled in a laboratory-based study. SRS was measured by self-reported validated measures (MNWS, PANAS, and QSU) during ad libitum smoking and following overnight abstinence. Differences in SRS were assessed using linear regression with univariate and multivariate analyses. Nicotine dependency was calculated using Fagerstrom (FTND) at baseline.

What did you learn?
Participants (n=127) averaged 25.2 (±4.25) years of age, were mostly white (62.2%), and smoked 11.2 (±4.3) cigarettes per day. During ad libitum smoking, pregnant smokers had higher scores for craving (2.10 vs. 1.50, p=0.003) and withdrawal (4.71 vs. 2.83, p=0.04) compared to non-pregnant smokers. Following overnight abstinence, pregnant women had higher scores for craving (3.25 vs. 2.63, p=0.003), withdrawal (8.31 vs. 5.57, p=0.01), urges (51.30 vs. 41.80, p=0.002) and negative affect (17.18 vs. 14.59, p=0.02) compared to non-pregnant smokers. After adjusting for FTND scores at baseline, none of these associations remained significant.

What is next?
Future studies should obtain absolute progesterone levels, include a larger sample size and collect several days of SRS to further investigate the relationship between progesterone and SRS.

IRB Approval Yes **HIPAA Compliance** Yes

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2018 Innovation & Research Forum – Projects

Diverse Communities' Concepts of Quality Primary Health Care

Kathie Culhane-Pera Co-Director of Community-based Research and Medical Director of Quality, West Side Community Health Services

Project Collaborators Misty Blue MPH, Naima Dhore BA, Cindy Kaigama BS MA, Mo Mike, Shannon Pergament MSW MPH, Michael Scandrett JD, Marcella Soto MBA, Maiyia Yang PhD.

Podium

Project Complete by March 3 Yes

What did you do and why was it important? Objective: Identify what quality primary health care means to people from communities with high burdens of socio-structural determinants of health Background: MN Department of Human Services is creating a new framework of quality measurements to link quality metrics with payment. Current primary care quality measures have been shaped by desires to reduce health care costs and have not been informed by people's desires. Connecting payment with quality measures could place clinics that serve communities with high SSDOH burdens at risk for receiving less money. Eliciting community members' concepts of quality care has been deemed a key step in this process.

How did you do it?
Methods: We created a community-based participatory action research process (CBPAR) and conducted listening sessions with 21 community leaders from 7 diverse urban communities. We analyzed qualitative information using a community-participatory process to identify the major themes.

What did you learn?
Results: Community members identified five ideal characteristics. Quality primary healthcare: #1: Has respectful trusting relationships #2: Identifies and addresses historical trauma, structural racism, and social-structural determinants of health #3: Has structures and processes that support health equity #4: Prioritizes culturally responsive mental health, health promotion, and patient education #5: Provides access to care, with patient-centered integrated health care services and system navigation In addition, community members expressed concern that linking payment to quality measures is another form of institutional racism, as clinics serving privileged communities will have higher scores and more funds while clinics serving impoverished communities will have lower scores and less funds.

What is next?
Application: Minnesota state policymakers should consider the communities' experiences of and desires for quality primary care when creating a new quality-payment framework. In addition, primary care clinics should consider these features as they improve the quality of their clinic processes, not just to meet quality metric goals, or receive state reimbursement, but to redress health disparities and achieve health equity.

IRB Approval Yes **HIPAA Compliance** NA

Funding Minnesota Association of Community Health Centers

2018 Innovation & Research Forum – Projects

Effect of Impulse Control Disorder Symptoms on Smoking Cessation Behavior

Chika Ugwoaba, MS3, University of Minnesota Twin Cities

Project Collaborators Nicole Tosun MS, Lynn E Eberly PhD, Ann Fieberg MS, Sharon Allen MD, PhD

Mentors Sharon Allen MD, Nicole Tosun MS

Podium

Project Complete by March 3 Yes

What did you do and why was it important? I used the University of Minnesota's research database where I found and took interest in Dr. Allen's research. I contacted Dr. Allen and together, we came up with a research question. We did a literature search, and wrote an abstract. We ran linear and logistical regressions in a secondary analysis using data from the SCOR protocol. This is important, because smoking has been shown to harm almost every organ in the human body, and it remains the number one cause of preventable deaths (CDC, 2017). It causes cancer, heart disease, stroke, lung diseases, diabetes, and chronic obstructive pulmonary disease. In the United States, cigarette smoking is linked to over 480,000 deaths a year, with 41,000 deaths annually due to secondhand smoke. Smoking also costs almost $170 billion in medical care expenditures for adults each year (CDC, 2017). Yet, 3,200 youth light up their first cigarette each day. About 15.1% of all adults including 16.7% of males and 13.6% of females were current cigarette smokers in 2015. Seven out of ten adult smokers, however, report wanting to quit smoking. It is reported that four in ten adult smokers has attempted to quit smoking in the past year (CDC, 2017).

How did you do it?
Subjects were defined as having an impulse control disorder if they answered affirmatively to the gateway question on the MIDI. Gateway questions used are shown in Table 1. Most often this was the first question in the list for each disorder. This is the method used in other papers published in the literature. Table 2 contains subjects that were enrolled, randomized, and did not drop out by week 4. Of n=85 females and n=85 males, 1 female and 2 males did not complete the MIDI at screening. Table 3 shows a linear regression of the continuous variables carbon monoxide in ppm and cotinine levels in ng/mL at week 4 for each of the impulse control disorders. The linear regression models control for gender and treatment group. Table 4 shows a logistic regression of the binary variables of point prevalence and prolonged abstinence at week 4 for each of the impulse control disorders. The logistic regression models control for gender and treatment group (progesterone or placebo). Point prevalence is defined as no puffs of a lit cigarette in the 7 day period prior to week 4. Prolonged abstinence is defined as less than 7 slips (a puff or more from a lit cigarette) in each 7 day period up to week 4.

What did you learn?
Our significant result that women are more prone to binge eating disorder supports a well-established finding in the literature. The logistical regression analysis with point prevalence and prolonged abstinence is a stronger statement than the linear regression with carbon monoxide and cotinine levels, because the logistical regression deals with actual quit attempts. Regardless of which is the stronger statement, neither analysis had significant results. Perhaps our statistically insignificant results are due to not having enough power with the small sample size of 85 females and 85 males.

What is next?
Future research should analyze the same relationships as we set out to do in this study with a larger sample size.

IRB Approval Yes **HIPAA Compliance** Yes

Funding NIH/NIDA/OWHR P50-DA033942

2018 Innovation & Research Forum – Projects

Effect of Postdismissal Pharmacist Visits for Patients Using High-Risk Medications

Joseph Herges, PharmD, BCPS. Instructor in Pharmacy, College of Medicine, Mayo Clinic. Medication Therapy Management Pharmacist. Mayo Clinic, Rochester, MN.

Project Collaborators Lori Herges, PharmD, BCPS; Ross Dierkhising, MS; Kristin Mara, MS; Amanda Davis, PharmD, BCACP; Kurt Angstman, MD

Podium

Project Complete by March 3 Yes

What did you do and why was it important? We studied whether a pharmacist-clinician collaborative (PCC) visit following hospital dismissal for patients on high risk medications for hospital admission would reduce readmission risk compared to usual care. It was important to show that this collaborative effort improved patient outcomes, and may help us focus our efforts on the population taking these high risk medications.

How did you do it?
We retrospectively reviewed 502 patients who met inclusion criteria and had a PCC visits after hospital dismissal and compared to 502 patients who only saw a clinician. We used a cox proportional hazards model to compare the risk of 30, 60 and 180 day readmission between the groups.

What did you learn?
After adjusting for differences in background demographic characteristics, patients in the PCC group were significantly less likely to be readmitted to the hospital within 30 days postdismissal compared to the clinician only group (hazard ratio, 0.49; 95% CI, 0.5-0.69;P<.001). The statistically significant difference was maintained at 60 and 180 days as well.

What is next?
We would next like to study the financial impact of the collaborative visits and have that project underway. We would also like to do a quality improvement project to see if these visits can be improved.

IRB Approval Yes **HIPAA Compliance** Yes

Funding Funded internally by the Mayo Pharmacy Research Committee

2018 Innovation & Research Forum – Projects

Essential Office Procedures for our Medicare Patients

Eric Poulin, MD, Consultant in the Dept of Family Medicine, Mayo Clinic Health System, SE Minnesota; Instructor in the Dept of Family Medicine at Mayo Medical School

Project Collaborators Andrew W. Swartz, MD (statistics) Family Medicine and Emergency Medicine; Flight Surgeon, Alaska Air National Guard (Lt Col)

Podium

Project Complete by March 3 Yes

What did you do and why was it important? The ACGME Family Medicine core requirement IV.A.6.r states, "Residents must receive training to perform clinical procedures required for their future practices…. This list must be based on the anticipated practice needs…. of the community to be served." A review of the literature finds no data assessing the competency of new providers in ambulatory procedures. Demographic trends show our primary care patients are getting older. As a result, the demand for office procedures by Medicare patients may increase. Based on anecdotal experience, our primary care training programs may not be graduating providers who are competent in these procedural skills. An examination of CPT coding data suggests a deficiency in ambulatory procedural training in residency in the procedures most needed by Medicare patients. This combination of increasing need and decreasing ability predicts delayed care resulting in complications and increasing costs from referral to specialists.

How did you do it?
Three years of CPT coding data from MCHS including MN, WI, AZ and FL (excluding Mayo Rochester) and the primary Mayo Family Medicine residency clinic (Kasson, MN) was analyzed. Mayo IT provided the most frequent 2500 codes billed to Medicare from 1/1/2014 - 1/1/2017. The top 10 office procedures were identified. CPT codes were combined when representing the same procedure.

What did you learn?
The top ten Medicare office procedures in MCHS: 1. Destruction of benign skin lesions, 2. Nail care, 3. Large joint (shoulder, knee, trochanteric bursa) injection, 4. Punch & shave biopsy of skin lesions, 5. Remove impacted ear wax, 6. wound debridement of skin, 7. Unna boot application, 8. Excision malignant & benign--Intermed repair, 9. paring corn/callus, and 10. bladder catheter insertion. In six of these, very large differences between MCHS and the residency clinic suggest residency training may not adequately prepare residents to perform these office procedures in high demand by Medicare patients. These were: 2. Nail care, 4. Punch & shave biopsy of skin lesions, 5. Remove impacted ear wax, 6. wound debridement of skin, 7. Unna boot application, and 9. paring corn/callus.

What is next?
Before implementing an educational program, further assessment is needed to clarify issues. For example, is coding done correctly at this residency clinic? Do residents in this program receive a large portion of their ambulatory procedural training outside of this clinic? Is there a lack of opportunity to perform these procedures at this clinic because of system issues? Also, consideration of the team approach to health care delivery is important, specifically, whether primary care physicians should do these procedures, supervise other staff, or refer to specialists.

IRB Approval Not applicable **HIPAA Compliance** Not applicable

Funding This project started in the TEACH program for faculty development at the Dept of Family Medicine, Univ of MN, which I completed in June 2017. The Dept of Family Medicine at Mayo Medical School paid my tuition for this TEACH course.

2018 Innovation & Research Forum – Projects

Evaluation of our IMPACT: Assessment of an Interprofessional Postgraduate Workshop to Promote Team-based Ambulatory Care

Nicole Chaisson, MD, MPH Associate Program Director, University of Minnesota Medical Center Family Medicine Residency

Project Collaborators Patricia Adam, MD Emily Borman-Shoap, MD Keri Hager, PharmD Heather Thompson-Buum, MD

Poster

Project Complete by March 3 No

What did you do and why was it important? The Essentials of Ambulatory Care Workshop was the result of a 2013 national collaborative, the Primary Care Faculty Development Initiative (PCFDI), a national HRSA-funded initiative created to improve primary care teaching across Family Medicine, Internal Medicine, and Pediatrics residency programs in the United States. At the University of Minnesota, we chose to involve Pharmacy and Doctor of Nursing Practice in our collaborative, to expand the reach of the program and advance an interdisciplinary, interprofessional team approach. Our faculty identified that many of our trainees were not familiar with the essential components and theory behind the delivery of effective primary care--including teamwork, role definitions, patient-centered medical home principles, systems theory, and patient centered communication skills. To address this, the University of Minnesota faculty developed a one-day workshop introducing these essential concepts to the trainees.

How did you do it?
From 2014-2016, we held 5 full-day interprofessional workshops reaching a total of 182 learners in family medicine, internal medicine, internal-medicine/pediatrics, nursing, pediatrics, and pharmacy. In the 2017-2018 academic year, we have already held 3 workshops.

What did you learn?
We used facilitator experience and learner feedback from each session to iteratively improve the workshop but have not yet completed a more formal evaluation of the learner surveys. The workshop is very interactive and we have learned through survey comments that, in general, the trainees appreciate the time spent learning with an interprofessional mix of co-participants.

What is next?
We are currently reviewing the survey data and will present that in this poster. We are interested in evaluating if there is a difference in knowledge, skills, attitudes between the physician trainees, the Pharmacist trainees and the DNP trainees. We are also in the process of developing a second "advanced ambulatory care" workshop and have been expanding our learner base to include Social Work students.

IRB Approval NA **HIPAA Compliance** NA

Funding none

2018 Innovation & Research Forum – Projects

The Family Education & Diabetes Series ("FEDS")

Vaida Kazlauskaite, MS, Doctoral Student the Department of Family Social Science, UMN Twin Cities

Project Collaborators Tai Mendenhall, Ph.D., LMFT; Noah Gagner, MA, M.Ed.; Yiting Li, MA

Mentors Tai Mendenhall, Ph.D., LMFT

Podium

Project Complete by March 3 Yes

What did you do and why was it important? Bi-weekly meetings to address the needs of American Indians with diabetes and their families. Meetings included diabetes screening, sharing a meal, educational presentations by medical professionals, and lectures on various topics of concern for those affected by diabetes.

How did you do it?
Community-based Participatory Research (CBPR) methods; combination of quantitative and qualitative data collection and analysis.

What did you learn?
Quantitative data show significant improvements in weight, blood pressure, and metabolic control; Qualitative data show social support and sense of interpersonal accountability as key across program foci.

What is next?
Formal evaluations of changes in mental health (e.g., depression) and social functioning (e.g., social isolation / connectedness) as a consequence of program participation.

IRB Approval Yes **HIPAA Compliance** Yes

Funding Minnesota Department of Health (Eliminating Health Disparities Initiative)

2018 Innovation & Research Forum – Projects

Global Health In Your Backyard

Karen Jankowski, MD Assistant professor, Department of Family Medicine and Community Health Community-University Health Care Center

Project Collaborators Roli Dwivedi, MD Chris Reif, MD Department of Family Medicine and Community Health Community-University Health Care Center

Podium

Project Complete by March 3 Yes

What did you do and why was it important? As global migration rates continue to rise, individual countries and states are becoming more diverse. This trend continues in Minnesota as well, where 1 in 12 people are foreign-born and 11% of the population speaks a language other than English at home. As a result, patient populations across the country and state are reflecting this changing demographic. Family physicians must understand and be skilled at caring for peoples of diverse backgrounds in order to adequately address the needs of all of their patients. Many family medicine residencies in Minnesota do have exposure to diverse populations, however, a dedicated program in global health is currently lacking. As a result, we have developed a curriculum at the Community-University Health Care Center to train residents in caring for patients from diverse cultural backgrounds in our local setting. CUHCC is well suited to educate residents in global health; at CUHCC, more than 50% of patients and staff are foreign born and represent a wide array of countries across the globe. Additionally, the mission at CUHCC is to transform care and education to advance health equity.

How did you do it?
Using the AAFP recommended Curriculum Guidelines for global health in addition to the unique resources available at CUHCC, we developed a global health curriculum for family medicine residents. This curriculum addresses the knowledge, skills and attitudes required to care for foreign born patients in a domestic, urban setting. Through a combination of patient care experiences, didactic presentations, team-based care and self-directed learning, the curriculum enables a family medicine resident to gain knowledge, skills and attitudes in global health that can be transferred to many practice locations.

What did you learn?
Through the development and initial implementation of this curriculum, we have learned that the information presented was novel for the family medicine resident. However, the current experience is brief and did not allow for a comprehensive discussion about global health. The preceptors also found the experience satisfying but brief. Since our initial resident experience, we continue to receive feedback from family medicine faculty and residents about the high level of interest in this curriculum due to CUHCC's unique patient population and interdisciplinary services.

What is next?
As this curriculum develops further, we hope to include more family medicine residents and would like to offer a longer rotation or longitudinal opportunity for global health education at CUHCC. Additional proposals include the addition of experiences in the community at various cultural venues, interprofessional team-based care, and exposure to advocacy efforts for immigrant health.

IRB Approval NA **HIPAA Compliance** Yes

Funding none

2018 Innovation & Research Forum – Projects

Group Visits for Behavior Change

Drew Dietle, MD PGY2, HCMC

Project Collaborators Kara Parker MD, Cass McLaughlin

Poster

Project Complete by March 3 Yes

What did you do and why was it important? As part of my residency experience, I set up weekly group medical visits to address exercise behavior. I led 4, 2-hour sessions with a group of patients looking more deeply into their personal motivations for exercise, providing education about exercise guidelines and setting exercise goals. The visits were billed by the clinic similar to traditional one-on-one visits. I think this emerging model has benefits for behavior change over the classic model of seeing 1 patient at a time. It is also important that the clinic could bill for the time, and that my residency program supported me in creating this experience for my patients and for my own learning.

How did you do it?
I started by speaking with Dr. Kara Parker who has been leading group visits for chronic disease at Whittier clinic for several years. I shared my interest in the group visit model with her and she was immediately receptive. She was interested in having a resident pilot an expansion of the work that had already begun. I chose exercise as a topic because I have a BS in Nutrition and Exercise Science and I thought it would be achievable and interesting for patients. We planned ahead to include the group visits into one of my elective rotations. Cass McLaughlin, who has also worked with Dr. Parker's groups, co-facilitated the sessions and was very helpful in planning and leading the sessions.

What did you learn?
I learned that I enjoy leading group visits. There is a skill set to facilitation that is different than the skills we use in clinical decision making or more typical patient interactions. I learned my patients enjoyed being a part of the group and sharing and connecting with each other.

What is next?
I am interested in leading another set of group visits as a part of an elective in my PGY3 year. I'm interested in leading visits focused on plant-based nutrition which is another interest area of mine. For the patients that participated in the group, I will be following up with them with 1-on-1 visits on their exercise goals in the year ahead. I plan to include group visits as part of my professional practice after I complete my residency training.

IRB Approval Not applicable **HIPAA Compliance** Yes

Funding none

2018 Innovation & Research Forum – Projects

How Minnesota hospitals work with opioid-exposed neonates and their mothers

Brenna Greenfield, PhD, University of Minnesota Medical School, Duluth campus

Project Collaborators Morgan Zabel, MS2 Melissa DeVerney, BA Riley Beskar

Podium

Project Complete by March 3 Yes

What did you do and why was it important? Prenatal opioid exposure is a growing concern, with rates of any opioid exposure during pregnancy estimated at 20% (Yazdy, Desai, & Brogly, 2015). Of pregnant women entering substance use disorder treatment in the United States, the percentage who reported opioid abuse upon admission has risen from 2% in 1992 to 28% in 2012 (Martin, Longinaker, & Terplan, 2015). At the 2016 Tribal-State Opioid Summit, participants identified a need for a survey of "MN hospital staff and mothers around policies for opioid exposed babies" ((http://mn.gov/gov-stat/pdf/2017_03_09_Opioid_Summit_Report.pdf). As a response, we examined current policies and protocols at Minnesota hospitals regarding opioid-exposed neonates and their mothers.

How did you do it?
Between August and December of 2017, we called all Minnesota hospitals reported as offering obstetric services to survey them about usual care for opioid-exposed neonates and their mothers. A total of 64 hospitals completed the survey; most commonly the OB department nurse manager or supervisor was the respondent.

What did you learn?
We learned about prevalence estimates of opioid-exposed neonates and regional differences therein, usual practices for opioid-exposed neonates and their mothers, and future goals as well as challenges in working with these families.

What is next?
We will share our findings with interested stakeholders as well as the hospitals involved and use these findings to identify and inform best practices in care for this population, as well as changes in care over time.

IRB Approval NA **HIPAA Compliance** NA

Funding UMN Medical School Duluth Campus Medical Student Summer Research Program

2018 Innovation & Research Forum – Projects

Identifying barriers to Cervical Cancer screening among East African Immigrants

Dureeti Foge, MS2, University of Minnesota Twin Cities

Project Collaborators Roli Dwivedi, MD

Minnesota Academy of Family Physicians Foundation Grant

Mentors Roli Dwivedi, MD

Poster

Project Complete by March 3 No

What did you do and why was it important? I am currently working on a community research project with a purpose of Identifying major barriers East African Immigrants from the Twin Cities face regarding early screening for Cervical Cancer, more specifically the Pap test. Also to gain an understanding of their knowledge about the importance of Cervical Cancer screening. Research has demonstrated that compared to other women, East African immigrants remain particularly vulnerable and under screened due to a number of complex factors, from language barriers, res-settlement challenges, to fear and stigma associated with illness and reproductive health, and lack of access to female healthcare providers to name a few. We are currently still collecting data via a survey. For the second phase of the project we are hoping to use the findings to develop a culturally tailored workshop module or group health promotion activities that will seek to reduce barriers to Cervical cancer screening uptake amongst East African immigrants in the Twin cities. We hope to create education materials not only for the community but also, for Healthcare providers.

How did you do it?
We talked to women at CUHCC clinic that fit our target demographic and have them complete a survey. We also went to different community events throughout the community and distributed our survey there.

What did you learn?
This project has been a very interesting and a wonderful learning opportunity for me. I learned that language and cultural differences between patients and their providers creates a huge communication barriers that increases treatment non-adherence and poor health outcomes. It helped me better understand the circumstances and limitation immigrant women face when trying to access healthcare. My experiences thus far have reinforced my desire to pursue a career in a community based healthcare setting, to provide counseling, education and quality care to immigrant population, low-income individuals and families in underserved communities.

What is next?
For the second phase of the project we are hoping to use the findings to develop a culturally tailored workshop module or group health promotion activities that will seek to reduce barriers to Cervical cancer screening uptake amongst East African immigrants in the Twin cities. We hope to create education materials not only for the community but also, for Healthcare providers.

IRB Approval Yes **HIPAA Compliance** Yes

Funding MAFP Foundation

2018 Innovation & Research Forum – Projects

Immigrant Microbiome Project

Nancy Yang, MS3, University of Minnesota Twin Cities

Project Collaborators Student Volunteers: Austin Kim, Grant Kim, Jennifer Moss Researchers: Shannon Pergament, MSW, MPH Bwei Paw Mary Xiong Pimpanitta Saenyakul, PhD, Nurul Nast Chaisiri Angkurawaranon, PhD, MD Ntxawm Lis Yi Lis Rose McGready, MD Htoo Lay Paw Moo Kho Paw S

Minnesota Academy of Family Physicians Foundation Grant

Mentors Pajau Vangay, MS, PhD Candidate Dan Knights, PhD Kathleen Culhane-Pera, MD

Podium

Project Complete by March 3 Yes

What did you do and why was it important? We used a Community Based Participatory Action Research approach to raise awareness among Hmong and Karen immigrants/refugees about the gut microbiome and its impact on physical health. Hmong and Karen communities have seen increasing rates of obesity and chronic illness after relocating to the US. Existing refugee health services focus on infectious diseases, but lack emphasis on long term health, as well as accessible material for newly arrived people. Based on analysis from the gut microbiome samples of Hmong and Karen volunteers in Thailand and the US, we have created culturally and linguistically appropriate resources specific to Hmong and Karen coming to the US. These resources teach communities about how Westernization affects the gut and provides actionable items to promote and maintain healthy gut microbiota, along with diet, exercise, and weight control.

How did you do it?
We created short term and long-term resources to engage the Hmong and Karen communities about health. Short-term resources include separate workshop series specific for Hmong and Karen about nutrition, cooking, and exercise, and possible community dissemination events to be held at community centers. Long-term resources include an animated educational video with Hmong and Karen language narration, educational materials for patients, outreach to physicians, as well as partnership with the Minnesota Department of Health and other community health organizations for outreach.

What did you learn?
I joined this project in order to learn how to translate basic science research into actionable health changes for patients, in particular underserved and non-English speaking communities. This project required partnership among University of Minnesota researchers, Hmong/Karen leaders, clinicians, health and non-health related community organizations, and state government programs. Through working with Hmong and Karen researchers/organizations, I learned that community leaders are essential for effective communication across cultural and language barriers; this project would not have been possible were it not for the passion and hard work of our Hmong and Karen partners. The most challenging part has been integrating new scientific findings into how doctors care for patients and how patients learn to care for themselves; this project has taught me some of that but there is much more to learn and to work towards.

What is next?
I will continue working with MDH and community organizations to disseminate research findings about the immigrant gut microbiome, through print educational materials, and workshops. I also will work on medical provider materials and information to guide them in educating their Hmong and Karen patients. We hope to also organize more physician education sessions about how to use the research when working with their patients.

IRB Approval Yes **HIPAA Compliance** Yes

Funding Allina Health, MAFP Student Innovation Grant

2018 Innovation & Research Forum – Projects

Impact of Electronic Point-Of-Care Prompts on HPV Vaccine Uptake among Eligible Patients in Retail Clinics

Amanda F. Meyer, APRN, CNP, Mayo Clinic Department of Family Medicine

Project Collaborators Nicole L. Borkovskiy, MSN, APRN, CNP Jennifer L. Brickley, RN Rajeev Chaudhry, MBBS MPH Andrew Franqueira, MS Joseph W. Furst, M.D. Donna M. Hinsch, MSN, RN, NE-BC Margaret R. Mc Donah, MSN, APRN, CNP Jane F. Myers, MSN, APRN, CNP Randi E. Petersen, LPN L

Podium

Project Complete by March 3 Yes

What did you do and why was it important? Human Papillomavirus (HPV) vaccination rates nationally are low. This study determined if an electronic point of care prompt in the retail clinic setting increases HPV vaccination rates among an empaneled eligible population.

How did you do it?
An interrupted time series assessed change in weekly HPV vaccination rates with introduction of an electronic point-of-care prompt and if the rate of change was constant in post intervention period was completed. This was done at two similar retail care clinics in Rochester, Minnesota. Participants were patients who presented to the retail clinics setting between the ages of 9-26 from September 12, 2016 to June 9, 2017. HPV vaccine was made available at both retail clinics. An electronic point of care prompt utilizing vaccination status for HPV for eligible patients present was unmasked to providers after 22 weeks. A satisfaction survey was given to all patients between the ages of 9-26 regardless of HPV vaccine status.

What did you learn?
A total of 2560 patients ages 9-26 were eligible to receive the HPV vaccine. A significant increase in the rate was observed during the post period. The period analysis show that the effect was strongest in the 21-30 week period (IRR: 7.02; $P<0.001$)). The majority of patients (97.5%) reported it was convenient having HPV vaccine available and 91.6% of patients thought it was beneficial being reminded of HPV vaccine eligibility. This study demonstrates a significant increase of HPV vaccine rates in the retail clinic setting with use of a point of care prompt. Patients thought it was convenient having HPV vaccine available and helpful being reminded of HPV vaccine need.

What is next?
Continued data collection of vaccine rates for HPV. In addition, the point of care prompts were activated on all patients for all vaccines offered at the retail clinics to determine if there is an increase in vaccinations. This new practice change will be brought forth to the entire health system as a standard of care for patients presenting to the walk in clinics.

IRB Approval Yes **HIPAA Compliance** Yes

Funding Mayo Clinic Family Medicine Research Funds for protected time. 0.1 FTE each for two researchers.

2018 Innovation & Research Forum – Projects

Intimate Partner Violence

Alexandra Gits, MD PGY 2, University of Minnesota North Memorial

Project Collaborators Michelle Sherman PhD Stephanie Hooker PhD

Podium

Project Complete by March 3 Yes

What did you do and why was it important? Although the AAFP, USPTF, ACOG and AAP have robust screening guidelines and policy statements about intimate partner violence (IPV) there appears to be a lack of education amongst providers of how and when to screen for IPV, where to refer, and how to speak comfortably about the subject. Unfortunately by its nature, IPV is rarely disclosed willingly by victims and can cause cycles of violence that impact whole family groups and communities. We saw a need to standardize how we screen for IPV and how to empower providers and patients to achieve wellness and break the barriers that stop disclosure and referral to resources.

How did you do it?
We formed an interprofessional team of resident and faculty family physicians and behavioral health faculty to evaluate our current screening process for IPV, community resources, and up to date literature on the topic. We explored how we could fit screening for IPV into an already busy family medicine practice and how best to educate our clinical staff.

What did you learn?
Despite a general knowledge and consensus that screening for IPV is important, there is no standardized way to evaluate it in our clinic work flow. Although speaking and screening for IPV can be an uncomfortable subject, there are validated screening tools and community resources available to help ease the process and inevitably assist victims in obtaining assistance beyond the clinic walls, empowering themselves and their families.

What is next?
We will be working towards implementing mandatory screening for IPV on an annual basis and at all initial OB visits to help capture IPV in our community and assist people in finding adequate resources. Provider and ancillary staff education and feedback will be gathered to help assess comfort and ability to screen and refer for IPV.

IRB Approval NA **HIPAA Compliance** NA

Funding none

2018 Innovation & Research Forum – Projects

Harnessing the power of research, community, clinic and policy to build a culture of health

Susie Nanney, PhD, University of Minnesota, Department of Family Medicine & Community Health

Project Collaborators Jerica Berge, PhD, Caitlin Caspi, PhD, Katie Loth, PhD, Maggi Adameck, PhD, Amanda Trofholz, MPH, Kate Young, MPH

Podium

Project Complete by March 3 Yes

What did you do and why was it important? Despite intense nationwide efforts to improve healthy eating and physical activity across the lifespan, progress has plateaued. Moreover, health inequities remain. Frameworks that integrate research, clinical practice, policy, and community resources to address weight-related behaviors are needed. In response, our team created Healthy Eating and Activity across the Lifespan (HEAL) to facilitate integration. A model of integration can potentially increase the success and sustainability of approaches to reduce stubborn weight-related health disparities and create a culture of health for all.

How did you do it?
Based at the University of Minnesota, HEAL is a new center that fosters integration to address obesity through innovative work, grantmaking, scholarship, capacity building, and network development. HEAL consists of concerned scientists, practitioners, and policy wonks who work with communities to redefine solutions to persistent weight-related challenges, including health disparities.

What did you learn?
Siloed approaches to addressing complex and persistent weight-related health challenges just are not enough. For example, bariatric surgery to solve obesity or the highly political Farm Bill (policy). This session will focus on application of our 4-point solution (research, clinical practice, policy, and community resources) approach to real world problems. For example, addressing hunger and food insecurity among college students. This session will also bring real meaning to a culture of health for all.

What is next?
Overall, HEAL aims to lead real world integrative work that coalesce across research, clinical practice, and policy with community resources to inspire a culture of health equity aimed at improving healthy eating and physical activity across the lifespan. This session calls upon the medical community to look beyond the walls of the clinical setting to build a culture of health using integrated approaches, especially connecting to community and advocating for evidence-supported policy solutions

IRB Approval Not applicable **HIPAA Compliance** Not applicable

Funding The Department of Family Medicine & Community of Health, University of Minnesota Medical School

2018 Innovation & Research Forum – Projects

Listening Matters!: The Effect of Patient's Perceptions of their PCP's Listening Frequency on the Likelihood of ED Visits

Katie Hinderaker, MD, PGY-2 University of Minnesota Family Medicine - St. Joseph's Program

Project Collaborators Amanda Weinmann, MD

Mentors Amanda Weinmann, MD

Poster

Project Complete by March 3 Yes

What did you do and why was it important? We looked at data from the 2015 California Health Interview Survey (CHIS) to determine whether a patient's perception of how often their primary care provider (PCP) listened to them affected the likelihood of an emergency department (ED) visit in the past year. This is important because we were unable to find any prior research considering whether a provider's listening frequency could influence ED utilization. Additionally, it could provide insight into a way that family medicine providers could establish relationships with their patients while also helping to cut down on ED visits.

How did you do it?
The patient's perception of their PCP's listening frequency was determined by the following question from CHIS 2015: "How often does your doctor or medical provider listen carefully to you?" . Groups were divided into patients without a PCP, patients with a PCP that never or sometimes listened, and patients with a PCP who usually or always listened. A multivariate logistic regression was performed to determine if a PCP's listening frequency was associated with the likelihood of having at least one ED visit within the last year. The analysis also included various demographic, socioeconomic, and other health factors included in the survey.

What did you learn?
A patient who had a PCP that usually or always listened to them was less likely to visit the ED in the last year than a patient who had a PCP that never or sometimes listened. Additionally, patients without PCPs were also less likely to visit the ED in the last year than patients with PCPs who never/sometimes listened, leading us to conclude that having a PCP that never or only sometimes listens may lead to more ED utilization. Additional factors significantly associated with ED use were younger age, African American race, non-Asian race, public insurance, asthma, congestive heart failure, fair to poor general health, and English proficiency.

What is next?
Our study provides insight into factors that lead to increased ED utilization from a large diverse sample, and shows that having a PCP that never or only sometimes listens is associated with increased frequency of ED use. We hope that our study inspires PCPs to contemplate the broader effects of listening to their patients, and future research directions could include the development of interventions to address listening frequency among PCPs.

IRB Approval NA **HIPAA Compliance** NA

Funding none

2018 Innovation & Research Forum – Projects

Majocchi's granuloma in a high school wrestler

Mark Berg, MD Assistant Professor University of Minnesota St. Joseph's Family Medicine Residency

Project Collaborators Jaimi Weber, DO Resident at Bethesda

Poster

Project Complete by March 3 Yes

What did you do and why was it important? Case report presented which illustrates the consequence when a dermatologic diagnosis is made visually without confirmatory testing. Majocchi's develops when rash caused by tinea infection is presumed to be eczema and treated with topical steroids. Our hypothesis was: "care is shifting to sites (urgent care, training rooms, etc.) where equipment and skills for diagnostic testing is unavailable.

How did you do it?
We searched the Medicare CMS National Summary Data to determine the number of KOH microscopy tests billed to medicare each year from 2001-2015

What did you learn?
The number of KOH microscopy tests billed in 2015 was 63% the amount billed in 2001

What is next?
1) Increase clinician's awareness of the Majocchi's granuloma condition. 2) Explore options to improve KOH microscopy training 3) Research new methods to diagnose tinea

IRB Approval YES **HIPAA Compliance** Yes **Funding** None

2018 Innovation & Research Forum – Projects

Naloxone Prescribing and Distribution from Hennepin County Community Clinics

Michael Tradewell, MS4, University of Minnesota - Twin Cities

Project Collaborators Joseph Renier

Minnesota Academy of Family Physicians Foundation Grant

Mentors Roli Dwivedi, Ryan Kelly, Cuong Pham, Ken McMillan, Nikki Giardina

Podium

Project Complete by March 3 Yes

What did you do and why was it important? In 2016, there were 144 deaths related to opioid use in Hennepin County, a 31 percent increase from 2015. It is widely recognized that prevention is a key means to reduce opioid overdose deaths. One mainstay of prevention is the lifesaving opioid antagonist naloxone. In 2014, the enactment of *Steve's Law* dramatically expanded the capability to distribute and use naloxone in Minnesota. While naloxone is available, fear and lack of information still limit the ability to get it into the hands of individuals most at risk. Data from the CDC's Wonder Database shows that between 1999 and 2014 American Indians in Minnesota died of opioid overdoses at a rate five times greater than non-Hispanic whites in the state. Both education and self-empowerment are key to naloxone distribution.

How did you do it?
Between January 6th and February X, 2018, ## (>60) participants were surveyed on their experience with opioid use and naloxone. The survey was deidentified and conducted under an institutional review board (IRB) exempt protocol, as reviewed by the University of Minnesota IRB (Study #). Participants were recruited from three clinical sites: Kola Clinic, Native American Community Clinic (NACC), and Community University Health Care Clinic (CUHCC). All three clinics are located on the ### block of Franklin avenue. Surveys were administered individually or in group settings. Accompanying survey, participants received Naloxone training. Training included background on Steve's Law, emergency steps to take when an overdose occurs, and simulated naloxone dosing and injection. At the end of each session, participants had the opportunity to receive a free naloxone kit (Steve Rummler Hope Network, Minnetonka, MN). Kits included three single-use doses of naloxone, three syringes, latex-free gloves, a rescue breath protection mask and a card with step-by-step emergency use instructions. We performed descriptive statistical analysis in SPSS Version 26.

What did you learn?
A total of # participants were surveyed. # (%) at the Kola Clinic, # (%) at NACC, # (%) at CUHCC. The average participant age was # years (StDev). Participant demographics included: # (%)male, # (%) American Indian or Alaska Native, # (%) Asian, # (%) Black or African American, # (%) Native Hawaiian or Other Pacific Islander, # (%) White, # (%) Hispanic or Latino or Spanish Origin, # (%) Not Hispanic or Latino or Spanish Origin. Opioid overdose is a problem in Hennepin County and the country.

What is next?
This research may highlight the need for expanded naloxone distribution or may show that prescribing is enough.

IRB Approval NA **HIPAA Compliance** NA

Funding MAFP, David Mersy, MD Externship Program

2018 Innovation & Research Forum – Projects

Nutrition Education for Primary Care Healthcare Professionals

Natalie Gentile, MD, Assistant Professor in Family Medicine, Mayo Clinic Rochester

Project Collaborators Eva Fried, MD Bob Bonacci, MD

Minnesota Academy of Family Physicians Foundation Grant

Podium

Project Complete by March 3 Yes

What did you do and why was it important? Lifestyle interventions are beneficial for disease markers and outcomes, often on a greater scale than pharmacologic interventions. Our residency teaching curriculum includes basic nutrition training and education about lifestyle counseling. Clinicians can encourage patients to incorporate healthy lifestyle changes. However, the impact on a patient extends beyond the doctor-patient encounter. Especially in a small community setting, the health of the support staff in the clinic influences patients. The Complete Health Improvement Program (CHIP) is an intensive eighteen-session program that guides participants through the journey of lifestyle change and empowers them to maintain these changes in order to achieve overall wellness. CHIP teaches about the relationship between a whole-foods, plant-based diet, adequate exercise, fiber and hydration, and positive effects on one's long-term health. We took employees at our clinic through CHIP as a nutritional curriculum to assess its impact on their confidence and competence in educating patients regarding nutrition and healthy lifestyle.

How did you do it?
All employees at the Kasson Clinic who directly participate in patient care were sent a survey to assess for baseline knowledge about: evidence-based nutrition recommendations. current nutritional and lifestyle practices. Competence in discussing this knowledge with patients. CHIP was offered to all Kasson Clinic employees who were interested in participating. This ended up as 20 employees (nurses, desk staff, residents, and staff physicians) who enrolled. At the completion of CHIP, a post-survey (consisting of the same questions as the pre-survey) was sent to only the employees who completed the pre-survey, with an additional field to indicate if they had completed CHIP.

What did you learn?
We had a small number of participants who completed the program and the surveys. Objectively, there was an average improvement of 0.15 points (on a scale from 1-5) on the post-survey after implementation of CHIP. Subjectively, CHIP participants reported weight loss, improvement in quality of life, and increased comfort in discussing the role of nutrition in wellbeing with patients. Participant comfortability discussing nutrition with peers had a 0.1 point increase after CHIP.

What is next?
Next steps include increasing the number of participants in CHIP, changing the survey questions to more specifically assess confidence and competence in nutrition counseling, and/or implementing a less rigorous nutritional curriculum to help us retain more participants.

IRB Approval NA **HIPAA Compliance** NA

Funding MAFP Foundation $1000 innovation grant Mayo Family Medicine departmental funding

2018 Innovation & Research Forum – Projects

Obstetrical Service Patterns and Outcomes in Grand Marais

Leif Olson MS2, University of Minnesota Medical School, Duluth Campus

Project Collaborators Jennifer Pearson, MD

Poster

Project Complete by March 3 Yes

What did you do and why was it important? We aimed to characterize service utilization and clinical outcomes of obstetrical care for patients before and after labor and delivery health care services were discontinued locally in Grand Marais in July of 2015.

How did you do it?
A retrospective chart review was done comparing measures before and after delivery service discontinuation for singleton pregnancies with deliveries that occurred at ≥ 24 weeks gestation. Sawtooth Mountain Clinic (SMC) staff created a list of patients who fit the inclusion criteria and exclusion criteria. The list was provided to the Student Investigator. The Student Investigator accessed patient medical records for patients on that list and collected data elements listed the protocol, entering them into a REDCap database. In this dataset, the time period for deliveries before the discontinuation is from January 2, 2013 - June 30, 2015 (2 years and 6 months); while the time period after the discontinuation is from July 1, 2015 - May 15, 2017 (1 year and 10.5 months).

What did you learn?
We learned that patterns and outcomes have changed since the closure of local obstetrical units at SMC in Grand Marais. This includes (but not limited to): -delivery location patterns -percentage of home births -percentage of inductions -percentage of surgical deliveries

What is next?
This project has given us a start into looking at local patterns and outcomes resulting from a change in local obstetrical services in Grand Marais. We hope to expand on what was learned from this project by extending further retrospectively (to understand longer-standing trends in patterns before closure), as well as continue to follow this into the future (to assess outcomes given the current lack of local obstetrical services and the need to travel for labor and delivery). We will also consider whether or not to expand on the specific data points to follow both retrospectively and prospectively.

IRB Approval Yes **HIPAA Compliance** Yes

Funding Dean's Student Summer Research Grant- from University of Minnesota Medical School, Duluth campus

2018 Innovation & Research Forum – Projects

Patient Engagement in Medication Reconciliation

Jennifer Budd, DO Faculty physician at University of MN Family Medicine Dept. St. John's residency program

Poster

Project Complete by March 3 Yes

What did you do and why was it important? An accurate medication list enables physicians to make safe decisions on treatments, consider drug interactions and adverse side effects. Physicians base many of their decisions on what medications patients are taking. Despite being an important tool, the medication list is often inaccurate. Medication reconciliation, or the process of physicians reviewing medication lists, is recognized as a very important component of a patient's visit, but can be difficult to perform at every visit. The best medication reconciliation requires a complete understanding of what medications the patient has been prescribed and what the patient is actually taking. There have been processes put in place to improve medication reconciliation including the electronic medical record and pharmacist involvement. Despite the processes, data shows medication lists are still inaccurate. Thus, patient involvement is necessary to reduce the discrepancy in their medication lists. This study looks specifically at improving patient engagement in the medication reconciliation process and the impact patient involvement may have in maintaining the accuracy of the medication list.

How did you do it?
This study is in progress. An initial survey was used to assess the number of patients bringing in their medications to an office visit and how many discrepancies were found on our electronic medical record compared to what the patient was actually taking or not taking. A focus group was formed to determine interventions that may increase patient involvement in their medication management. An education of the interventions was provided to all of our faculty and resident physicians, patient care staff and RNs, and our front desk staff. A follow up survey is planned for 3 months after the interventions have been introduced.

What did you learn?
The initial survey was given to patient care staff to be filled out at the time of an office visit during a 2 day period. Surveys were completed for a total of 67 patient visits. Fifteen percent of patients brought their medications to their appointments and an additional nine percent had a list of their medications to refer to. Out of the patients who had a list or brought in their meds, 74% had a discrepancy that included a medication missing from the list, wrong frequency of medication, wrong dose of medication, not taking a medication on the list, or other discrepancy.

What is next?
The patients who brought in their medications or a list were able to correct the discrepancies and accurately complete the medication reconciliation by making changes during their visit. The question remains if we can improve the accuracy of our medication reconciliation by increasing the number of patients who bring their medications to each outpatient visit. A follow up survey will help determine if there have been concrete improvements in the medication reconciliation process. The data will help to better understand the changes needed to improve this important aspect of patient care

IRB Approval NA **HIPAA Compliance** Yes

Funding none

2018 Innovation & Research Forum – Projects

Personal Rejection Rate: A Novel Metric for Self-Assessment in Scholarship

Andrew Slattengren, DO, University of Minnesota Medical School. Department of Family Medicine and Community Health **Project Collaborators** Michael Pitt, MD Deborah Finstad

Podium Project Complete by March 3 Yes

What did you do and why was it important? Innovations in healthcare delivery often grow from the work of Family Medicine clinician researchers. Early in their careers, these clinicians frequently lack tools needed to successfully disseminate their innovative projects and look to senior researchers in their departments for guidance and mentorship. These senior researchers are often defined as successful based on common publication metrics. Common publication metrics such as the Hirsch-index rely on enough time to pass to accumulate citations and do little to provide self-assessment early in one's academic career. Additionally, as they can only go up over time, the lack of fluctuation provides little real-time feedback for academicians. Academic departments may have information on individual success (manuscript publications), but have few tools to assess individual faculty members' efforts short of successful publications and the challenges along the way (e.g. rejections). This limits the ability to provide useful mentoring to faculty who are early in their research careers. One way to inform academics of all of these would be to measure their individual metrics related to manuscript submissions and compare those to others within their departments and others in their academic center. This study was done to determine the feasibility of obtaining a series of novel metrics in academics aimed at looking at eventual acceptance rate of manuscripts and acceptance rate per submission.

How did you do it?
For this study, we surveyed all academic clinical faculty in the department of Family Medicine at the University of Minnesota who had between 0 and 20 manuscripts listed in Scopus in the 2 years prior to the survey. We provided each faculty with a list of these manuscript titles and asked for the number of unique journals submissions (JS) each manuscript (M) required prior to acceptance (A). We also allowed authors to list peer-reviewed manuscripts not indexed in Scopus and provide the same metrics, as well manuscripts which have been submitted but not yet been accepted by a journal. We determined the following metrics for each faculty and calculated means and standard deviations: â€¢ Eventual Rate of Acceptance (ERA): M/A - percent of manuscripts submitted that eventually got accepted by a journal [1 means all manuscripts submitted were eventually published] Acceptance Rate Per Submission (ARPS): A/JS - percent of the time a manuscript is accepted for any given submission to a journal [1 means all manuscripts were accepted on the first attempt]

What did you learn?
Results: Thirty-four (58%) faculty completed the questionnaire, with 3 excluded for having no scholarship submitted. Most (25; 71%) were assistant professors. The mean (SD) ERA was 0.82 (0.28) and the ARPS was 0.68 (0.33). The mean ERA was higher for associate/full professors at 0.97 (0.07) compared to assistant professors at 0.77 (0.32), while ARPS was similar between the two groups [0.64 (0.35) vs. 0.78 (0.28)]. Conclusion: Family Medicine clinicians in our sample eventually published 82% of the papers submitted in the last two years, with a 67% success rate per submission. Despite similar rejection rates per journal submission among faculty, senior faculty were more likely to eventually find a home for their paper, indicating an improved ability for more senior faculty to overcome initial rejection and successfully disseminate their findings when compared to junior faculty. It was feasible for faculty to report their experiences with rejection using these novel metrics. These may prove valuable as self-assessment metrics instead of traditional publication metrics that require citations to accumulate in order to be meaningful.

What is next?
We are currently surveying all academic clinical faculty in the department of Pediatrics at the University of Minnesota to obtain their manuscript metrics. We will analyze that data and compart to our Family Medicine data. We will then pool the data and determine if there are any significant differences between faculty depending upon their academic rank. This information will be shared with faculty members, department research personnel and leadership with the hopes that these metrics are incorporated into faculty performance reviews and mentoring sessions in the coming years. The ultimate goal is to de-stigmatize rejection so that junior faculty understand that initial rejection is faced by all researchers and that initial rejection should not dissuade them from pursuing other avenues to disseminate their findings.

IRB Approval Yes **HIPAA Compliance** NA **Funding** none

2018 Innovation & Research Forum – Projects

Prevention of Dental Decay in a Homeless Population: Using Silver Diamine Fluoride in an established resident run outreach program

Project Submission Lisa Prusak, MD Associate Program Director, Duluth Family Medicine Residency Program

Presenter Charlie Hackett, MD, PGY3, Chief Resident Duluth Family Medicine Residency (PRESENTER)

Poster

Project Complete by March 3 No

What did you do and why was it important? Benefits of applying fluoride tooth varnish to the 0 to 18-year-old population has been well established in the primary care literature. There is very little reported, however, about prevention and treatment of the adult population outside of the dentist's office. The practice of applying topical cariostatic treatment (i.e. silver diamine fluoride) to dental decay dates back to the 1800's. It is only recently that this practice has been rekindled in US, although it is common practice around the world. It is well known that dental care is very difficult to obtain in our locally underserved, and underinsured, population. This intervention can be performed in any setting, and the skill set needed is easily obtained. We know that oral health has great impact on overall well-being and chronic disease. Many patients do not have access to preventative dental care. Family physicians attempt to care for the whole patient. This simple intervention helps to broaden our impact on our patient's complete health.

How did you do it?
Funding was obtained through an MAFP Innovation Grant. Oral exams will be offered and encouraged as part of an existing relationship with a local adult homeless shelter in which family medicine residents already provide initial access to care in the form of brief evaluation, primary care referral, and distribution of necessities such as socks and hygiene products. In this setting, dental caries will be identified and treated with silver diamine fluoride every 6 months.

What did you learn?
Through our relationship with the local homeless shelter, our program had great success in forming trusting relationships with an often marginalized population. As an urgent care provider, it was frustrating trying to deal with dental pain and problems within the MD skill set. It was even more frustrating to try to organize dental care for this underserved population. We found that this basic dental intervention could be provided with very little training and for just pennies per patient.

What is next?
Residents and staff will receive training in identification of dental decay amenable to silver diamine fluoride treatment by a local dentist, webinars by the manufacturer, and education provided by the local product representative. The target population will be the clients at the CHUM homeless shelter and drop in center in Duluth, MN (Acceptance of this service is anticipated as there is a trusting relationship previously solidified through an established residency presence at the shelter). Oral exam will be offered and encouraged in addition to the physical exam pertinent to the patient's complaint. Treatment will be offered and 6 month re-application and exam encouraged. Through the established EMR which is presently utilized, the following data will be searchable: Acceptance rate, unique request for service rate, ER/urgent care (non-primary care) visits for dental complaints, reapplication rate. Comparison will be made after a year of this intervention to the cost of dental intervention paid for through other funding for this population.
Comparison will be made after a year of this intervention to the visit rate at local ER's and urgent care centers for dental complaints.

IRB Approval NA **HIPAA Compliance** YES **Funding** MAFP Innovation Grant

2018 Innovation & Research Forum – Projects

Primary Care Clinicians' Perspectives of Quality Metrics in Safety Net and Non-Safety Net Systems

Kathie Culhane-Pera, Co-Director of Community-based Research and Medical Director of Quality, West Side Community Health Services

Project Collaborators Lynne Ogawa MD, Luis Marty Ortega BS MSIII, David Satin MD, Shannon Pergament MSW MPH, Mai See Thao PhD candidate.

Podium

Project Complete by March 3 Yes

What did you do and why was it important? Objective: Identify primary care clinicians' perspectives about factors that influence their scores on quality measures when they work in safety net clinics compared to when they work in non-safety net clinics. Background: MN Department of Human Services is creating a new framework of quality measurements to link quality metrics with payment. Current primary care quality measures have been shaped by desires to reduce health care costs and have not been informed by clinicians' perspectives. Connecting payment with quality measures could place clinics that serve communities with high SSDOH burdens at risk for receiving less money. Eliciting clinicians' perspectives of quality metrics could be useful to the process.

How did you do it?
Methods: We conducted 4 key informant interviews and 3 focus groups with 10 primary care clinicians. All 14 participants had worked at both safety net and non-safety net primary care clinics. We analyzed qualitative information with participation from one interviewee to identify the major themes.

What did you learn?
Results: Primary care clinicians identified four major themes. #1: Current quality scores are influenced more by patients and clinic systems than by clinicians #2: Collecting data about quality measures is not the same as measuring quality healthcare #3: Current quality measures are not how patients define quality healthcare #4: Future quality measures need to consider patients' health goals and systems must not be punitive These clinicians perceive the current quality measures as being embedded in American social inequities: supported by unequal biomedical data that was created by unequal research and selected by inequitable social processes led by healthcare insurers and payers whose desire was to decrease costs, it is an un-equitable health care tool that reflects the privilege of a healthcare system that takes care of insured, educated, middle and high social-economic class white Americans whose lower SSDoH burden and congruence with biomedical systems contribute to their higher quality scores. Overall, the current quality measurement system quantifies the biomedical view and the hierarchical American society into an "equality score" that shows lower class people at the bottom and higher-class people at the top, in congruence with social inequities.

What is next?
Application: Aligning payment with these measures ensures continued inequities, as the high-performing well-financed non-safety net clinics will continue to excel and receive more funds while low-performing poorly-financed safety-net clinics will continue to do poorly and receive less funds, thus guaranteeing the continuation of an unequal health care system. Minnesota state policymakers should consider this perspective when creating a new quality-payment framework.

IRB Approval Yes **HIPAA Compliance** NA

Funding none

2018 Innovation & Research Forum – Projects

Primary Care Provider Type Influence on HPV Vaccination Uptake in Central Minnesota

Anna Krieger, MS3, University of Minnesota

Project Collaborators Dennis Peterson, MD

Mentors Dennis Peterson, MD

Poster

Project Complete by March 3 No

What did you do and why was it important? There are various factors that influence human papillomavirus (HPV) vaccination uptake, but one that remains critical is provider recommendation. Despite this fact, many clinicians often do not adhere to guidelines and fail to recommend the vaccine. A 2014 statewide study of Minnesota health care providers showed that that HPV vaccination recommendation strength varied between pediatricians, family medicine physicians, and nurse practitioners. Specifically, it reported that a greater percentage of Minnesota pediatricians were likely to recommend the vaccine when compared to family medicine physicians and nurse practitioners. With this particular study in mind, we posed the question: do HPV vaccination rates in central Minnesota vary between patients who received health care from differing primary care providers (i.e. pediatricians, family practice physicians, nurse practitioners)? To answer this, we are partnering with local Stearns county universities to query students (aged 18 - 26 years old) about their HPV vaccination status and primary care provider type. With this information, we hope to gain more understanding of HPV vaccination rates in Minnesota and assess potential factors that affect them.

How did you do it?
We are partnering with St. Cloud State and College of St. Benedict/St. John's University to query students (aged 18 â€“ 26 years old) about their HPV vaccination status and primary care provider type. We will then analyze this data to see if there are significant differences in vaccination rates among students who received primary care from a pediatrician, family medicine physician, or nurse practitioner.

What did you learn?
We are hoping to learn if the variation in Minnesota primary care provider recommendation for the HPV vaccine (as described in aforementioned 2014 study) equated to differences in vaccination rates among pediatricians, family medicine physicians, and nurse practitioners. Depending on what we learn, our findings may further support the importance of provider recommendation of the HPV vaccine.

What is next?
This study will hopefully add to the growing knowledge of HPV vaccine uptake in Minnesota and reasons for vaccine hesitancy. We plan to share this information with local primary care providers and emphasize the importance of provider recommendation. Depending on what we find, further investigation may be done in the future.

IRB Approval Yes **HIPAA Compliance** Yes

Funding none

2018 Innovation & Research Forum – Projects

Progress on a Community-Based Participatory Action Study of Pharmacogenes in the Minnesota Hmong Community

Kathie Culhane-Pera, Co-Director of Community-based Research and Medical Director of Quality, West Side Community Health Services

Project Collaborators Robert J Straka Pharm D, Jeffrey Bishop PharmD MS BCPP, Kate Holzer MS CGC, Koobmeej Lee BA, Muaj Lo MD, Kerui Peng PharmD Student, Bharat Thyagarajan MD PhD MPH, Kabao Vang BS MSIII, Jay (Ya-Feng) Wen PharmD, Txia Xiong PharmD Student, Heather Zierhut Ph

Poster

Project Complete by March 3 No

What did you do and why was it important? Objective: Document progress on the study. Overall goals of study are: 1) Determine allele frequencies of genetic variations of Very Important Pharmacogenes (VIPs) in the Hmong community; 2) Identify key medicines that may require specific clinical guidance in Hmong people; and 3) Describe people's perceptions about these results. Background: Recent technological advancements have made it possible for clinicians to tailor the way they prescribe medications to individual patients. Knowledge of an individual's genotype for VIPs that are known to be associated with drug response can improve drug and dose selection. Personalized Medicine (PM) has the potential to decrease health disparities in underserved populations by minimizing the trial and error process of medication therapy. PM may decrease adverse effects, improve outcomes and thereby potentially contribute to poor medication compliance. However, this requires that clinicians have knowledge about allele frequencies in all of people, including rarely studied minority populations, such as the Hmong community.

How did you do it?
Methods: To conduct a pharmacogenetics investigation within the Hmong community, the academic-university research team and its community advisory board followed a community-based participatory action research (CBPAR) approach. A CBPAR approach may be most effective as it engages the community and partners community members with academicians to ensure that the study is culturally and linguistically appropriate, addresses community concerns, may strengthen the credibility of the academic researchers, and may foster trust to be formed within the community. The Hmong Genomics Board contributed to the research design, created the linguistically-appropriate consent materials, and recruited Hmong adults at 3 college campuses, a Hmong conference, a community clinic, and a Hmong senior center. Focus groups will be held to explore 30 participants' reactions to group and individual results prior to reporting results to all participants, the community, and healthcare professionals.

What did you learn?
Results: 199 Hmong adults were enrolled. Information of demographic and anthropometric information along with medical history, family history, and medication use were summarized. . Genotyping data analysis is ongoing. Focus groups are pending.

What is next?
Application: These pharmacogene results for the Hmong community will provide knowledge that can support healthcare professionals in their medication decisions for their Hmong patients. How the Hmong community will respond to the results is not yet known, but increased medication effectiveness may result in increase adherence.

IRB Approval Yes **HIPAA Compliance** Yes

Funding University of Minnesota's Grand Challenges Exploratory Research

2018 Innovation & Research Forum – Projects

Promoting Student Interest in Family Medicine Through National Conference Attendance

Ben Meyerick, PGY1, Mayo Clinic - Rochester

Project Collaborators Valerie Hearns, M.D. Susan Anderson, M.D. Wafa Akkad, M.D. William E. Schweinle, Ph.D.

Podium

Project Complete by March 3 Yes

What did you do and why was it important? The University of South Dakota Sanford School of Medicine has had great success in preparing students to enter family medicine. However, a sharp decline in students choosing the specialty became noticeable in 2004. To reverse this trend, the Department of Family Medicine partnered with the South Dakota Academy of Family Physicians (SDAFP) chapter starting in 2004 to send students to the AAFP National Conference of Family Medicine Residents and Medical Students. We analyzed 10 years of data from this change to examine the influence of national conference attendance on career choice. While many factors influence student choice, conference attendance served as an additive method for recruitment of medical students entering family medicine.

How did you do it?
Internal departmental records on national conference attendance and subsequent National Resident Matching Program (NRMP) data were reviewed retrospectively to determine if a correlation existed between conference attendance and choice of family medicine as a specialty.

What did you learn?
The association between conference attendance and number of times attending was significant ($p<.05$) in regards to students entering family medicine. The recent data show that this intervention has resurrected student interest in family medicine, with USDSSOM now exceeding the NRMP average for family medicine.

What is next?
A positive correlation exists between national conference attendance and medical student choice to enter family medicine residency programs. This intervention may be used by more medical schools wishing to promote family medicine in order to help meet our nation's primary care workforce needs. We hope to continue our work with the AAFP, other state associations, and medical schools across the country to encourage recruitment initiatives such as ours to propel growth and interest in family medicine at the medical student level.

IRB Approval NA **HIPAA Compliance** NA

Funding none

2018 Innovation & Research Forum – Projects

Religious Practice and Resident Wellbeing

Lisa Zak-Hunter, PhD, LMFT, University of Minnesota/St. John's Family Medicine Residency

Project Collaborators Tara Neil, MD Emily Manlove, MD

Poster

Project Complete by March 3 Yes

What did you do and why was it important? We examined religous practice and its relationship to family medicine resident wellbeing in a large midwestern family medicine residency. The medical community acknowledges that burnout is problematic among physicians. Many residency programs address these concerns through formalized wellness curriculum. One aspect of burnout that has not been well examined, however, is how religious or spiritual practice is related to burnout. If we have a better idea of how this aspect of residents' lives impacts their wellbeing, we can create appropriate interventions.

How did you do it?
We sent a survey to residents and faculty during late winter/early spring (a time of the year residents are generally most burned out). The survey contained the Professional Quality of Life scale and 3 questions related to resident spiritual/religious practice. The Professional Quality of Life scale examines compassion satisfaction (similar to job satisfaction), burnout, and secondary stress (similar to secondary trauma). The survey was sent once each year for 2 years. We had a 68% response rate.

What did you learn?
We learned that, surprisingly, all residents had average levels of burnout and compassion satisfaction, and low levels of secondary stress. Faculty had significantly more compassion satisfaction than PGY3s, but otherwise, there were no differences in scores. When examining the relationship among the religious variables and wellbeing, we found that faith practice questions were related to burnout and secondary stress levels. Specifically, participants who more strongly endorsed that faith/spirituality influenced their approaches to patient care had higher levels of secondary stress. More frequent faith-based or spiritual practice was related to higher secondary stress. Lastly, the more participants believed their faith/spirituality helped protect against compassion fatigue, the higher their burnout.

What is next?
Although there were no concerns for compassion fatigue or secondary stress, it is interesting that secondary stress and burnout were higher with some of the faith/spirituality questions. Our plan is to present these results to the residents during a noon conference, get their impressions of the results, and discuss curricular changes we could make to address faith/spirituality and compassion fatigue.

IRB Approval Yes **HIPAA Compliance** NA

Funding none

2018 Innovation & Research Forum – Projects

Resident Resilience Curriculum, Broadway Family Medicine

Laura Miller, University of Minnesota DFMCH Assistant Professor

Project Collaborators Tanner Nissly, DO Jason Ricco, MD, MPH Michelle Sherman, PhD Jen Lee, MD Anne Doering, MD

Poster

Project Complete by March 3 No

What did you do and why was it important? We created monthly resilience topics for the intern class (11 total). We scheduled 2-hour meeting time during business hours and protected the time so that all interns were able to attend. We employed evaluations with Likert-scaled surveys and end of year focus group to collect qualitative and quantitative data. We know resident resilience tools are important to help prevent burnout during residency training and beyond. We wanted to implement this into our formal residency training in a sustainable capacity.

How did you do it?
See above: - 2 hours of protected monthly time for interns - 1 faculty member facilitated each session - created topics w/ presentations for each session - also allowed for scheduled "hang out" time for residents after each session (sessions held at the end of a workday) - evaluation tools created for the end of each year

What did you learn?
Residents ask for this type of training and self-reflection time and feel that it is a positive part of our program. In general, they feel better prepared to combat burnout during residency and beyond.

What is next?
Continue with the curriculum and with the evaluation tools we are using. May choose to present the data collected at future conferences.

IRB Approval NA **HIPAA Compliance** NA

Funding none

2018 Innovation & Research Forum – Projects

RCT of Clinical Decision Support on Recognition and Management of Hypertension in Adolescents

Patricia Fonatine, MD, MS, Retired from HealthPartners Research Institute and the U of MN Department of Family Medicine

Project Collaborators Elyse O. Kharbanda, MD, MPH, Steve E. Asche, MA, Alan R. Sinaiko, MD, Heidi L. Ekstrom, MA, James D. Nordin, MD, MPH, Nancy E. Sherwood, PhD, Steven P. Dehmer, PhD, Deepika Appana, BS, Patrick O'Connor, MD, MPH

Podium

Project Complete by March 3 Yes

What did you do and why was it important? Although blood pressure (BP) is routinely measured in outpatient visits, hypertension is often not recognized in pediatric populations. This study evaluated whether an electronic health record linked clinical decision support tool (CDS) could improve recognition and management of hypertension in adolescents.

How did you do it?
We randomized 20 primary care clinics within an integrated care system to CDS or usual care (UC). At intervention sites, the CDS displayed BP values and percentiles, identified incident hypertension based on current on prior BPs, and offered patient-tailored order sets. Hypertension recognition by providers was identified by automated review of diagnoses and problem lists, along with manual review of clinical notes, antihypertensive medication prescriptions, and diagnostic testing. Generalized linear mixed models were used to test the effect of the intervention.

What did you learn?
Among 31,579 patients 10-17 years old with a clinic visit over a 2-year period, 522 (1.7%) had incident hypertension. Within 6 months of meeting criteria providers recognized hypertension in 54.9% of patients in CDS clinics and 21.3% of patients in UC (p=<.001). Clinical recognition was most often through visit diagnoses or documentation in the clinical note. Within 6 months of developing incident hypertension, 17.1% of CDS subjects were referred to a dietician, weight loss or exercise program and 9.4% had additional hypertension work-up versus 3.9% and 4.2%, respectively (p=.001 and 046). Only 1% of patients were prescribed an antihypertensive medication within 6 months of developing hypertension. We concluded that the CDS had a significant beneficial effect on recognition of hypertension, with a moderate increase in guideline adherent management.

What is next?
The CDS is being modified to reflect current recommendations for screening and is being disseminated throughout the HealthPartners system.

IRB Approval Yes **HIPAA Compliance** Yes

Funding All phases of this study were supported the National Institute of Health (R01 HL115082 [to EOK]). The sponsor was not involved in the study design, data collection, analysis or interpretation of data, writing of the manuscript or the decision to submit for publication.

2018 Innovation & Research Forum – Projects

Rural Perspectives On Community Paramedicine

Natasha Gallett, MS2, Logan Smestad, MS 2, Leif Olson, MS 2, University of Minnesota Medical School, Duluth Campus

Project Collaborators Michael Bowen, BEH (Hons), NRP

Minnesota Academy of Family Physicians Foundation Grant

Mentors Emily Onello, MD

Poster

Project Complete by March 3 Yes

What did you do and why was it important? Community Paramedicine is an emerging way to utilize EMS professionals for population health benefit. As rural communities consider implementing local community paramedicine, it is beneficial to understand the baseline perspectives of their citizens and health professionals. Integration of a rural paramedicine program can benefit from the proactive identification of the programâ€™s potential value, scope, and limitations. This study surveyed Northern Minnesota rural citizens and health professionals (including EMTs, paramedics, and physicians) prior to community paramedicine implementation. Perspectives about community paramedicine in rural areas have not been well documented in the literature. This study serves as a basis for further research, consideration, and has potential to become a tool for community assessment.

How did you do it?
UMN IRB exempt status was determined for human subject research. Using a MAFP Medical Student Innovation Grant, a survey was developed in collaboration with a rural county public health department, EMS provider, and physicians. Surveys were distributed with a separate community survey campaign to Lake County community members. Surveys were also distributed to Lake County EMS and primary care professionals. Paper and electronic surveys responses were collected. Results are currently being analyzed and will be presented in poster format.

What did you learn?
Rural Minnesota has a significant geriatric population, chronic disease burden, and transportation barriers. Community paramedicine model can provide valuable care in rural communities. It has the potential to increase patient satisfaction and improve community health. Preliminary results suggest survey respondents are generally accepting of community paramedicine but have limited understanding of specific roles and responsibilities. Further education and concern assessment is likely needed for complete integration into the rural community.

What is next?
Potential for a post-community paramedicine survey in the same community upon complete program implementation.

IRB Approval Yes **HIPAA Compliance** NA

Funding MAFP Medical Student Innovation Grant

2018 Innovation & Research Forum – Projects

Sexual Health Knowledge Lacking in Undergraduate Medical Education

Christina Warner, MS3, University of Minnesota Twin Cities

Project Collaborators Samantha Carlson, BS, MPH Michael W. Ross, MD, PhD, MPH

Minnesota Academy of Family Physicians Foundation Grant

Mentors Michael W. Ross, MD, PhD, MPH

Podium

Project Complete by March 3 Yes

What did you do and why was it important? Only half of U.S. medical schools require formal instruction in sexuality and sexual health knowledge is severely underrepresented on formal licensing exams. Furthermore no comprehensive survey exists evaluating sexual health literacy amongst US medical students. This study sought to quantify the sexual health knowledge of medical students using a 32 question survey distributed electronically to representatives from all MD and DO granting medical schools in the US. Knowledge was evaluated across five domains: Sexual Function & Dysfunction, Fertility & Reproduction, Sexuality Across the Lifespan, Sexual Minority (LGBTQIA) Health, Society, Culture & Behavior, as well as Safety & Prevention.

How did you do it?
Electric survey distributed via email and social media contacts

What did you learn?
Survey respondents (n=994) scored an average of 65.65% correct (19.7/30). Overall, students scored lowest on questions regarding safety and prevention (x=49.05%) and highest on questions regarding sexual function and dysfunction (x=72.96%). Higher knowledge scores were associated with medical school year (p=0.0001), race (p=0.0005), sexual orientation (p=0.0001), religion (p=0.0055), future medical specialty choice (p=0.0276), type of medical school program (MD vs. DO) (p=0.001), and medical school sexual health education courses (p=0.0137). Significant advances must be made in medical school sexual health curricula to combat increasing rates of sexually transmitted disease, health disparities, and sexual dysfunction in America.

What is next?
Publication!

IRB Approval Yes **HIPAA Compliance** NA

Funding University of Minnesota Foundation

2018 Innovation & Research Forum – Projects

Smoking, Sex Hormones, and Pregnancy

Rachel Weigel, MS2, University of Minnesota Twin Cities

Project Collaborators Sharon Allen, M.D., Ph.D. Katherine Harrison, MPH

Poster

Project Complete by March 3 No

What did you do and why was it important? A survey of antidepressant and mood stabilizer use in pre-partum and postpartum women who smoke in Minnesota was conducted to better understand the pre/postpartum population of smokers in the area. Furthermore, the study aimed to assess their willingness to use a mood stabilizer to aid in smoking cessation during pregnancy and postpartum. The purpose is to learn more about the behaviors, barriers, and treatments for smoking and smoking cessation in women during pregnancy and the postpartum period.

How did you do it?
An online survey was distributed and 65 women who smoked during their most recent pregnancy and delivered in the past 6 months as well as 83 pregnant women who currently smoke completed the survey. Survey participants received a $10 Target gift card for completion. Results were analyzed.

What did you learn?
On average, pre-partum women reported smoking 6 cigarettes daily during their pregnancy and 12 cigarettes daily just prior to their pregnancy. Postpartum women reported currently smoking an average of 9 cigarettes daily and 6 cigarettes per day during the third trimester of their most recent pregnancy. Of the pre-partum women surveyed, 19% of women reported using prescription antidepressant or anti-anxiety medications. Of the postpartum women surveyed, 12% of women reported using prescription anti-depressant or anti-anxiety medications during their most recent pregnancy. A plurality of the pre-partum women (32.4%, 23/71) responded that they were least likely to take a medication to improve their mood and aid in smoking cessation during pregnancy but most likely (scale number 10) to take the medication within the first month after delivery (37.5%, 27/72). Responses from the postpartum women showed 37.5% (21/56) reporting they were least likely to take the medication during pregnancy and most likely to take the medication within the first month after delivery (35.7%, 20/55).

What is next?
This preliminary data will be submitted for grant approval of a larger project to develop more targeted strategies that help women quit smoking during pregnancy and remain smoke-free after pregnancy.

IRB Approval Yes **HIPAA Compliance** Yes

Funding none

2018 Innovation & Research Forum – Projects

Survey of Duluth Nursing Home Activities Directors

Rachael Grundman, MS2, University of Minnesota Medical School, Duluth Campus

Project Collaborators Amy Greminger, MD

Mentors Amy Greminger, MD

Poster

Project Complete by March 3 Yes

What did you do and why was it important? A phone survey was conducted on activities directors of Duluth nursing homes to understand how they plan activities for residents and compare planning strategies and delivery across different nursing homes in a single community, as well as assess whether directors feel they meet the needs of their clients. The significance of this project centers on the critical responsibility of activities directors to provide opportunities for meaningful activity to nursing home residents. Successfully providing meaningful activity is a key component to improving quality of life in this vulnerable patient population. Quality of life is a critical outcome in geriatric medicine, and physicians need look to multidisciplinary collaboration to manage these patients' care.

How did you do it?
I called all Duluth nursing homes, spoke with their activities directors and invited them to participate in a voluntary phone survey for research purposes. The survey consisted of 22 questions, mostly closed questions, that were designed to understand the similarities and differences of how local nursing homes approach the problem of delivering meaningful activities to their residents.

What did you learn?
There is no uniform process across nursing homes to plan and deliver activity opportunities to residents, and directors did not define a systematic approach to how they perform their duties.

What is next?
We are currently working on a systematic review of the literature to better define the characteristics of meaningful activity. It would additionally be interesting to follow up our activities directors survey with a survey of nursing home residents to assess whether they feel their needs are being met.

IRB Approval NA **HIPAA Compliance** NA

Funding University of Minnesota Medical School Duluth Campus Summer Research Award

2018 Innovation & Research Forum – Projects

Team Management of Diabetes in a Primary Care Resident Practice

Nate Miller, MD, Residency Faculty, Mayo Clinic – Rochester **Project Collaborators** Kari Mongeon Wahlen, BS, RN, MSN Lisa Ruehmann, RN, BSN Kayla Erdmann, RN Ben Meyerink, MD PGY-1

Poster

Project Complete by March 3 No

What did you do and why was it important? In today's complex healthcare environment, caring for and managing patients with chronic disease in the primary care setting has become increasingly challenging. As provider expectations increase and reimbursement models shift from traditional fee-for-service to value-based, implementing care models that promote a team based approach is critical. In an effort to improve our clinicâ's patient population management of diabetes, our practice decided to develop a diabetes clinical pathway based on the D5 treatment goals for managing diabetes in order to maximize the role of the Registered Nurse in a defined physician/RN partnership. Developed pathways empower RN team members to identify diabetics not meeting D5 measures that would likely benefit from an RN intervention, initiate contact with patients to assess social determinants of health, offer support in lifestyle modification, and assist providers and patients in making medication changes as appropriate. In addition to improving overall engagement of diabetic patients, identified clinical pathways were designed to alleviate provider time-constraints and maximize the role and scope of the RN in an ambulatory primary care practice.

How did you do it?

In preparation for this project, 0.7 dedicated RN FTE was allocated to the practice. A physician lead and clinical nurse specialist/clinical resource nurse were assigned and a Quality Practice Workgroup including the practice nurse manager was formed to develop and implement the clinical pathways described above. Chart reviews of practice patients with diabetes were performed to better identify who these patients were and to determine if there were any identifiable patterns between patients that could be incorporated into the clinical pathway. The review included documentation of diabetes diagnosis, microvascular and macrovascular complications, history of anxiety and/or depression, body weight/BMI, and other potential identified social or behavioral concerns. In addition, a review of the last diabetes encounter with a physician was performed and information regarding recommended plan of care, referrals, etc. were documented. A review of institutional and national diabetes treatment guidelines was performed and initial clinical pathways were developed. Inclusion and exclusion criteria for patient participation in the project were identified and initial pathways shared with medical staff. Clinical pathways were approved through physician and nursing leadership and are currently in the process of being implemented in one specific care team within the practice. Pathways include measuring patient progress toward meeting D5 measures in addition to comparing scores on the PCAM (Patient Centered Assessment Method) social determinants of health screening, body weight/BMI, and scores on depression and anxiety screenings for patients with verified depression or anxiety diagnosis. Metrics will be assessed at initiation, 6 months and 12 months after initial nurse contact. Metrics described above will be collected for an alternate care team within the practice at the same intervals to serve as a control group representing standard care to assist in measuring success of project.

What did you learn?

Thus far, we have noted a lack of standardization regarding standards for managing patient with diabetes, provider variation in current recommendations for diabetes care and in aggressiveness of implementing medication changes, hesitancy of resident practice to fully incorporate RN for fear of limiting learning opportunities (using nurse medication ordersets/protocols, etc.), the complexity of managing diabetic patients with multiple concerns, and lack of awareness from physicians on how to best utilize team resources.

What is next?

As of January, 2018 initial clinical pathways have been implemented. As described previously, patient metrics and progress toward meeting D5 measures will be assessed at initiation, 6 months and 12 months post initial intervention to determine effectiveness of initial pathways. Based on results, pathways will be updated/changed as appropriate. If interventions prove successful, pathways will be developed for other chronic diseases and spread to other primary care sites across the institution and enterprise.

IRB Approval NA **HIPAA Compliance** Yes **Funding** none

2018 Innovation & Research Forum – Projects

Thematic Representations of Food Attitudes in an Urban Community

Salman Ikramuddin, MS3 UMN Alan Manivannan, MS3 UMN

Project Collaborators Alan Manivannan MS3, Shailey Prasad MD (mentor)

Minnesota Academy of Family Physicians Foundation Grant

Poster

Project Complete by March 3 No

What did you do and why was it important? 2.2% of U.S. households live greater than one mile from a supermarket and rely on public transportation leading to difficulty obtaining healthy food. These challenges lead to higher rates of diabetes, cardiovascular disease, obesity, and its sequelae. Researchers interested in food access in communities have used this as a definition of a food desert. As such, some studies have categorized the North Minneapolis community as a food desert. Curiously, a comprehensive review of the resources in North Minneapolis suggests that distance from vendors providing healthy food alternatives in not a meaningful obstacle to making healthy food choices as defined above, yet this patient population still experiences high rates of obesity, diabetes, and heart disease. While prior research has focused upon distance as the primary determining factor, clearly other factors are at play when patients make choices about what food they acquire and eat. This study will help us understand these factors better. We plan to use our findings to improve education of providers regarding conversations surrounding food and nutrition, and to ultimately better serve our patients in these interactions. This study is being conducted in order to better understand perspectives held by adult members of the North Minneapolis community on food access and food choice. In keeping with this, our study will consist of individual interviews with community members organized to gather qualitative thematic data about attitudes toward food and food access held by adult community members of an economically poor, inner-city area of North Minneapolis.

How did you do it?
Our goal is to conduct 1-on-1 interviews with members of the community to gather qualitative data. A trained moderator will conduct these 1 on 1 interviews in popular community locations (places of worship, YMCA, University of Minnesota Urban Research and Outreach-Engagement Center (UROC), community grocery stores, food shelves, public libraries, and other community venues). Recruitment tables will be set up at various community locations at scheduled times. We intend to recruit for then perform 1-on-1 interviews at these locations during these sessions. The moderator will ask semi-structured and open-ended questions to explore the community members' attitudes towards food choice and the factors that influence their food choice. The conversations will be audio recorded and transcribed. Transcripts will then be coded and organized into common themes using a grounded theory approach. The common themes identified will be summarized with tables and representative quotes.

What did you learn?
Our project is not yet complete, as we are in the initial phases of data gathering. Through extensive literature review - we have garnered a study hypothesis as expressed below: The food desert is a previous rural term now being applied to urban communities. As such, prior assumptions about the specific barriers to food access may be incorrect given the new application of the concept. As such, we believe that physical proximity to food is unlikely to be a sole barrier to food access - but rather that factors such as climate, public transportation routes, child care access, poverty, and a paucity of knowledge surrounding cooking techniques provide significant challenges to community members.

What is next?
Completing the project is the upmost priority. Our goal for the next several weeks is to initiate data collection given that our funding, IRB approval, and other logistical considerations are now in place. We will be reaching out to various locations within the community to organize our tabling sessions to conduct the 1-on-1 interviews discussed previously. We hope to have preliminary data to present with our poster on March 3rd. If successful, we hope to expand the size of the study and seek additional funding opportunities in order to do so. Expansion of the study will help to pursue finer and more nuanced research questions after analysis of our data.

IRB Approval Yes **HIPAA Compliance** Yes **Funding** MAFP Innovation Grant

2018 Innovation & Research Forum – Projects

Treating Acute Ankle Sprains with the Fascial Distortion Model

Zac Maass DO, PGY-2, University of Minnesota Family Medicine Resident, Mankato

Project Collaborators Jared Colvert, DO, Angela Buffington MA, PhD; Erin Westfall D.O.

Podium

Project Complete by March 3 Yes

What did you do and why was it important? We assessed the utility of an Osteopathic manual treatment technique called the Fascial Distortion Model (FDM) in combination with the standard of care (rest, ice, elevation, support, and NSAIDs) for treatment of acute ankle sprain. Patients who received standard treatment plus FDM showed notable improvement with pain both immediately and at follow up.

How did you do it?
In this quality improvement project, patients presenting with acute ankle sprain were offered one of two treatment types. The first was standard care including rest, ice, elevation, support, and NSAIDs. The second was standard care plus treatment with FDM. Pain and range of motion were measured pre and post treatment. Follow up was completed via office visit or phone. Outcomes from the standard care group (N=3) were then compared to the FDM group (N=5).

What did you learn?
Owing to the small sample size, none of the results reached statistical significance. However, trends were encouraging. Immediately following treatment the FDM group had a decrease in reported pain of 1.6 points (SD 3.4), decrease in dorsiflexion of 9.2 degrees (SD 5.6), and increase in plantar flexion of 5 degrees (SD 7.1). One patient had immediate and complete resolution of symptoms with FDM treatment. On follow up the FDM group reported a large decrease in pain compared to the standard treatment (means -5.5 vs. 0.0). Results of this quality improvement project are promising. Although additional data is needed, there appears to be benefit from adding FDM to the treatment protocol for acute ankle sprain.

What is next?
A larger study, with multiple physicians experienced with FDM, a sham treatment arm, and a blinded examiner to take pre and post visit measurements may be necessary to demonstrate the efficacy of FDM for treating acute ankle sprain.

IRB Approval NA **HIPAA Compliance** Yes

Funding none

2018 Innovation & Research Forum – Projects

Treating Pediatric Patients for Conjunctivitis Without an Examination

Kristine Penza, Family Nurse Practitioner, Jennifer Pecina, MD, Family Physician, and Martha Murray, Family Nurse Practitioner; Mayo Clinic Department of Family Medicine

Project Collaborators Martha Murray, APRN CNP; Jane Myers, APRN CNP; Joseph Furst, MD; Jennifer Pecina, MD

Poster

Project Complete by March 3 Yes

What did you do and why was it important? As treating patients for minor acute illnesses without an examination is becoming increasingly common with the expansion of electronic visits (eVisits) and registered nurse phone protocols, we felt it prudent to analyze the safety and efficacy of this practice. There is limited evidence to date regarding the safety or outcomes for treatment of conjunctivitis by non-face-to-face visit.

How did you do it?
We conducted a retrospective chart review of Mayo Clinic Rochester Primary Care empanelled patients, ages 18 months to 18 years, who completed evaluation for conjunctivitis between the dates of May 1, 2016-May 1, 2017. We compared treatment, follow-up rates and types of follow-up encounters between eVisits, phone calls using registered nurse protocols, and in-person visits for conjunctivitis at Mayo Clinic Express Care.

What did you learn?
Non-face-to-face visits have significantly higher rates of follow-up when compared to traditional care at MCEC. Similarly, antibiotic prescribing is greater with non-face-to-face visits. Phone Call Visits generate the most prescriptions, followed by Online Visits, and then in-person visits.

What is next?
More work needs to be done to ensure that non-face-to-face care results in the same efficiency and quality of care when compared to traditional service, without creating more burden for the patient and provider.

IRB Approval Yes **HIPAA Compliance** Yes

Funding Mayo Clinic Department of Family Medicine

2018 Innovation & Research Forum – Projects

Ultrasound-Guided Hip Injection Skill Trainer: A New Training Method

Jennifer Oberstar, MD, University of Minnesota Twin Cities

Poster

Project Complete by March 3 No

What did you do and why was it important? A hip injection trainer that can be used to increase psychomotor skills for ultrasound-guided hip injections was created by a mechanical engineering team in Fall of 2016. The constructed model needed further development because the silicone injection pad was not penetrable by an ultrasound beam. In Fall of 2017 a mechanical engineering team was assembled to determine a silicone medium that could be penetrated by ultrasound and withstand several needle sticks. Family medicine residents, who are currently trained in some joint injections, would benefit from utilization of hip simulation to improve procedural skills such as ultrasound-guided hip injections. This is important to advance a learner's procedural skills through procedural repetition, and to differentiate when an ultrasound-guided procedure may be valuable, and to deliberately practice in a safe environment.

How did you do it?
Through the Department of Family Medicine and Community Health a 2017 Discovery Fund Grant was secured. I approached Dr. Bohlman in the Mechanical Engineering department with my project description. Students were enrolled in Mechanical Engineering course 4054 F-17; five engineering students accepted the project. I was unable to obtain an engineering advisor from the community. I recruited my engineering husband, Arden Olson. The students were introduced to the ultrasound-guided hip injection curriculum, the need, and background of the project. They witnessed an ultrasound-guided hip injection during clinic. The current hip prototype was deconstructed by the engineering students. Various measurements of commercial silicone products with embedded rib bones were ultrasounded to create a medium that could be ultrasoundable.

What did you learn?
According to the engineering team development included the following: a recipe using silicone to create a medium that was ultrasoundable to allow learners to identify the femoral artery and femoral head-neck junction, a device body composed of silicone that appears similar to human muscle tissue, a device that will allow twenty-five needle sticks with less needle tracks, and a feedback system to inform learners of a successful injection. The Hip Injection Trainer is a reusable and cost-effective method for teaching ultrasound-guided hip injections.

What is next?
The first next step is making the hip injection skills trainer more anatomical. Using further guidance from engineering colleagues we will pursue an improved model with anatomic landmarks and relocation of the mesh feedback system. We will then obtain expert opinion to determine if the model is realistic and a useful device for teaching ultrasound-guided hip injections. If the experience of the hip injection trainer is promising we will compare cadaver to the newly developed hip skills injection trainer. Thirdly, we will investigate how procedural performance is improved with the hip injection trainer.

IRB Approval No **HIPAA Compliance** NA

Funding The Discovery Fund, The Department of Family Medicine and Community Health

2018 Innovation & Research Forum – Projects

Utilizing a hub-and-spoke model of care for opioid use disorder: Initiating OBOT in a residency program.

Charlie Hackett, MD, PGY3, Chief Resident Duluth Family Medicine Residency Program

Project Collaborators Lisa Prusak, MD John Wood, MD Kristie Johnson, MD Cynthia Nash, RN Julie Seitz, ADC, LSW

Poster

Project Complete by March 3 Yes

What did you do and why was it important? Opioid use disorder is an ever-growing medical problem that has completely overwhelmed the traditional centralized "Methadone Clinic (hub")" model. In the future, much of the burden of treatment will fall on office-based primary care providers ("spokes"). These providers will require training and practice, both of which can be included in a traditional residency experience. Through a collaborative relationship, our residency was able to lessen the burden on our local treatment center by providing office-based opioid treatment (OBOT) for patients that had previously established with our clinic, and were stable on Suboxone therapy. By providing OBOT for these patients we were able to create space in treatment programs for new patients requiring stabilization, provide integrated chronic disease management with increased clinic touches for these high risk patients, and provide experience to residents who will continue this work in their future practices.

How did you do it?
- Identified the need for OBOT in our community.
- Solicited interested residents and faculty to become OBOT certified.
- Sought knowledge, advice, and expertise from our local treatment center ("hub").
- Partnered with our local treatment center to identify clinic patients that would be appropriate for this pilot transition program.
- Continuously gathered feedback form patient participants, prescribers, clinic staff, and treatment center staff, with changes made to our program accordingly.

What did you learn?
- Our patients appreciate having all of their care under one roof.
- OBOT is a gateway to wrap-around healthcare for a previously marginalized population.
- There is still significant community stigma associated with OBOT.
- "Hub and Spoke" partnerships provide primary care clinics with resources and support, and are integral to a successful OBOT program.

What is next?
- Growth of the program with increased patient numbers, resident prescribers, group visits, nurse training.
- Office-based inductions for our clinic patients that are interested in beginning OBOT and unable to get into the local treatment center in a timely fashion.
- Subutex therapy for pregnant clinic patients, and possibly community patients, with opioid use disorder.
- Residents/Faculty as staff for acute induction beds at local treatment center.

IRB Approval NA **HIPAA Compliance** Yes **Funding** none

2018 Innovation & Research Forum – Projects

Who's Your Special (Healthcare) Agent?

Allyson Stevenson-King, DO PGY2 University of Minnesota – Methodist Family Medicine Residency

Project Collaborators Christopher Leonard, M.D.; Elizabeth McNiven, M.S., M.D.; Andrea Lima, BSN, RN, DNP Student; Donald Pine, M.D.; Teresa Quinn, M.D.; Beth Pearson, RN

Podium

Project Complete by March 3 Yes

What did you do and why was it important? Advance Care Planning (ACP) improves patient care and autonomy at the end of life. Beyond that, it has financial implications for healthcare systems by preventing futile or undesired care. With busy primary care clinic schedules, engaging in lengthy end-of-life discussions is often difficult. However most patients can easily identify a healthcare agent (HCA), and this more circumscribed discussion can open the door to further goals of care discussions at a later time. A multidisciplinary workgroup was formed, consisting of resident & attending physicians, an RN care coordinator, and a doctor of Nursing Practice (DNP) student. We collaborated to increase the number of patients aged 50 and above with a documented HCA on file.

How did you do it?
The plan-do-study-act (PDSA) QI design was used. We developed an evidence-based "Healthcare Agent Intervention Bundle" which was implemented over two intervention cycles. Rooming staff helped develop workflow changes and handed out a patient education tool to targeted patients. Physicians used this tool to initiate discussions during clinic visits and, if appropriate, guided patients in completing the Honoring Choices HCA or ACP form. An on-site notary was available to finalize the document, which was then scanned into the patient's chart.

What did you learn?
The intervention was both effective and sustainable. Rooming staff found that it did not add significant time to their workflow and was not a burden; physicians found it was an easy introduction to the ACP conversation. 425 patients (34% of eligible patients) were exposed to the intervention (goal was 30%). Of these, 59 patients (14%) completed documentation of their HCA during the visit. 29% reported they already had an HCA established. 51% did not want to identify an agent or wanted more time to think about it. 6% did not respond. 90% of physicians reported the intervention was helpful in broaching ACP conversations, and 90% would recommend it to other clinics.

What is next?
This intervention will become a permanent part of our clinic workflow. In addition, we will expand and include the patient education tool for all well visits for patients 18-49. Our healthcare home RN will continue to follow up with patients who express interest in a more lengthy discussion.

IRB Approval Yes **HIPAA Compliance** Yes

Funding none

2018 Innovation & Research Forum – Projects

YMCA Healthy Kids Collaborative Healthy Weight Intervention

Natalie Gentile, MD, Assistant Professor in Family Medicine, Mayo Clinic Rochester

Project Collaborators Brian Lynch, MD Tara Kaufman, MD Julie Maxson, BA Diane M Klein, MT(ASCP), MS Sheri Merten, APRN, DNP Melissa Price, APRN, DNP Laura Swenson, MSN, RN Amy Weaver, MS, Tamim Rajjo, MD Cassandra Narr, APRN, CNP, MSN Stephanie Ziebarth, MD

Minnesota Academy of Family Physicians Foundation Grant

Podium

Project Complete by March 3 Yes

What did you do and why was it important? Community-based, family-centered obesity prevention/treatment initiatives have been shown to be effective in reducing body mass index (BMI) and improving healthy habits in children if implemented with high intensity and sufficient duration. Let's Go! 5-2-1-0 Program (5-2-1-0) was incorporated into family-center, monthly physical activity classes and cooking classes over six months delivered by YMCA staff. We hypothesized that implementation of this intervention would improve 5-2-1-0 knowledge attainment, increase healthy behavior (regarding self-reported fruit/vegetable intake, sugar containing beverage intake, physical activity level, and reduced screen viewing time), and improve BMI and waist circumference measurements in children.

How did you do it?
Children attending YMCA summer camps in Rochester, MN, during 2016 were recruited via study packets mailed to their families. Height, weight, and waist circumference measurements as well as the results of the Modified Healhty Habits Survey and the 5-2-1-0 Knowledge Acquisition Survey were recorded for each participating child at baseline and 6-month follow-up. The intervention group received monthly healthy reminder emails & were invited to monthly evening cooking and physical activity classes for 7 session over a 6 -month period.

What did you learn?
Our study findings indicate that our intervention resulted in improved knowledge about healthy habits, but did not significantly impact healthy habits or BMI. Potential reasons for this were the small sample size and the length and/or intensity of the intervention

What is next?
Future obesity intervention studies should compare obesity education curriculums, ideally with randomized populations. Programs that demonstrate effectiveness could then be sustained through the YMCA. We propose further evaluation of the 5-2-1-0 curriculum in the YMCA setting to establish evidence of their effectiveness in improving BMI percentile and healthy habits over a longer duration. Further, our 5-2-1-0 intervention could be improved by increasing the frequency of intervention visits, offering bilingual materials, and tracking adoption of recommended behaviors in the home setting

IRB Approval Yes **HIPAA Compliance** Yes

Funding Mayo Clinic Center for Translational Science Activities (CTSA); specifically the National Center for Advancing Translational Sciences (NCATS) and the Minnesota Academy of Family Physicians Foundation (MAFP/F).