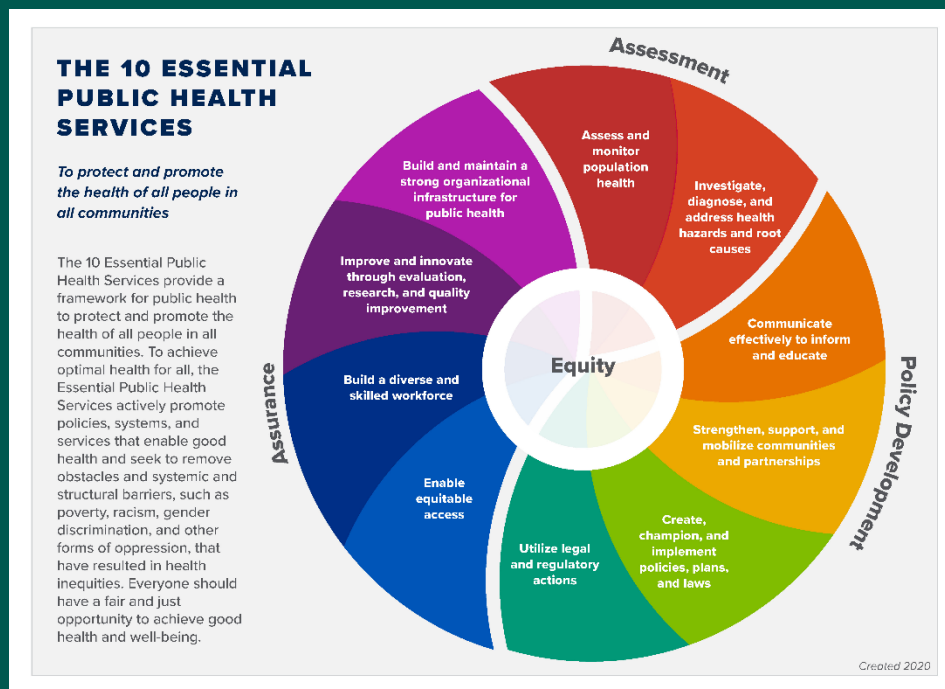


5TH ANNUAL DEPARTMENT OF FAMILY MEDICINE & PUBLIC HEALTH SCIENCES RESEARCH DAY

APRIL 21, 2021



Source: <https://www.cdc.gov/publichealthgateway/publichealthservices/essentialhealthservices.html>



Department of Family Medicine and Public Health Sciences

Dear Students, Residents, Faculty and Friends,

Welcome to the Annual Research Day of the Department of Family Medicine & Public Health Sciences. First, I want to congratulate and thank our research day planning committee who have done a great job organizing this virtual conference. We are all grateful to be a part of this exciting event that is so well planned.

Next, I want to thank our clinical faculty and residents who have demonstrated exemplary service, innovation, and commitment to the care of patients in the face of the COVID-19 pandemic. Despite the challenges of the pandemic, they continue to find ways to improve patient care in and outside of the hospital settings. I also want to thank our dedicated faculty who continued their commitment to teaching and research excellence. Due to the hard work and success of our faculty, the DFMPHS is nationally ranked as the 1st in Michigan and in the Top 9th in NIH funding this year again (plus in the Top 10 ranking three years in a row, based on the Blue Ridge Institute for Medical Research).

With this background, today we are proud to share with you the scholarly work of our students, residents, faculty and collaborators at our 5th Annual DFMPHS Research Day. The theme for this year’s event – “Building Bridges for Better Health” – was selected to align our focus with that of the American Public Health Association’s (www.apha.org) theme for the 2021 Public Health Week. Our keynote panel features three local experts to reflect on how our community responded to the COVID-19 public health crises and strengthened our community partnerships for better health of all over the past year. In addition, we share the scholarly work of our students, residents, faculty, and colleagues within the broader Warrior community in the pursuit of better healthcare and more equitable public health.

I hope you find our work informative and inspiring. Thank you for taking the time to be part of this exciting day. We hope to see you in person next year!

Jinping Xu, MD, MS, FAAFP

Our Vision

The Department of Family Medicine and Public Health Sciences will promote health equity and well-being of individuals, families and communities.

Our Mission

The Department of Family Medicine and Public Health Sciences will improve health and well-being by advancing the science and practice of Family Medicine and Public Health through innovation, interdisciplinary collaboration, and excellence in partnership with our communities.

Our Core Values

*Excellence, Collaboration, Innovation, Integrity
Diversity & Inclusion, Social Justice*

Educational Programs

Master of Public Health Program
Medical Student Education Program
Family Medicine Residency Program
Transitional Year Residency Program
Preventive Medicine Residency Program

Research Day Planning Committee

Amanda Compton
April Idalski Carcone, PhD
Kristen Culbert, PhD
Florentine Friedrich, MSW/MPH student
Angela Jacques-Tiura, PhD
Adrienne Jordan, MPH student
Rachel Mahas, PhD
Angulique Outlaw, PhD
Elizabeth Towner, PhD

Research Divisions

Population Health Sciences
Behavioral Sciences
Health Equity

Patient Care

Wayne Health




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Abstract Key

	Projects that have been or will be accepted and/or presented at a national conference
*	Denotes faculty mentor

Keynote Panel

**Teena Chopra, MD, MPH, Professor of Medicine,
Division of Infectious Disease, Wayne State University**

“The Covid-19 Pandemic: From the Lens of a Hospital
Epidemiologist, Infectious Diseases Physician and a Mom”



**Steven J. Korzeniewski, PhD, Associate Professor,
Department of Family Medicine and Public Health
Sciences, Wayne State University**

“COVID-19 Related Mortality in Detroit: From the First
Wave Through the First Year”



Cindy Eggleton, CEO, Brilliant Detroit

“Community Driven Response to COVID”



Oral Presentations

Of all abstracts submitted for the 2021 DFMPHS Research Day, two representing the medical resident trainees and the MPH students were selected by the Research Day Committee as excellent overall abstracts.

Medical Resident Excellent Abstract Awardee

Cost-effective Methods of Increasing Heart Failure Clinic Follow-up to Decrease Hospital Readmission within 30 days of Discharge

William Nham MD, Roshan Patel MD, Peter Ly MD, Crystal Loveday NP, Salieha Zaheer MD*, Elizabeth Towner PhD

Department of Family Medicine and Public Health Sciences

HF clinics independent from Cardiologists' offices are an effective way of reducing HF readmission. HF clinic is only beneficial if patients are given appointments before discharge and if the patients follow-up within one week of hospital discharge. In 2019, APRH identified reducing HF readmission rates as a top priority for quality improvement initiatives because readmission rate (18.8%) exceeded the hospital target of 15.10%. In our initial cycles, we found that having residents contact patients to ensure HF clinic appointments were scheduled successfully improved HF clinic attendance and reduced readmission rates. Because this care model was not sustainable, the aim of this cycle was to explore alternative approaches that better integrated the whole care team to maximize scheduling prior to discharge. PDSA model (Plan, Do Study, Act) was utilized for this quality improvement initiative. Our team included 5 residents, the Ascension Heart Failure Clinic Nurse Practitioners, and IT. PDSA Cycle 1(C1; 4 weeks) included setting up visual aids and a common communication forum (e.g., encrypted messaging system) with the Family Medicine team to remind them to schedule follow-up visits prior to discharge. PDSA Cycle 2(C2) included designating a member of the Family Medicine team to be exclusively responsible for scheduling HF clinic appointments on the inpatient service. Each PDSA cycle was 1-month. Attendance at follow-up visits was confirmed by the nurse practitioner. 30-day readmission rates determined by electronic medical record review. In C1, pre- to post-intervention, the rate of scheduling HF follow-up visits prior to discharge increased from 40% (n=2) to 50%(n=4). 50% of scheduled patients attended follow-up visits. Average readmission rate decreased from 20%(n=1) to 13%(n=1); neither readmitted patient was scheduled prior to discharge or attended a follow-up clinic visit. In C2, the rate of scheduling HF follow-up visits prior to discharge increased further to 63%(n=5), as did attendance at the follow-up visits(80%; n=4). Readmission rate fell to 0%. Similar to the literature, we found higher attendance at HF clinic visits if patients were scheduled prior to discharge and lower rates of readmission if patients attended these visits. While all of our approaches to achieving these outcomes were successful, having a single FM resident responsible for scheduling visits is the most feasible and sustainable. The next phases of our QI work will focus on transportation access as this repeatedly came up as a barrier to attending HF clinic visits. Heart failure is the single most frequent cause of hospitalization in persons 65 years and older. Simple and intuitive protocols such as visual aids, communication forums, and designated patient advocates can be instrumental in ensuring reduced HF readmission rates, mortality and morbidity.



William Nham, MD



Roshan Patel, MD

Master of Public Health Student Excellent Abstract Awardees

Improving health behaviors in young men who have sex with men at risk of contracting HIV using
Motivational Interviewing A patient-centered approach

Divya Sruthi, Madelyn Slamka, April Idalski Carcone, PhD*, Sylvie Naar, PhD
Department of Family Medicine and Public Health Sciences

Young men who have sex with men (YMSMs) are particularly at risk of contracting HIV due to an increased chance of a sex partner having HIV and risky sexual practices. 5.5% of YMSMs have HIV. Providers in this study encourage young adults living with and at risk for HIV to adhere to three target behaviors: HIV medication, clinic attendance, and reduce risky behaviors. CDC recommends providers utilize Motivational Interviewing (MI), a collaborative, evidence-based method of communicating about behavior change to strengthen patient motivation. Research to understand how MI works, i.e., which provider communication strategies elicit patient motivational statements, to date, has not focused on HIV. For this study, we examined patient- provider communication in three interventions at 12 Adolescent Trials Network for HIV and AIDS Prevention sites across the U.S. to assess which provider MI consistent communication strategies (MICO) elicited patient motivational statements in different treatment contexts. Audio recordings of 121 naturalistic observations of clinic encounters between YMSM in three study settings - TMI, SMART, and YMHP - were professionally transcribed and coded using the Minority Youth Sequential Code for Observing Process Exchanges in HIV MI-Based Clinical Care Encounters, a code scheme operationalizing patient-provider communication. Patient and provider utterances were coded by 2 trained coders based on the three target behaviors. There were 24,928 utterances, 13,028 were counselors' and 11,900 patients'. The most frequently expressed statements were non-target behavior; 41% of provider statements and 33% of patient statements. Patient motivational language represented 22% of patient utterances: 83% change talk (CT; statements about the desire and need for change) and 17% patient commitment language (CML, statements about intentions and plans to change). Variations in the frequency of CT were observed: 21% of patient utterances in TMI were CT, 19% in YMHP and 14% in SMART. Providers used MICO 39% of the time: 30% asking questions, 16% reflecting patient statements, 11% scheduling and 43% other strategies. Providers' use of MICO varied: 69% of provider statements were MICO in TMI, 41% in SMART, and 31% in YMHP. Across all interventions, provider closed questions (CQ) were associated with CT ($r=0.5-0.8$). Open questions (OQ) were associated with CT in SMART and TMI ($r=0.3-0.6$), provider "off-topic" statements in YMHP and TMI ($r=0.5-0.6$), reflections of CT in SMART and YMHP ($r=0.6-0.7$). Provider CQ ($r=0.7$) and reflections of CML ($r=0.8$) were associated with CML across all interventions. OQ were associated with CML in YMHP and SMART ($r=0.6-0.7$), provider scheduling statements in TMI and SMART ($r=0.3-0.4$). Across all interventions, patient motivational language was more common than sustain talk, and provider CQ were associated with CT and CML. Variations by intervention revealed CT was most common in TMI, a scripted MI provider training intervention. "Off-topic" conversations were frequent and related to housing, income, and other psychosocial needs, suggesting these concerns may compete with target behaviors. Results suggest addressing social needs may develop healthy behaviors, and reduce the prevalence and risk of HIV in the long term.



Divya Sruthi



Madelyn Slamka

Poster Presentations: Behavioral Health & Intervention

Assessing the Acceptability of an eHealth Intervention to Improve Diabetes Care among Emerging Adults with Poorly Controlled Type 1 Diabetes

Deepika Baskar¹, April Idalski Carcone^{1*}, Ameesha Vadadoria¹, Deborah Ellis¹, Steven Ondersma²
Department of Family Medicine and Public Health Sciences¹, Michigan State University Department of Obstetrics, Gynecology, and Reproductive Biology²

The transitional period of emerging adulthood (18-25 years), with its focus on identity development and establishing independence, places some youth at risk for poor type 1 diabetes (T1D) outcomes. Yet, there are few effective interventions that specifically target emerging adults with T1D. Emerging adults have technology integrated into their natural ecology and are reliant on mobile devices, demonstrating the utility of technology-based interventions. The purpose of this study is to describe the development and initial evaluation of an eHealth intervention to improve T1D management in emerging adults with poor metabolic control. *The 3Ms* is a two-session intervention to increase feelings of autonomy and motivate emerging adults to engage in their own diabetes care. Session 1 introduces 3 key diabetes care behaviors, *The 3 Ms* - Medication, Meter, and Meals – through psychoeducation and increases self-efficacy by providing strategies to support T1D management. Session 2 reviews progress toward goal attainment, then reinforces participant success or bolsters motivation by reflecting on personal strengths. Ten emerging adults (16-25 years) diagnosed with T1D for at least six months with hemoglobin A1c (HbA1c) $\leq 9.0\%$ reviewed the intervention sessions and provided feedback via semi-structured interviews. Interviews were audio-recorded and transcribed for analysis. Using Framework Matrix analysis, two coders developed a consensus matrix to derive themes from the interview data. Two primary themes emerged from the data. Youth described experiences characteristic of the developmental tasks of emerging adulthood: a preference for autonomy, the process of identity assimilation, and the struggle to integrate themselves into “normal” settings. Participants’ impressions of the intervention characterized it as containing elements that were credible, relatable, and helpful reminders. Emerging adults found *The 3Ms* to be acceptable and appropriate. Next steps will include testing intervention efficacy in a large-scale clinical trial. *The 3Ms* aim to expand the reach of clinical care to high-risk patients in urban communities with barriers to healthcare access. E-health, scalable and disseminated widely at a relatively low cost, promotes patient-centeredness, safety, and convenience. The intervention bridges the access gap by eliminating transportation and specialty care costs to emerging adult patients that may no longer be insured under their parents.

Engagement in Heart Health Education and Blood Pressure Control Led by Community Health Workers in an African-American Majority Community: Implications for Medication Adherence

Cardell Louis, BS, M4; Ghadir Mohamed Mozeb, BS; Karin Przyklenk, PhD; Julie Gleason-Comstock, PhD, MCHES*
Department of Family Medicine and Public Health Sciences

In Detroit, an African-American majority City, heart disease accounted for 30.6% of all deaths (1). As a primary risk factor for heart disease, high blood pressure (BP) has a higher prevalence among Detroit residents than the national average (2). The percentage of antihypertensive medication adherence for Medicaid adult beneficiaries in Detroit was below adherence levels compared to the rest of Michigan (3). Community health workers (CHW) have been shown to be valuable in supporting chronic disease management (4, 5). The goal of the HeartB research is to assess the efficacy of cardiovascular education and lifestyle risk reduction on BP control in an urban African-American adult population. This community heart health pilot was a public health academic-community partnership quasi-experimental intervention study. Detroit adults were recruited through community organizations, churches and street outreach by CHW from an urban African-American community-based organization (CBO). CHW and a community nurse were cross-trained and completed IRB Human Subjects Behavioral Research Training. The CBO nurse and CHW measured overall cardiovascular disease (CVD) risk, heart health knowledge and BP control at baseline and six months. The project used NHLBI evidence-based heart health education training for CHW and family-focused manuals designed for African-Americans, i.e., “With Every Heartbeat is Life (WEHL)” (6). One hundred African-American adults (55% Female, 39% Male, 6% Transgender) were recruited from 27 zip codes throughout Detroit. The mean age was 44.57 years (s.d.=15.9). 92% had a primary care doctor and 96% reported healthcare coverage (52% on Medicare/Medicaid). One in ten participants had a 30% or higher probability of experiencing CVD in 10 years (7). At baseline, 76% of participants averaged BP readings exceeding Normal readings of <120/80 mmHg; 65% had BP readings for Stage 1 (130-139/80-89 mmHg) or Stage 2 ($\geq 140/90$ mmHg) HTN (8). 28% of participants, seven of whom were in the Normal BP range, reported currently taking BP medication. Six month follow-up was completed with 97% of participants. Results showed a statistically significant increase ($p < 0.001$) in heart health knowledge. At six months, there were decreases in Normal, Elevated (120-129/<80 mmHg) and Stage 2 readings, however there was an increase in Stage 1. Although participants increased knowledge, continued elevated BP suggests the need for lifestyle modification and focused medication adherence for participants with follow-up facilitated by CHW. The revised 2020 WEHL for African Americans could provide CHW updated resources to focus on medication adherence. Healthy People 2030(9) retained “Increase control of high BP in adults” as a Leading Health Indicator, reinforcing the premise for targeted outreach and risk reduction for African-Americans.

This research was supported by the Detroit Medical Center Foundation (2015-2017); Wayne State University Cardiovascular Research Institute (2017-2019).

New HORIZONS: An Adapted Sexual Health, Behavioral Skills Intervention for African American Female Youth

Monique Green-Jones, MPH; Erica Kelley, BS; Jasmine White, BA; and Angulique Y. Outlaw, PhD*
Department of Family Medicine and Public Health Sciences

CDC estimates that youth ages 15-24 accounted for almost half of the 26 million new sexually transmitted infections (STIs) that occurred in the United States in 2018. African American female youth continue to be at high risk for HIV and other STIs despite prevention and intervention efforts. Therefore, culturally tailored interventions are needed to reduce the risk behaviors associated with STIs and HIV for this population. African American female youth between the ages of 15-24 participated in interactive group-level sessions facilitated by culturally competent female health educators. New HORIZONS, an adaptation of the intervention HORIZONS, is a single-session, group-level, gender and culturally tailored sexual health, behavioral skills intervention for African American female youth (ages 15-24). Based on the Social Cognitive Theory and Theory of Gender and Power, session content is designed to foster a sense of cultural and gender pride while exploring factors contributing to sexual risk behavior such as STI/HIV knowledge, peer norms regarding condom use, attitudes towards safer sex and abstinence, healthy romantic relationships, and safer sex negotiation skills. Acceptability and immediate intervention impact were assessed following the intervention. 291 African American female youth (ages 15-21; $x=17.41$; $SD=3.12$) participated in 31 groups between December 2014 - February 2019. The intervention was acceptable, with 93%-97% of participants rating the session activities and how the content was presented as "Very Good" or "Excellent." There were significant increases pre- to post-intervention with regard to HIV knowledge, and attitudes regarding ethnic pride, abstinence from sex, and safe sex discussions with partners ($p < .001$). There was no increase in gender pride, attitudes towards condoms, or perceptions of healthy romantic relationships. The intervention appears to be acceptable for African American female youth and has an immediate impact on HIV knowledge, and attitudes regarding ethnic pride, abstinence, and safe sex discussions with partners. However, additional exploration is needed to determine the long-term impact of the intervention on these components. Also, additional exploration is needed to determine the appropriateness of intervention components related to attitudes towards gender pride and condom use, and perceptions of healthy romantic relationships. Inequities in the burden of STIs for African American female youth continue to persist in the United States. These disparities are not explained by individual or population-level behavior. Targeted, culturally relevant interventions are needed to address the sexual health needs of African American female youth to achieve positive sexual health outcomes.

This research was supported by the Children's Hospital of Michigan Foundation

Exploring Cell Phone Use for Extended HIV Care

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Evidence-based practices (EBPs) are vital in addressing public health problems like HIV. Youth age 13-24, particularly those who have sex with men and are transgender, are at elevated risk for contracting HIV. Many at-risk youth struggle with maintaining optimal adherence to Pre-Exposure Prophylaxis (PrEP) medication and those with HIV to Antiretroviral Therapy (ART). Technology-based interventions, e.g., cell phone support, have demonstrated improved adherence among youth prescribed ART. Factors internal (subgroup characteristics and individual traits) and external (organizational culture, leadership, and the sociopolitical landscape) may be barriers or facilitators of EBP implementation. In the Scale It Up (SIU) project, three EBPs were implemented into 12 HIV prevention and treatment centers across the US. In Tailored Motivational Interviewing, clinicians learned Motivational Interviewing. The Sequential Multiple Assignment Randomized Trial was a cell phone-delivered intervention to increase HIV medication adherence, and the Young Men's Health Project addressed risky behavior among at-risk youth. The Exploration, Preparation, Implementation, and Sustainment (EPIS) framework was used to examine EBP implementation in SIU. Using a mixed methods design consisting of quantitative surveys and semi-structured interviews, the EPIS study explored perceptions of these EBPs and barriers and facilitators of their implementation. Participants ($n = 77$) were site principal investigators and key stakeholders, which included clinical staff and administrators. Mid-implementation interviews were transcribed and coded using directed content analysis with an EPIS-derived coding framework. The aim of the current investigation was to explore stakeholders' perceptions of the role of cell phone use in HIV prevention and treatment. Two themes emerged: extended support and limitations. Extended support refers to using cell phones to communicate with patients outside the clinic via text messaging, phone calls, and social media platforms. Outreach included check-ins to strengthen rapport with patients, provide support to patients struggling with ART adherence, and address unmet needs. Clinics used reminders to assist patients with taking medication or appointment keeping and were done via automated text messaging system or social workers/case managers. Participants cited limitations like organizational barriers preventing them from implementing or expanding cell phone usage. Some highlighted a lack of staff to deliver cell phone outreach provided by social workers or nurse case managers, though such positions may have been de-funded. Providing services outside the clinic also raised liability concerns. Staff providing these services may not have been trained to handle emergent issues patients may disclose after-hours but still be held responsible. Maintaining confidentiality was an issue due to using unsecured messaging services. Participants' experiences can inform the development of cell phone-based interventions, aiding the creation of guidelines to maintain confidentiality, use cell phones for extended care, and reduce liability. Clinics can implement cell phones and text messaging as a low-cost method to extend services that provide extra support to high-risk youth populations.

Poster Presentations: Mental Health or Wellness

Mental Health and Substance Use Behaviors for a Multi-Site Sample of Youth Living with HIV Starting Antiretroviral Therapy (ART)



Angulique Y. Outlaw, PhD¹ Madison J. Ford¹, Monique Green-Jones, MPH¹, and Sylvie Naar²

¹Department of Family Medicine and Public Health Sciences ² Center for Translational and Behavioral Science, Florida State University

Youth living with HIV (YLWH), ages 15 to 24, represent approximately 21% of new HIV infections in the United States. Adherence to antiretroviral therapy (ART) is a significant predictor of viral suppression and is associated with dramatic reductions in mortality and morbidity. ART non-adherence leads to drug resistance and ultimately treatment failure with significant public health implications. Therefore, it is important to assess for the presence of mental health symptoms and substance use for YLWH starting HIV medication to prevent ART non-adherence. YLWH (n=96) from 6 national clinical sites completed an ACASI (Audio Computer Assisted Self-Interviewing) assessment as part of a larger HIV medication adherence intervention trial. Mean age was 20.2; 74.0% self-identified as Black/African American, and 88.5% self-identified as male. Participants completed the Brief Symptom Inventory-18 (BSI-18), which assesses three dimensions of physical and mental symptoms and the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST), which assesses the frequency of use and associated problems for various substances. More than half of participants reported various levels (“a little” to “extreme”) of depressive symptomology (69.8%); anxiety (57.3%), and physical symptoms with no identified medical cause (54.2%). Additionally, 81.3% reported using marijuana, 74.0% alcohol, and 45.8% tobacco during their lifetime. Finally, participants reported risk-level use for marijuana (64.6%; “moderate” to “high”), tobacco (41.6%; “moderate” to “high”), and alcohol (18.8%; “moderate”). Mental health symptoms and substance use can be major barriers for YLWH starting ART. Therefore, it is important to assess and effectively address these barriers in proposed interventions, prior to YLWH starting ART, to promote long-term ART adherence. Effectively addressing the mental health needs and substance use issues for YLWH starting HIV medication removes a barrier to sustained HIV medication adherence, which is necessary to promote positive health outcomes.

This research was supported by the National Institute of Mental Health (NIMH) award # 5R01MH108442.

Buffering Against Depressive Symptoms in Response to Community Violence

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Children growing up in neighborhoods with high rates of community violence are at risk for higher rates of depression and other mental illness. Studies examining this phenomenon frequently use self-report measures of violence exposure; however, these data can be impacted by information bias. We aimed to explore the relationship between mother’s report of community violence and documented crime rates and hypothesized that mothers who report less community violence than the documented rates would be associated with lower depressive symptoms in her child. We recruited 122 mothers and their children (50% female) between the ages of 8-12 from an inner-city hospital in Atlanta, Georgia as a part of a larger study. The Children’s Report of Exposure to Violence (CREV) and the Behavioral Assessment System for Children (BASC-2) were administered to the parent as self-report measures. Total Crime Index by zip code was collected from ATTOM Data Solutions. Mother’s perception bias score was derived from the residual of the crime index of her address and her self-reported community violence exposure. The crime index was correlated with maternal report of community violence, $r(122) = 0.20$, $p = 0.029$. We conducted a hierarchical linear regression controlling for child age and sex, and found that mother’s report of community violence significantly predicted child’s depressive symptoms after controlling for the crime index, $F(1, 115) = 6.32$, $p = .013$. Among the mothers, 59% had a negative perception bias score, indicating that they perceived the neighborhood as less violent than the crime index. Children of mothers with a negative bias had significantly lower depressive symptoms compared to those of mothers with a positive bias, $F(119) = 9.58$, $p = 0.002$. Importantly, the children of mothers with a negative perception bias did not show clinically significant levels of symptoms. We found that more than half of the mothers reported living in a less dangerous neighborhood than the crime statistics indicated. The children of these mothers did not have clinically significant depressive symptoms; whereas the children of mothers with a positive perception bias had higher symptoms, in line with the levels of violence exposure. These results suggest that mother’s perception bias towards less violence can protect against, or “buffer” her child’s adverse mental health outcomes. These findings should not be interpreted to diminish the detrimental effects of community violence on children’s mental health but highlight the importance of maternal relationships. This potential mechanism could provide an avenue for short term solutions while long term interventions are put in place to reduce overall community violence.

This research was supported by National Institute of Mental Health NIMH awards: MH100122 and MH111682

#MeToo at WSU Revisited: Victimization's Indirect Relationships with Food Addiction Symptoms

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Intimate partner and sexual violence against adolescent and young adult women are pervasive problems that can have life-altering effects. Previous research suggests that dating or intimate partner, and sexual violence victimization throughout the life span are predictive of numerous adverse health outcomes including addictive behaviors, psychopathology, and physical health symptoms. Self-medication hypotheses posit that victims may drink heavily, use substances, or rely on food to cope with negative affect and psychological symptoms. We examined a self-medication hypothesis-driven model linking dating and sexual violence victimization with food addiction symptoms through their relationships with emotion regulation, impulsivity, and loss-of-control eating. Participants were 313 single, non-treatment-engaged, college student women aged 18–25 years old enrolled in a minority serving, urban university. Participants completed an online survey with measures of dating and sexual violence victimization since age 14 years, emotion regulation, impulsivity, loss-of-control eating, and food addiction symptoms. Seventy-nine percent of participants reported experiencing some form of intimate partner or sexual violence victimization. Mean levels of emotion dysregulation, impulsivity, loss-of-control eating, and food addiction symptoms were similar to means in previous studies, although fewer women met criteria for food dependence diagnosis than found in previous studies. Using path analysis, we found some support for our model ($X^2(4, N = 313) = 9.92, p = .042$; RMSEA = .069; CFI = .985; SRMR = .023). Higher levels of both forms of victimization were significantly associated with greater emotion dysregulation and higher impulsivity; which were both significantly associated with higher loss-of-control eating, which was significantly associated with higher food addiction symptoms. Sexual violence victimization was also significantly directly associated with loss-of-control eating and emotion dysregulation was significantly directly associated with food addiction symptoms. Intimate partner and sexual violence victimization both had significant indirect effects on food addiction symptoms, and the model accounted for 46% of the variance in food addiction symptoms. Clinicians and policy makers should incorporate these findings into practice by honoring the experiences of past victimizations in current health behaviors and by utilizing trauma-informed care practices. To extend this study's findings, researchers should examine the role of trauma-informed interventions targeting emotional regulation and impulsivity to decrease loss-of-control eating and food addiction symptoms. The current study indicates that interpersonal violence victimization continues to be a ubiquitous issue for emerging adult college women. In addition to other outcomes previously identified including alcohol misuse, risky sexual decision making, and physical health concerns, the relationships found between victimization, emotion regulation and impulsivity, loss-of-control eating, and symptoms of food addiction provide additional evidence that violence victimization has far-ranging health implications.

This research was supported by NIH/NIAAA K01AA024500

Attachment style predicts coping mechanisms in older African American adults

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Insecure adult attachment styles (e.g., anxious and avoidant attachment) are associated with the coping strategies selected in response to a stressor. Attachment style is also associated with emotion regulation, or the process of modulating emotional expression, which may also play a role in coping strategy. It was hypothesized that individuals with an anxious attachment would use more emotion-focused coping and less dysfunctional and problem-focused coping. In contrast, those with avoidant attachment would use more problem-focused and dysfunctional coping and less emotion-focused coping. It was further hypothesized that emotion regulation would mediate the relationship between both attachment style and coping process. Data from this study come from the Health among Older Adults Living in Detroit (HOLD) study, whose purpose was to examine psychosocial and physiological predictors of health. The sample ($N=211$) was comprised of African American adults aged 50 and older who resided in Detroit and who completed questionnaires that investigated attachment styles, coping mechanisms, and emotion regulation. Attachment style was categorized into avoidant attachment and anxious attachment. Coping mechanisms were categorized into emotion-focused coping, problem-focused coping, and dysfunctional coping. Emotion regulation was categorized into cognitive reappraisal and expressive suppression. Results indicated that greater avoidant attachment predicted lower emotion-focused coping and greater anxious attachment predicted greater dysfunctional coping in African American adults. We further found that neither anxious nor avoidant attachment predicted problem-focused coping. Cognitive reappraisal did not mediate the association between attachment style and problem or emotion-focused coping. Expressive suppression, however, did mediate the relationship between both anxious and avoidant attachment and dysfunctional coping. This study has implications for understanding how insecure attachment styles in older adults can be used to predict coping mechanisms and how this relationship can be mediated by emotional regulation. Future studies could examine how attachment style, emotional suppression, and dysfunctional coping lead to health issues among high stressed populations.

Improving Resident Wellness Through a Formal Wellness Curriculum

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Physician burnout rates are on the rise. The COVID19 pandemic has worsened physician burnout rates and wellness is at risk. In 2018, residents and faculty began a QI initiative targeting wellness in the Wayne State University Family Medicine (FM) residency program. A core component of this initiative was a formal wellness curriculum including structured and protected time for wellness activities both inside and outside of work and a wellness library. Despite efforts to improve this curriculum, in response to resident feedback, outcomes of formal wellness assessment reveal persistent deficiencies in both total wellness and perceptions of engaging in meaningful work. The purpose of this phase in our QI work is to understand how residents define wellness and meaningful work and use the information to further refine our curriculum and subsequently improve wellness. The QI team developed a qualitative interview with the following questions: 1) what does meaningful work mean to you? 2) what does a well resident look like to you? 3) what makes you feel well? and 4) what is one thing that we can do differently to improve resident wellness? Five-minute interviews were conducted by trained residents and with permission, recorded through zoom. Summaries of individual resident responses were recorded by question in an excel sheet and discussed by the team to search for and identify themes. Given trends in wellness data from previous QI cycles, answers were explored by cohort. 65% (n=11) of residents participated in interviews; barriers to participation were vacation time, night shifts and inpatient rotations. 73% (n=8) used overt physical attributes (e.g., smiling, positive attitude, well kempt) to describe what a “well resident” looks like, although some noted the importance of meeting basic personal needs (e.g., well fed, rested) to achieving this state of being. When asked what makes individuals feel well, residents described the importance of sleep (27%, n=3) and time away from residency/work-life balance (55%, n=6). Definitions of meaningful work differed by cohort. For interns, meaningful work was described in terms of task completion (e.g., productive workday) and value (e.g., completing meaningful tasks). PGY2-3s utilized more emotion-focused language relating to whether they wanted to be at work (e.g., looking forward to going into work, feeling good, not dreading your workday). Suggestions to improve wellness were increased administration time, using wellness breaks for personal tasks and mentorship opportunities. The purpose of this phase was to elucidate resident perceptions of wellness and meaningful work to inform modifications that may improve the impact of our formal Wellness Curriculum. Using a qualitative approach provided information that was not being captured by our quantitative surveys in past years. Responses suggest replacing activities in the curriculum (e.g., wellness breaks, outings) with administrative/personal time may improve resident wellness. Implications of wellness amongst residency programs is wide-reaching. Residents who trained in programs with emphasis on wellness will hopefully find meaning in their work, which in-turn will extend well beyond their training and into long-term practice.

Poster Presentations: Healthcare Training & Workforce

Fit Test Feasibility in Using an Elastomeric Half-Mask Respirator (EHMR) in Healthcare Workers in Response to a Simulated Public Health Emergency: A Randomized Controlled Trial



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Respirators are required by OSHA to protect workers when engineering and administrative control methods cannot remove all exposures. Shortages of N95 respirators create challenges for healthcare workers. The study sought to better understand how to train healthcare workers on EHMRs as an alternative. Further, the study sought to determine how quickly healthcare workers can be assessed for respirator fit and the proper use in a simulated public health emergency. The objectives were 1) to determine the pass rate of positive and negative pressure user seal checks; 2) to evaluate the pass rate and time of OSHA qualitative fit testing method, and 3) to evaluate the difference of the above indicators between the EHMR group and N95 group. A total of 68 healthcare workers from Sinai-Grace Hospital in Detroit, Michigan was recruited and randomized into the intervention group to use the EHMR (N=52) and control group to use N95 (N=16). Participants were rapidly trained in one week to simulate the response to a public health disaster scenario. The training included watching a video on positive vs. negative pressure checks and qualitative fit testing using the OSHA sodium saccharin test. The participants were given 5 to 15 minutes for practice before timed positive and negative pressure user seal checks and qualitative fit testing were conducted. Descriptive statistics were used to describe the pass rates and pass times. In the intervention group, 96.2% of participants passed the positive pressure user seal check and 100% passed the negative pressure user seal check within three attempts. In the control group, 100% of participants passed the positive pressure user seal check and 93.75% passed the negative pressure check within three attempts. The mean time (M, seconds) and standard deviation (SD) of attempts to pass the positive pressure user seal check was 27.64±17.28 in the intervention group vs 29.17±15.78 in the control group. The M(SD) of time (in seconds) to pass the negative pressure user seal check was 17.10±16.71 in the intervention group vs 16.93±17.64 in the control group. The fit test pass rate was 92.3% vs. 87.5% in the intervention group vs. the control group (p < 0.01). The M(SD) of time to pass the qualitative fit test was 380.5±178.8 in the intervention group and 396.6±148.9 seconds in the control group. Rapid training and fit testing on healthcare workers to respond to a public health disaster is feasible. Most healthcare workers can pass positive/negative pressure user seal checks and fit test in one to two attempts. The effectiveness of training is similar between EMHR and N95 respirators. EHMRs therefore can be recommended as an alternate respirator to relieve supply shortage of N95 respirators. COVID-19 strained the supply of disposable N95 respirators considered the “gold standard” for clinical respiratory safety. Hospitals with limited supplies repeatedly utilized single-use protective equipment, leaving healthcare workers on the frontlines at increased risk for contracting the virus from their patients. While disease outbreaks are inevitable, it is important to have a tested process in place to protect the healthcare workers who will be responsible for caring for the sickest patients.

Effectiveness of Rapid Training on Using an Elastomeric Half-Mask Respirator (EHMR) for Healthcare Workers (HCWs) in a Simulated Public Health Emergency: A Demonstrative Randomized Clinical Trial



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In the middle of a pandemic, healthcare personnel use large amounts of disposable filtering facepiece respirators (FFRs). If the supply chain is affected, this becomes a problem as the hospital cannot access the amount of FFRs needed. To alleviate the problem, CDC has recommended EHMRs be used as an alternate style of respirator. However, most HCWs are not familiar with EHMRs. It was not clear if they could be trained rapidly and effectively to use this new respirator type. In 2018, NIOSH launched the Just in Time Elastomeric Training and Fit Testing (JET FIT) research project that included multiple objectives to fully test the feasibility of the EHMR training and fit testing in a pandemic setting. One of the primary objectives was “to determine HCWs’ proficiency post EHMR educational training during a simulated public health emergency, as measured by per participant assessment, competency, and task evaluations repeated in triplicate,” which is shown in this presentation. A randomized clinical control trial (n = 68) was conducted at Sinai-Grace Hospital in Detroit, Michigan. The EHMR cohort (n=52) and the N95 control cohort (n=16) were trained using an informational video and an informational handout. Proficiency was measured by use of a competency evaluation completed in triplicate. The competency evaluation had a possible total score of 78, which indicated no help was needed by the participant. The mean and standard deviation (M±SD) for the proficiency showed consistent improvement: the score (74.12±2.93) increased from the first attempt to 76.87±1.27 in the second attempt, and to 77.52±0.70 in the third attempt. The increase in score between the first and second attempts was 2.75 (2.02 to 3.48) and between second and third attempts was 0.65 (0.29 to 1.01). The differences were both statistically significant (p <0.001). The overall mean and standard deviation of performance time (M±SD, seconds) for the first attempt was 371.57±146.81, the second 268.219±80.48, and final 242.24 ±71.66. Decreasing time demonstrated a significant improvement in use proficiency (p<0.001). Older workers used less time in the competency performance than younger ones (228.93 vs. 286.63, p<.05). The user scores of the six competencies recorded improve over each attempt assessment, indicated by the mean’s increased proximity to a perfect score of 78. The time for competency completion improves over each attempt as well, shown by the decreased time. This study demonstrates the practicality of rapid training in using the EHMRs in the healthcare setting. Further studies at more locations are needed to assess the incorporation of EHMRs into daily use in healthcare tasks, and to evaluate the efficacy of cleaning and decontamination of EHMRs. The study provides an outline from which hospitals can base their plans for introducing the EHMR on. Hospitals can then begin to use EHMR in regular practice or in the case of emergency after training programs have been developed.

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Using Case-Based Teaching to Increase Confidence in Managing Controlled Substances During the COVID Pandemic

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With the rise of virtual visits (VVs), the COVID-19 pandemic creates new challenges for physicians prescribing controlled substances (CS). Previous efforts to educate physicians on our office CS prescribing policies, based upon state and federal guidelines, were in-person lecture-based interventions. However, the nature of VV causes inherent challenges including treating new patients previously not “seen” by the physician, administering urine drug screens asynchronously, and completing controlled substance agreements virtually. Another obstacle is providing the requisite training for these topics without the convenience of the aforementioned in-person teaching. Our study’s goal is to determine the efficacy of virtual case-based teaching targeted to improve physician comfort with CS prescribing policies during a pandemic. Attending (n=2) and resident (n=20) physicians at a community Family Medicine office were given a pre-intervention questionnaire to assess comfort with CS office policies, adequacy of CS education, CS laws and physician comfort prescribing during VVs. A brief intervention which consisted of a live video case-based presentation was administered. Cases were created based on actual patient encounters in the resident Family Medicine clinic. The cases consisted of a summarized clinical encounter, followed by multiple choice questions, and lastly, post-question discussions. Immediately afterwards a survey was emailed to reassess physician comfort and knowledge of CS prescribing. Completion rate of the post-survey questionnaire was 63%. Overall, it showed increased physician comfort with managing CS through VVs for new and established patients. Pre-intervention, 9% of participants were comfortable with prescribing and managing CS for new patients utilizing VV compared to 64% post-intervention (55% improvement). Confidence in CS management office policies after intervention improved by 42% (50% to 92% post intervention). Increases were also seen in overall physician comfort with CS, understanding of CS policies, and perceived adequacy of training. Physicians reported better understanding of how to obtain CS agreements and “Opioid Let’s Start Talking” forms. Pre-intervention, 18% of physicians were aware of changes in federal regulations during the pandemic compared to 71% post-intervention. The interactive CS prescribing cases were found to be helpful by 78% of physician attendees. Case-based interventions appear to be beneficial in increasing provider comfort. Maintaining an interactive component of learning through case-based strategies can also improve engagement with on-line learning. One limitation of this study was the drop-out rate among those surveyed. We attributed this to possible survey fatigue. Our work will continue through measurement of long-term outcomes, we are curious to see if these interventions have lasting effects reflected in high adherence to written office CS prescribing policy.

Increasing Resident Satisfaction and Engagement in Scholarly Journal Clubs:

A Modified Interactive Journal Club Model

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Journal club is an integral educational modality within medical training as it functions to deliver a guided approach to understanding primary medical literature. Typically, it is led by one individual but lacks in participant engagement and discussion of a chosen paper. This format also does not encourage development of other scholarly skills such as searching the literature or how to critically evaluate the literature. In 2018, we began a quality improvement initiative to explore alternative models for journal club that might address the learning potential and utility of journal club within our residency program. Changes included moving to a team-based format, all teams identifying papers that answered a clinical question posed by the resident leading journal club, and using published formats for how to critically review manuscripts. The purpose of the current cycle was to continue refining our approach by examining the impact of adding an interactive format and small group discussions. The adapted interactive journal club was developed based upon two published models and includes the following components: 1) time within journal club for residents to read the selected paper, 2) small group discussions using a structured, interactive format, and 3) large group wrap-up. Our model was adapted to a virtual format and includes utilizing breakout rooms to create small groups. Residents were provided with an introductory educational presentation and syllabus which outlined the Modified Interactive Journal Club(MIJC) at the beginning of the academic year. Residents are asked to complete a 12-question survey about satisfaction and engagement at the conclusion of each journal club. The survey contained 6 quantitative questions and 6 open-ended questions to evaluate resident satisfaction. Seven journal clubs have been completed to date. Overall satisfaction score increased from $M=7.88+1.63$ at the first journal club to $9.5+1$ at the most recent journal club. Optional survey comments also subjectively supported increased satisfaction with small group discussion and comfort with performing primary literature queries. Our results have been affected by the difficulty of having to adapt journal club into a virtual format. For example, not all residents who are leading journal club have followed the new format, and in some months, small group break out sessions were not feasible because of the number of residents on vacation and rotations that conflicted with the journal club meeting time. Results from the post-journal club surveys suggest that resident satisfaction with journal club is trending upward. Although the Covid-19 pandemic prompted a rapid adaptation to online learning, we feel this format is uniquely suited towards it. MIJC is a novel method of implementing journal club particularly with online-learning where learners might not feel engaged with typical lecture-based, online learning modalities. The public health implications of this new format include increased efficiency with reading research articles which will lead to physicians staying updated with current medical literature and improving patient care by encouraging the practice of evidence-based medicine.

Applying Visual Health Information Communication Materials for Patient Education and Clinical Reasoning

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Doctor-patient communication is a major determinant of patient outcomes.¹ Health information visualization through methods, such as infographics, have shown to facilitate this process, improving patient engagement and comprehension of information across differing levels of health literacy.^{2,3} This project explores methods to enhance student application of evidence-based medicine skills into practice. The aim of this study is to determine the effectiveness of evidence-based infographic development in facilitating medical student skills in identifying, evaluating, and translating complex health information to a non-medical audience. The first-year medical students at Wayne State University School of Medicine were assigned to groups of six to create an infographic informing a target audience about a myth in relation to COVID-19. The assignment was divided into four steps: (1) conducting a literature search, (2) evaluating literature, (3) creating an infographic, and (4) presenting this information to a community partner. A survey was disseminated to students to assess the efficacy of the project in the aims stated above. Ninety-two students (31.7%) responded to the survey. Seventy percent of the sample agreed or strongly agreed that they were able to apply medical knowledge to develop infographics. The majority (89.4%) indicated infographics were effective for patient education. Seventy-three percent noted improved skills in communicating health information to a non-medical audience. More than half of the respondents (65.6%) explained that the project helped them be more informed about COVID-19. Challenges encountered by the students included selecting information to put on the infographic (23.9%), conducting literature search (23.9%), and evaluating the articles from the literature search (21.6%). With a growing body of new information on COVID-19 and misinformation, this project positioned students to practice translating health literature for patient consumption. The results clearly reflected challenges in locating reliable literatures on COVID-19 and delivering information to the target audience. Nevertheless, the findings demonstrated improvement in students' ability to apply medical knowledge into practice and communicate skills to non-medical audiences by actively developing infographics. Future studies can further verify if other new learning modalities (e.g., interactive activities, workshop, social media posts, Youtube or TikTok videos, etc.) may be applicable for patient education and clinical reasoning. Innovative learning modalities may be a way to communicate with patients even when there isn't a large body of evidence available. These modalities provide opportunities for students and providers to become more competent in relaying health information across health literacy levels and thus enhancing patient education.

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Poster Presentations: Healthcare Training & Patient Care

A Revised Health Disparities Curriculum for Family Medicine Residents

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Health disparity is the difference in health outcomes between populations and is closely tied to social determinants of health (SDOH), which include race, ethnicity, income, housing status and transportation. The COVID-19 pandemic increased the effects of existing health disparities, bringing the subject to national attention, and leading a statewide call for health disparities training for clinicians. We previously developed and implemented a curriculum for Family Medicine residents and improved the proportion of learners who felt “very knowledgeable about health disparities” by 14 percentage points. We now present updates to this curriculum that aims to improve residents’ knowledge of and comfort in discussing health disparities with each other and with patients, and provide hands-on training for SDOH screening. Twelve interactive, hour-long didactics were adapted to include six sessions for interns to learn introductory public health concepts, and six for senior residents to practice SDOH screening and coordinating social services. All residents (n=17) completed a pre-implementation survey measuring self-perception of knowledge, comfort in discussing health disparities, a quiz measuring quantitative knowledge, and assessing preferred learning style. At the conclusion of the curriculum, a post-implementation survey will be collected. 9 senior residents and 8 interns completed the pre-implementation survey. 5 of the 17 total (29%) were trained on health disparities in medical school. All 17 felt health disparities was an important issue and 15 (88%) felt it was one of the top 5 most important issues in healthcare. 1 intern (12.5%) felt very knowledgeable about health disparities compared to 3 seniors (33%) and 3 interns (38%) felt very comfortable discussing with patients, compared to 5 seniors (56%). This demonstrated a knowledge and skill gap across training levels in addition to opportunities for improvement at all levels. The mean score on the quiz was 5.6/10, with a mean of 5.8 for interns and 5.4 for seniors. Residents’ learning styles favored hearing from a clinician instructor, video content, and practice sessions with real patients, with the largest difference being learning from clinicians (38% interns; 56% seniors). 6 of 12 sessions have been administered as of this submission in a virtual format. Sessions were designed from videos by the National Association of County and City Health Officials and the Michigan Department of Health and Human Services. We collaborated with local clinicians as well as our hospital’s Community Health Needs Assessment. We have learned that health disparities and the SDOH are often sensitive topics that require an interactive approach to teach. Revisions for next year will aim to prepare third residents to teach first and second years, in order to retain knowledge and grow the curriculum. Health Disparities is a quintessential Public Health topic, brought into national focus by the population-level differences in COVID-19 morbidity and mortality. Increasing residents’ comfort and confidence in addressing health disparities with their patients is crucial to improving patient outcomes. In addition, social determinants of health are an aim of the Healthy People 2020 initiative.

An Educational Intervention to Reduce Inappropriate Testing for Hospital-Acquired *Clostridium difficile* Infection

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Clostridium difficile (*C. diff*) is a spore-forming bacterium that can cause life-threatening *C. diff* infection (CDI). A prior project exploring rates of hospital-acquired CDI (HACDI) at Ascension Providence Rochester Hospital (APRH) found that inappropriate testing contributed to elevated rates of HACDI. This included testing patients with formed stools and patients who received laxatives. Inappropriate testing wastes resources and causes overdiagnosis of HACDI in patients who are colonized. APRH established a policy that includes parameters to reduce inappropriate testing for CDI. We hypothesized that educating staff on the policy would lower rates of inappropriate testing. Baseline data was collected on *C. diff* tests ordered in December 2020. We counted tests ordered on patients on laxatives. We also reviewed tests ordered on patients with formed stool. A 10-minute presentation with video aid on the testing policy was developed and given to nurses and physicians. Three areas were highlighted: 1) Patients receiving laxatives, stool softeners, or enemas within 48 hours should not be tested, 2) Patients with formed stool should not be tested, 3) Patients must have clinical indications consistent with active CDI to be tested. Afterwards, data was collected and compared to pre-intervention data. For the pre-intervention month, 57 orders were designated “inappropriate” by the lab and nine of these (15.8%) were due to the stool being formed. We reviewed an additional 52 charts of patients taking laxatives, and *C. diff* testing was completed on 6 patients, with 1 positive finding (12%). Post-intervention 16 of 59 inappropriate tests were due to formed stool (27.1%). There were 8 tests completed in 32 patients on laxatives (32%) with 1 positive finding. We were unable to reduce the number of inappropriately ordered *C. diff* tests, but discovered avenues for additional cycles. Hospital data revealed a cyclic pattern of *C. diff* testing with higher rates in the winter months, potentially confounding our results. Additionally, a single educational session may not have been sufficient to communicate to the large group of providers at our hospital. Finally, year-by-year variations in *C. diff* testing likely exist, meaning multiple months and years of data will need to be collected. The *C. diff* antigen testing used by our hospital, is \$54.60 per test. This does not include time spent collecting and transporting the sample, and potential reduction in Medicare reimbursement for false positive testing resulting in lower safety metrics. Eliminating 10 inappropriately ordered tests per month would save \$6552 annually at no cost to the hospital. Further teaching should include financial data. We will also consider delegating responsibility to the lab to cancel tests ordered on patients on laxatives.

The Impact of a Redesigned Patient Whiteboard on the Incidence of Delirium in Hospitalized Patients

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Acute delirium is associated with adverse outcomes in elderly hospitalized patients. Approximately 29-31% of patients ages 70+ admitted without delirium develop delirium during hospitalizations. Health care costs attributable to delirium range up to \$152 billion dollars yearly. Precipitating risk factors include older age, recent surgery, infection, medications, severe illness, and environment. This Quality Improvement initiative aims to investigate whether a redesigned whiteboard would aid in patient orientation and reduce the incidence of delirium in hospitalized patients over a one month period. Following a PDSA format, a multidisciplinary team of resident/staff physicians, physical and occupational therapists (PT/OT), speech pathologists (SLP), nurses (RN), social workers, redesigned a whiteboard. The final board included: staff physician name, consultants, hospital disposition, pending results, PT/OT/SLP notes, case management, social work, and RN phone. Data collected from patients hospitalized one month prior to (n=12) and in the month following (n=11) implementation of the whiteboard protocol included: patient's age, gender, mental status on admission, admitting diagnosis, incidence of delirium, medical factors (infection, hyponatremia etc.), history of dementia or delirium, use of narcotics/sedative, and length of hospitalization. Data was collected for one continuous month. Rates of delirium were similar for the pre- (n=2) and post-(n=3) intervention groups. In delirious patients, 80% (4/5) had received a narcotic or sedating medication. Other factors included infection (2/5), electrolyte imbalance (1/5), and cerebrovascular accident (1/5). Mean age of patients that developed delirium = 76 (age range 63-90). Mean length of stay (LOS) for our patients that developed delirium was 11.2 days vs 5.2 days in the patients that did not develop delirium. The LOS for the delirium group is skewed as one patient stayed 32 days, and another expired on hospital day 2. Excluding these patients, the mean LOS was 7.3 for the delirium group. Whiteboard changes did not decrease the incidence of delirium. The largest risk factor was treatment with opioids/sedatives, with 80% of delirium patients receiving this intervention. While narcotics and sedatives play an integral role in care, use in elderly can precipitate delirium and should be used with caution. Excluding outliers, mean LOS was 2 days longer in the delirium group than the non-delirium group. An extra 2 days in the hospital costs approximately \$6,000, which is a large burden on healthcare systems. Though the intervention did not decrease delirium, further investigation is warranted. In our study, the use of opioid medications increased rates of delirium. Interventions aimed at minimizing opioid use in the hospital is a potential way to reduce the incidence of delirium. From a public health standpoint, minimizing opioid use will also help curtail the opioid epidemic.

Improving Fall Rates at Ascension Providence Rochester Hospital

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It is estimated that during hospitalization, falls occur at a rate of 3-5 per 1000 bed-days resulting in approximately one million patient falls per year. At Ascension Providence Rochester Hospital (APRH), falls occur at a rate above the Ascension target of 2.76 per 1000 bed-days. We are partnering with the Falls Committee at APRH to conduct a quality improvement (QI) initiative aiming to reduce fall rate. This abstract describes outcomes of our initial efforts to identify aspects of the current hospital falls protocol to inform further interventions. Falls that occur during hospitalization at APRH are recorded in an error reporting system immediately, discussed daily at the hospital-based safety huddle, and tracked by the Falls Committee. Comprehensive APRH fall data was evaluated from September 2019 - September 2020. Records reviewed included: 1) date time, location and age of the person affected, 2) if fall risk assessment and precautions were initiated 3) whether bed and chair alarms and call lights were properly engaged prior to a fall. 184 falls were reported (mean age =69 years; 47.8% male) occurring most frequently on medical (16.5%), inpatient rehabilitation (15.9%), cardiac progressive care (13.8%) and inpatient psychiatry (11.8%) units. Formal falls risk assessment was completed in 82% of patient falls. Fall precautions order-sets (yellow wristband, grip socks, falls sign on patient room doors and in room, gait belt, bed/chair alarm and patient education on using call light for assistance) were ordered in 77% of falls. In 9% of falls, the bed/chair alarm was not armed; in 60% of cases, it is unknown if it was armed. In 68% of cases the call light was not initiated prior to a fall; in 15% it is unknown if it was initiated. Our chart review reveals several areas of fall prevention that can be addressed to decrease the number of falls that occur at APRH. Most notable are improving documentation on whether bed/chair alarms are engaged prior to falls and improving patient rates of activating call lights. As both measures are major targets for fall prevention, our analysis raises the possibility that currently, they may be underutilized. The next phase of our QI initiative will focus on clarifying the documentation of utilization of the bed/chair alarm and the patient call light. Research should also target barriers to patients activating the call light prior to a fall to ensure the utility of these two standard fall precautions. Fall-related injuries occurring during hospitalization in the United States account for up to 15% of readmissions within the first month after discharge. They are associated with an increased likelihood of extended hospital stay, nursing home placement and increased use of medical services. The sequelae from falls are costly to not only the patient but also the healthcare system. It is our hope that our analysis will help APRH to target specific areas for improvement in fall prevention resulting in improved patient safety, less patient harm and overall fewer falls at APRH.

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Patients in Observation Status Discharge Optimization in the Setting of an Academic Residency Program

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Patients admitted to observation are expected to have care management completed within 48 hours. Increasing resident knowledge of observation status discharge processes and protocols may expedite care for patients and prevent length of stay from exceeding the maximum reimbursable stay limit of 48 hours. This quality improvement initiative aims to examine the impact of two interventions on increasing the number of observation patients discharged prior to the 48-hour stay limit. The P.D.S.A model (Plan, Do, Study, Act) was employed for this quality improvement initiative. Two cycles were conducted at Ascension Providence Rochester Hospital with the Family Medicine service. In the first cycle, the intervention tested was a two-week inpatient medicine observation elective rotation where a single resident worked directly with patients in conjunction with the hospital multidisciplinary team (MDR; chief medical officer, case management manager, and floor nurses) to appropriately triage observation patients. Following the completion of cycle 1; protocols for efficient management strategies were collected and disseminated to the entire residency with 2 dedicated didactic sessions, which included before and after quizzes. In the second cycle, the intervention tested was training the Family Medicine floor team with protocols developed after cycle 1. Similar to cycle 1, the floor team worked in conjunction with and had daily meetings with the MDR for two weeks. In both cycles, primary outcomes were length of stay, number and type of consult, and number and type of diagnostic evaluations. Intervention impact was evaluated by comparing these outcomes for the two-week intervention period with the month prior (no intervention). For cycle 1, average length of stay decreased from 33.9 hours before intervention (n=36) to 19.3 hours during the intervention (n=6). For cycle 2, average length of stay before intervention (n=38) increased from 30.8 hours to 33.4 hours with the intervention group (n=7). In cycle 2, the number of specialists consulted in the care was higher during the intervention (mean =1.5) vs. the pre-intervention period (mean = 1.0). The number of active problems was also higher during the intervention (mean= 2.5) vs. the pre-intervention period (mean =1.5). We found that a mini elective yielded a nearly 50% decrease in LOS for observation patients. However, quality improvements were not replicated when protocols established during this rotation were taught to an entire floor team. Additional PDSA cycles are needed to discern whether these differences are due to more complex patients being admitted during cycle 2 vs. 1 or whether there are barriers to implementing the protocols that were successful at achieving LOS reductions in cycle 1. Establishing best practices in the management of observation patients has the potential for a large return on investment in terms of decreasing care burden and costs to hospitals by improving timely triage and discharge. In times during high hospital census the shift to make resources available such as testing and healthcare teams, can serve to treat more critically ill patients.

Poster Presentations: Health Seeking Behavior & Patient Care

The Association of neonatal adverse event with length of stay in the NICU: a race matter?

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Racial disparity in health has been demonstrated in previous studies. However, there is no data available regarding racial difference on the association of adverse events (AE) with length of stay (LOS) among neonates admitted to the neonatal intensive care unit (NICU). The association between the LOS in NICU and neonatal AEs may differ for African American neonates and White neonates. A prospective cohort study was carried out in an urban NICU during 2017-2019. Neonates were enrolled during their NICU hospitalization, prior to discharge home. Data were collected through four approaches by a trained nurse and two neonatologists: (1) A neonate's guardian was interviewed at the bedside prior to discharge for a survey regarding exposure variables difficult to obtain from health records, including a guardian's demographics, (2) A telephone interview was conducted after discharge within 6 weeks, (3) Health information from inpatient and outpatient health records were abstracted for outcome measurement, and (4) The nurse combined information obtained from the telephone interview and/or the outpatient health records to identify new or worsening symptoms, unplanned health services utilization, or abnormal laboratory test results. If the nurse identified any of the above information, she referred the case to study neonatologists for adjudication. Two neonatologists independently adjudicated the case and created case summaries for neonates if they identified post-discharge AEs. Descriptive statistical analyses were performed using SPSS Software (v26). Data from a total of 170 neonates admitted to the NICU during the study period were analyzed. Of 170 neonates, 55.9% were boys and 44.7% were African Americans. The mean length of stay in the NICU was 25 days (22 days for the sample without an AE while 44 days for the sample with an AE). The mean LOS in the NICU was 22.9 days (SD=29.10) in African American neonates without an AE and 64.7 days (SD=57.48) in African American neonates with an AE. The mean LOS in the NICU was 21.8 days (SD=26.29) in White neonates without an AE and 26.6 days (SD=15.68) in White neonates with an AE. The association between LOS and AEs showed a statistically significant difference in African American neonates ($p < .05$). Our results indicate that in African American neonates there was a significant association between LOS and NICU neonatal post-discharge adverse events, but not in White neonates. The results indicated that African American neonates who stayed longer in the NICU were more likely to have an AE. The limitation of this study was the small sample size. Further research is needed to explore further with a large sample size. LOS is determined by multiple factors at macro-, meso-, and micro- levels related to illness, hospital bed availability, quality of care, culture, beliefs, etc. The reason why African American neonates admitted to NICU stayed longer was because they were more likely to experience AEs. In clinical practice, neonatologists need to pay special attention to racial disparities associated with LOS and AEs.

This project is supported by the Eunice Kennedy Shriver National Institute (NIH) of Child Health & Human Development (grant R01HD089000 to Dr. Dionyssios Tsilimingras).

Pregnant women and the ER: Assessing variables predicting ER use

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High rates of Emergency Department (ED) use were identified in a secondary analysis of a birth cohort study of African-American (AA) women. The physiological and biological changes experienced during pregnancy may worry a woman for her own health, as well the fetus'. Data were analyzed from 1411 AA women in the immediate postpartum period delivering at a Detroit suburban hospital. Although 99.5% (n=1404) had some form of insurance coverage, 70.5% (n=995) had ≥ 1 visit to the ED during pregnancy. Despite high rates of ED use among pregnant women, the literature is limited. We assessed various factors that predict ED use for pregnant women. This is a secondary analysis from the LIFE cohort study, which collected data from 1411 AA women in the immediate postpartum period delivering at a Detroit suburban hospital. We examined a broad set of social, health, and health care factors to determine whether they were associated with use of the ED in pregnancy. ED admissions were defined as 1 or more visit to the emergency room during pregnancy. Odds ratios were computed to compare proportions with chi square tests of statistical significance. The content of prenatal care as reported by women was examined and appeared to be significantly associated with ED use. For example, among women who were counseled about the baby's movement slowing down, 71.6% (n=903) of them went to the ED, vs. 62.1% (n=87) of those who were not counseled ($p < 0.05$). A history of chronic conditions prior to pregnancy, such as asthma (Odds Ratio (OR), 0.89, confidence interval (CI): 0.64-1.25), hypertension (OR, 0.90, CI: 0.55-1.46), or diabetes (OR, 3.38, CI: 0.77-14.78), was not a significant predictor of ED use in pregnancy. Receiving adequate (or more) prenatal care (OR, 0.84, CI: 0.66-1.05) was also not a significant predictor of ED use in pregnancy. It should not be assumed that ED usage in pregnancy is the wrong choice, but we need to determine what is appropriate and how to educate women to know that, as well. Our results suggest that prenatal counseling for AA women need to be re-evaluated for their effectiveness. There needs to be focus on prenatal counseling among women, as this can be an important area to determine what is appropriate ED usage in pregnancy. Women, especially pregnant women, are a vulnerable population. Our research shows that African-American women are disproportionately visiting the ED during pregnancy, yet research into factors influencing this is limited. Our findings call for further research on ED utilization among this population. Prenatal counseling appears to be an opportunity for the clinician to educate pregnant women on proper ED use, and all women should be provided with standardized information on this topic to receive the best quality care and mitigate the negative effects of inappropriate ED utilization. Further work needs to be done to determine the role of prenatal care providers in decreasing rates of ED use. This could mean updating or standardizing prenatal counseling for all pregnant women, directly counseling women about ED usage, and improving resources for pregnant women after-clinic hours, outside of the ED.

Uptake of Genetic Counseling and Testing in a Clinic Based Population of Women with Breast Cancer

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Carriers of pathogenic variants in cancer susceptibility genes have an elevated risk of developing breast, ovarian, and other cancers. We conducted a medical record review to determine the uptake of genetic counseling and testing in a clinic-based population of women with breast cancer. Medical records of 150 women with breast cancer at the Karmanos Cancer Institute were reviewed to determine the proportion eligible for genetic testing according to National Comprehensive Cancer Network guidelines. We also assessed genetics referral rates, appointment completion and results of genetic testing. Using chi-square and ANOVA tests, we analyzed the association of demographic and clinical factors with eligibility and referral to genetic counseling. There were 91 (60.7%) women who met NCCN criteria for genetic testing. Eligible women were more likely to be younger (52.6 vs. 64.0 years old), White (75.0% vs. 54.5%), and have Medicaid (75.0%) or private insurance (72.9%) vs. Medicare (44.8%). Women were more likely to be referred for genetic counseling if they were eligible (59.3% vs 16.9%), less likely to be referred if they had Medicare (40.0%) compared to Medicaid (71.4%) or private insurance (72.0%), or if they had stage IV disease (48.3%) compared to stages I-III (67.8%). Of eligible women, 59.3% had a genetic counseling appointment scheduled, and of those, 78.0% attended their appointment. There were no apparent differences in appointment completion based on race with similar percentages of Black and White women completing their appointments (74.0% and 77.0% respectively). Women with stage IV disease were more likely to complete their appointments (83.0%) compared to women with stages I-III (74.0%). Fewer women with Medicare completed their genetic counseling appointment (56.0%) compared to women with Medicaid (83.0%) and women with private insurance (83.0%). Among women who attended their appointment, 95.9% underwent genetic testing and among eligible women overall, 46.2% had genetic testing. Of women who had genetic testing, 8.5% had a pathogenic variant, 60.9% had negative results, and 30.4% had a variant of unknown significance. Our findings support other studies that suggest genetic counseling referrals are underutilized among women at high risk for a hereditary cancer syndrome. Furthermore, our results show that, when offered the opportunity, Black women are just as likely as White women to utilize genetic counseling services. Other literature which suggests lower referral rates for Blacks compared to Whites provides evidence to suggest that it is important to intervene in a more proximal part of the referral process, that is, to evaluate barriers to genetic counseling referral, such as lack of physician recommendation. The results of this study indicate that lack of genetic counseling referrals contribute to a gap between the need for and completion of genetic testing. By understanding barriers to genetic counseling and testing, future clinical initiatives could effectively improve accessibility to genetic counseling services.

Cervical Cancer Screening (CCS) Rate Disparities among Male and Female Residents Ashley DeCaluwe DO, Sarah Farooqi MD, Salieha Zaheer MD*, Elizabeth Towner PhD *Department of Family Medicine and Public Health Sciences*

Cervical cancer is second most common cancer among women. Cycle 1 of our QI project revealed that closing knowledge gap and increasing male resident comfort did not equate to equitable distribution of paps. With this finding, we adapted our focus to patient perspective, and specifically preferences about completing paps at Rochester Academic Family Medicine Clinic (RAFM) and comfort in completing this screening with male(M)residents. We also explored whether primary care physicians offered this screening to patients during preventive care visits. The PSDA model was used for this QI project. 3 cycles (2-4) completed at RAFM from September-December 2020. In C2(4 weeks), patients filled out a questionnaire to rate comfort (0-10; 0=not comfortable and 10=very comfortable) in completing pap with M vs F physicians. In C3(4 weeks), this questionnaire was expanded to assess patient reasoning for comfort levels and whether they were offered a pap smear by their pcps during preventive visits. Data gathered during C2&3 informed our intervention in C4(4 weeks), which included mailing information to female patients (n=12) that they were due for a pap at their annual preventive visit, that it could be completed at RAFM, and along with frequently asked questions about CCS (e.g., why, how, and when). Patients were then asked to complete a post-visit questionnaire to determine if they completed a pap and if not, why. C2 found patient's were more comfortable having a female(M=8.6, SD=3.17) vs. male (M=6.3, SD=3.68) resident complete pap and higher preference for pap with an OB/GYN 46% (n=7) than at RAFM 33% (n=5). C3 found 50% of patients felt neutral on completing pap smears with a M vs. F resident. Those who preferred a female (32%, n=4), reasoning included increased female understanding of the procedure, sympathy, or embarrassment by male completing the procedure. 18% didn't explain their reasoning. Only 64% (n=9) of patients reported PCPs at RAFM informed them paps could be completed during preventative visits. In C3, of the 58% (n=20) patients that completed their pap exam at RAFM, 25% (n=5) were performed by males vs. 75% by female residents. In C4, 50% (n=6) of patients that received letter canceled, rescheduled, or were a no show for their visit. Three of these patients reported a plan for screening with OB GYN at a later date. One patient reported their provider did not discuss their pap smear and the other planned for follow-up with their pcp at RAFM. Patient preference for completing pap screenings with a female physician may be responsible for disparities in number of screenings completed by M vs. F residents. Interventions to alert patients that they could complete pap during preventive visits and providing information about this screening do not appear to shift patient preferences for completing CCS at RAFM. More work needed to better understand how to increase patient comfort with completing pap with male residents and how to augment training to ensure all residents are competent in performing and meeting the number of pap smears to graduate. More PSDA cycles are needed to determine best ways to increase patient knowledge that pcps can perform pap and reduce morbidity and mortality due to Cervical Cancer.

Assessing and Improving Pediatric Well Child Visits Within a Family Medicine Residency Clinic Dana Achmar, MD; Abraham Baidoo, MD; Elizabeth Towner, PhD; Andrea Milne, MD, PhD* *Department of Family Medicine and Public Health Sciences*

Pediatric well child visits (WCV) are an opportunity to discuss prevention, ensuring protection from infectious diseases by ensuring proper vaccination, discussing safety, and implementing healthy behaviors at an early age. In our family medicine practice, insurance quality information showed that from January - April 2020, WCV were below the 25th percentile of expected pediatric visits (children 11 months-20 years old). As a first step to improve the quality of pediatric care at Rochester Ascension Family Medicine Clinic, we sought to better understand the reasons behind missed pediatric and adolescent appointments. Family medicine residents contacted a random sample of 50 caregivers of pediatric patients who were called in June/July 2020, but did not schedule WCV, to administer a standardized telephone-based questionnaire about barriers to not scheduling an appointment (e.g., transportation issues, don't feel well-child visits are important, and do not feel safe coming to the clinic during the pandemic). Respondents could also list any "other reason" that may have prevented them from scheduling a WCV. The list of barriers was compiled based upon the literature and clinical experience. Caregivers were asked to endorse as many reasons as applied. Twenty-nine caregivers (58% of those contacted) were reached and took part in the survey. The most common survey response was the "other reason" category (75%, n=22). When examining this response, the answers were either a) new PCP due to change in insurance or moving out of state (45%, n=10) or b) had not yet scheduled a WCV, but stated they would do so in the future (55%, n=12). Additionally, 24% (n=7) felt unsafe attending a WCV due to the COVID pandemic. Surprisingly, scheduling conflicts, transportation, lack of childcare, and dissatisfaction with PCP were not selected as barriers to attending a WCV. Reminder calls are a common strategy for increasing scheduling and attendance for medical visits. When we explored barriers further, we discovered that the sub-sample of caregivers we reached intended to schedule visits in the future. Given this response was selected over other common barriers (e.g., transportation or conflicting demands on time), more investigation is needed to better understand how we can ensure families schedule WCV as recommended. While it was not a large percentage of our sample, our data also suggest notifying families of the extensive safety precautions in place at our clinic to ease COVID fears may increase WCVs scheduling and attendance. Regular communication between primary and patients' families is essential to ensuring that physicians are able to practice preventive medicine and guide healthy development of our pediatric population. Moreover, regular attendance with a PCP can help to decrease Emergency and Urgent Care visits, thereby leading to less demand on the healthcare system.

Assessing and Improving Continuity of Care Utilizing Care Teams within a Family Medicine Residency Clinic

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Continuity of care (CoC) is associated with increased patient satisfaction, stronger doctor-patient relationships, and improvement in quality of care. In a residency clinic, CoC is difficult to achieve and maintain due to variability in resident rotations and resulting scheduling conflicts for patients. Patients are assigned a provider based on resident availability, regardless of previously established doctor-patient relationships, thereby compromising CoC. In the past we have assigned patients to one primary resident physician, but schedule variability and program completion still made CoC difficult to achieve. To address this challenge, we created Care Teams (CT) that allows patients to be seen by a consistent team of three residents. The residents on the CT achieve greater familiarity with the patient's background and individual health profile, which fosters stronger doctor-patient relationships. The purpose of this next phase of our quality improvement initiative is to test whether a CT algorithm facilitates adding all patients (existing and new) on a CT and achieving greater equity of patients across CTs. We followed the PDSA approach for Quality Improvement Initiatives. In PDSA 3 (1-month) all residents were assigned to a color CT consisting of a PGY-1, PGY-2 and PGY-3 resident. A baseline chart review was conducted to quantify the number of patients assigned to each CT. The CT with the lowest number of total patients in the practice was identified as the "CT of the month" and front desk staff were asked to prioritize assigning new patients to this team. Established patients were to be scheduled with the CT that included their primary resident if possible and identifiable. In PDSA 4 (1-month), procedures were modified to include biweekly reminders to front desk staff to utilize the algorithm, which was presented in a clearer flow chart. We looked at CT assignment data across cycles to evaluate the distribution of patients assigned to each CT. In C3, patient volume increase was higher for the "CT of the month" (+5%) than other care teams (range +0.5%-3.3%); collectively these changes led to a more equitable distribution of patients. However, increases were small, and it was observed that front desk staff was not consistently utilizing the scheduling algorithm. In C4, patient volume increase for the CT of the month (+51%) was again higher than the other CTs (range +24-37%), which again led to greater equity in distribution across CTs. The incorporation of CT and the algorithm improved CoC by distributing existing and new patients on CTs and in an equal manner. Future interventions for improve CoC will focus on if this distribution of patients led to improvement in CoC. In addition, we will explore ways to increase patient education regarding CoC in our clinic by having physicians discuss CT assignments with patients and providing them with a printed document of their assignment. Consistent out-patient follow-up with the same physicians for management of chronic conditions leads to increased patient satisfaction in quality of care. CoC also leads to decreased number of yearly hospital visits, allowing physicians the capacity to decrease patient morbidity and mortality and health care costs.

Poster Presentations: Community Engagement & Community Health

Recruitment and Retention During Community Engaged Research: Lessons Learned from the Family-Pediatrician Partnership Community Advisory Board

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The Family-Pediatrician Partnership Community Advisory Board (FPP-CAB) was established in 2018 to bring families, pediatricians, and the community together in developing solutions for reducing obesity inequities in early childhood. The challenges of recruiting and retaining members of CABs are well documented. Less so are strategies that successfully minimize these barriers, particularly when CABs must operate virtually. This abstract addresses this gap through review of data and reflection from our experience with recruitment and retention for the FPP-CAB. Recruitment took place in two waves. In wave 1 (W1; 4.5 months), we partnered with the Greater Detroit Area Health Council (GDAH) to identify pediatricians interested in membership and assisting with recruitment of caregivers of children from their practices. Eligible families were recruited during well-child visits; membership was extended to all interested families. In wave two (W2; 5 months), we implemented a plan developed by the founding FPP-CAB members in collaboration with community partners that included community-based recruitment, applications, interviews, and membership by invitation only. For in-person meetings, FPP-CAB members were provided with transportation assistance, dinner, and childcare. For all meetings, members receive attendance stipends. Additional retention strategies include regular contact with members between meetings, and seeking feedback on CAB management. In W1, one pediatrician joined the FPP-CAB. From her practice, 54 families were contacted and 3 of 12 that expressed interest in joining became members. A representative from GDAH was invited to participate once the bylaws were changed to include this membership category. For W2, 66 community members that were recruited at farmers markets and health fairs or nominated by partnering community organizations completed applications. A membership subcommittee reviewed all applications and invited 22 applicants for interviews. Of the 18 interviews completed, 10 caregivers were offered membership. A second pediatrician and 2 representatives from partnering community organizations also joined, bringing membership up to our target of 15. Retention is currently 87% (one caregiver dropped per wave) and attendance at meetings is also high (M=75%). Anecdotally, members report their commitment did not change when meetings became virtual because the group "feels like family", and they appreciate having stability and hope in a time where so much is uncertain. Recruitment was more successful in W2 than W1, which we attribute to having an existing group to invite to, implementing a recruitment protocol that was developed by community members, and partnering with established community organizations. Retention has remained high across waves, which we attribute to minimizing participation barriers (e.g., providing childcare), being responsive to FPP-CAB member suggestions for how to improve their experience, and the bond the group has formed over time. Community engagement in health initiatives is imperative to improving health equity. Time, thoughtfulness, and resources must be placed into recruiting and retaining community members for efforts to be successful. This work was funded by the Patient-Centered Outcomes Research Institute's (PCORI) Pipeline-to-Proposal Awards Initiative (Award #7710001) and PCORI Engagement Award Program (Award #14510-WSU).

Adapting Boot Camp Translation Methodology to be Responsive to the COVID-19 Pandemic

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A town hall led by Brilliant Detroit early in the pandemic revealed critical COVID-19 information (e.g., symptoms) was not reaching the community. Boot Camp Translation(BCT) is a participatory method that brings community members, researchers, and stakeholders together over 4-12 months and during a series of in-person meetings and conference calls to translate medical evidence and guidelines into locally relevant and actionable language that form the basis for community-specific health campaigns. While BCT has the potential to improve dissemination and uptake of evidence-based COVID-19 information, the unpredictability of when information becomes available, how quickly it needs to reach the community, and social distancing needs challenge implementation in its traditional form. We are thus adapting BCT for “rapid”(1 month) and virtual implementation and testing this novel form by partnering with the Community COVID Crushers(CCC) action council on a series of brief health campaigns to address community COVID-19 priority areas. Method: Traditional BCT includes 3 components(message generation, product development, dissemination strategy planning). In Rapid BCT(R-BCT), all are retained, but a list of products and dissemination strategies are developed a priori instead of during the BCT. Participants select from this list during each R-BCT. Results: To date, we have completed one health campaign with two R-BCT cycles. Cycle 1(C1; Thanksgiving) was completed in four 2-hour meetings over 1.5 weeks. Primary products were infographics that were disseminated by BD managers on location Facebook pages. 44% of sites(n=4) shared the posts, which resulted in 35 engagements(29 shares, 6 likes). Cycle 2(C2; December holidays) was completed in two 2-hour meetings over 2 weeks. The CCCs chose to expand the campaign to include additional, personalized call-to-action infographics and created a Facebook page. Project staff worked with BD site managers to revise the dissemination plan to better fit with their social media protocols(e.g., sharing posts directly from the Facebook page). 78% of sites(n=7) shared C2 posts, which resulted in 215 engagements(112 shares, 73 likes, 3 comments), and reached 1245 people. Conclusions: Community engagement is imperative to ensuring public health messaging and programming reaches the community in a way that encourages it to take action. BCT is one strategy for achieving these goals. Preliminary findings suggest that BCT can be implemented successfully in a virtual environment and on a “rapid” schedule. While social media is an ideal dissemination strategy for R-BCT, its potential is maximized when an action council has a strong social media presence and when protocols are developed in close partnership with those involved with campaign implementation. Future campaigns with the council will allow us to explore the feasibility of tangible products(e.g., flyers) and in-person dissemination strategies (e.g., at resource distributions). We are also collecting data on campaign impact to more thoroughly evaluate the R-BCT methodology. Public Health Implications: R-BCT can increase the utility of BCT methodology for a wider array of health conditions and community health priority areas where a shorter campaign development timeline is needed.

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Substance Use Disorder Care Facilities in Detroit: A Geographic Analysis

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Over 630,000 Michiganders have a substance use disorders (SUD) and about 80% are not receiving care (1). The rate of unmet need for SUD care in the Detroit-Dearborn-Livonia is 81% (1). Shortages of providers, financial concerns, and lack of transportation may serve as barriers in patient access to SUD program services. Geographic placement of facilities in neighborhoods should consider community need and accessibility. This geographic analysis investigates current SUD program facility locations in Detroit and their surrounding area community demographics. ArcGIS Pro, a geographic information systems application, was used to visualize and analyze data by creating 2D maps and tables. Data on licensed substance use disorder (SUD) programs, medically underserved areas, and zip codes was retrieved from the State of Michigan’s and City of Detroit’s GIS Open Data portals. Census tract data was used to run statistical summaries of demographics in medically underserved areas and around SUD program facilities within Detroit. Location analysis of SUD program facilities was conducted using driving distance and buffers. Twenty-seven zip codes were identified as having a medically underserved population area. The total population, generation-specific population, and average household income for these zip codes is reported. There are 119 SUD programs in Detroit. Facilities are labeled as providing medication-assisted treatment, outpatient, inpatient, prevention, and/or screening services. Mean distance of facilities from each other is 0.43 miles, while the minimum is 0.22 miles and maximum is 2.42 miles. Zip codes 48227 and 48228 have a population greater than 40,000 and an average household income less than \$43,000. These zip codes also have fewer SUD program facilities and are further away from other SUD program facilities. SUD program facilities are generally accessible in Detroit. Most of them are located around the eight hospitals in the city, which are in central and east Detroit. The west side of the city makes up a large portion of the city’s population; however, there are fewer SUD program facilities in this area. Further analysis may include using substance use disorder rates to determine zip codes in need of more services. Additionally, bus routes and other transportation routes may be explored to further investigate accessibility for neighborhoods to SUD facilities. Community health services and SUD programs may consider expanding their services to the west side of the city to improve patient accessibility. Creating an interactive map that provides detailed information about each facility can also make it easier for patient’s and their loved ones to find the facility that better serves their needs.

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Developing a System for Coding Food Receipt Data from Multiple
Points of Purchase to Better Understand Within
Group Risk Factors for Obesity Among Preschoolers from Low-Income Backgrounds
Christian Loszewski, Michelle Litton, Alyssa Beavers, Elizabeth Towner*
Department of Family Medicine and Public Health Sciences

While lack of access to healthy foods and low-socioeconomic status increase child obesity risk, nearly 86% of preschoolers from low-income backgrounds are of a healthy weight. Food receipt analysis provides a unique and objective perspective on food purchasing patterns and thus within group obesity risk factors that can be targeted in obesity prevention programs. Most studies using receipt analyses are limited to a single food retailer with multiple locations in a geographic area. Urban environments, like Detroit, often include several independent food markets. Limiting analysis to receipts from food markets also fails to capture purchases at other food establishments (e.g., corner stores). The purpose of this work is to develop a novel system for coding food receipt data that can be utilized irrespective of food points-of-purchase. Receipts(N=475) were collected as part of a larger study to determine preschool obesity risk factors within families(N=34) from low-income backgrounds. Research staff collected and scanned receipts from food purchase weekly for 4 weeks. The initial codebook was adapted from the 2015 Dietary Guidelines Advisory Committee food categories. We chose food categories because it allows qualitative classification of foods in the absence of information to quantitatively calculate servings of food or nutrients. Due to the lack of specificity on receipts, it is also not possible to link food items on receipts to nutritional data. Senior investigators trained two graduate students in coding procedures. All receipts were double coded and discrepancies resolved by discussion. Receipts were coded over 9 months. The initial codebook included 10 primary codes (e.g., Vegetables and Mixed Dishes), each with 3-6 secondary codes. The final codebook included 8 new primary codes to capture items that could not be coded and allow for secondary coding of items (e.g., sit-down restaurant and breaded/friend). The list of secondary codes was also expanded for some of the original primary codes (e.g., "whole grain") to allow for coding nutritional factors. In addition to the codebook, the team developed a protocol for how to interpret receipt items (e.g., start by searching UPC code if available, check United States Department of Agriculture Nutrient Database's food categories, or visit food manufacturer or restaurant websites). This novel method of objectively assessing food purchases provides unique data on where and how low-income families obtain food and the nutritional quality of purchases. Understanding usual food purchasing habits can identify key behavioral patterns and nutrition-related issues, which can inform family-focused programs and interventions targeting obesity and diet quality of young children from low-income backgrounds. An interesting direction for continuing this work that could increase feasibility of food receipt analysis methodology is to explore development of automated coding systems. Food receipt analysis provides a more reliable and comprehensive understanding of nutrition-based obesity risk behaviors. Our work aims to strengthen what can be learned from this methodology by developing a coding system to analyze receipts from any point of food purchase.

A Snapshot of the Scholarly Work of the Department of Family Medicine & Public Health Sciences In 2020



Ranking

- *9th in the Nation (1st in Michigan) for NIH Research Funding*
- *4 faculty among the top 100 NIH-funded family medicine researchers*



Grants

- *38 extramural grants submitted*
- *\$28 million requested*



Funding

- *\$7.9 million awarded*



Papers

- *57 publications in scholarly journals*



Public Speaking (selected)

- *87 presentations*
- *Dr. Blessman moderates 'Coronavirus Concerns in Detroit' health chat*

Honors (selected)



- *Dr. Xu wins Pearl Award at 47th annual NAPCRG conference*
- *Dr. Markova named 12 of 6 influential 'Women in Family Medicine' by Michigan Family Physician*
- *Ashleigh Peoples, M4, awarded a Family Medicine Leads Emerging Leader Institute Scholarship*

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April 20, 2022