7TH ANNUAL DEPARTMENT OF FAMILY MEDICINE & PUBLIC HEALTH SCIENCES RESEARCH DAY

APRIL 20, 2023

https://www.collincountytx.gov/healthcare_services/Disparities/Pages/default.aspx

WAYNE STATE
School of Medicine
Department of Family Medicine
and Public Health Sciences

Dear Students, Residents, Faculty and Friends,

Welcome to the 2023 Annual Research Day of the Department of Family Medicine & Public Health Sciences. I want to congratulate and thank our research day planning committee who have done a wonderful job organizing this virtual conference. We are all grateful to be a part of this exciting event that is so well planned.

Throughout the pandemic, we have persevered in the face of challenges, focused intensely on the tasks laid before us. Thanks to all of you, we continue to perform as a top department in the country (ranked in the top 20 nationally, 2nd in Michigan for NIH funding during last five years, based on the Blue Ridge Institute for Medical Research), developing research that improves lives and training of our students and residents as they grow into their role of leading us into a healthier future.

With this background, today we are proud to share with you the scholarly work of our students, residents, faculty and collaborators at our 7th Annual DFMPHS Research Day. The theme for this year's event – "Centering and Celebrating Cultures in Health" – was selected to align our focus with that of the American Public Health Association's theme for its 2023 Public Health Week. Our cultures have always shaped our health. We learn from the communities we're born in and that we build together. Our keynote speaker features Dr. Hayley Thompson, PhD, a Professor and Leader in community-based research at Department of Oncology, Wayne State University School of Medicine and Karmanos Cancer Institute, with title of her talk "Finding Your Voice in Research: Application of Public Health Critical Race Praxis". 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

Professor and Chair

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, BS
Erin Madden, PhD, MPH
Rachel Mahas, PhD, MS, MPH
Youcheng Liu, MD, DS, MS
Julie Gleason-Comstock, PhD
Elizabeth Towner, PhD

Research Divisions
Population Health Sciences
Behavioral Sciences

Patient Care
Wayne Health

WAYNE STATE UNIVERSITY
Warriors for Public Health

Table of Contents

Abstract Key

*	Denotes faculty mentor

Day at a Glance

8:30am	Opening of Event	Dr. Rachel Mahas, PhD, MS, MPH
8:35-8:45am	Welcome Address	Dr. Jinping Xu, MD
8:45-9:45am	Keynote Address	Dr. Hayley S. Thompson, PhD
9:50-10:30am	Student/Trainee Award Talks	Mariam Japaridze, MD Zahra Dawson Emma Streveler
10:30-11:30am	Poster Session	See below schedule
11:30am	Closing of Event	Dr. Erin Madden, PhD, MPH

Poster Session Schedule

	1	2	3
Theme	Health of Patients and Healthcare Workers	Community Public Health	Healthcare Management
Moderator	Youcheng Liu	Julie Gleason-Comstock	Elizabeth Towner
10:30 AM – 10:40 AM	Preti Chowdhury	Abigale Vaquera, MPH	Deepika Baskar
10:40 AM – 10:50 AM	Beza Sahlie, MD	Haria Henry, MD	Amaan Dawood, MD
10:50 AM – 11:00 AM	Maria Tjilos, MPH	Madeleine Reardon	Abdullah Hafid, MD
11:00 AM – 11:10 AM	Sahar Elmenini	Felicia Frabis, MPH	Leo Brayman, MD
11:10 AM – 11:20 AM	Jessica Zhao	Zechariah Jean	Jose Almonte, MD
11:20 AM – 11:30 AM	Margo Mekjian	Catherine Maples	

Keynote Speaker

Hayley S. Thompson, PhD

Professor
Department of Oncology
Wayne State University
Associate Center Director for Community Outreach and Engagement
Karmanos Cancer Institute (KCI)

"Finding Your Voice in Research: Application of Public Health Critical Race Praxis"

Oral Presentations

Of all abstracts submitted for the 2023 DFMPHS Research Day, three representing the medical resident trainees, MPH students, and others were selected by the Research Day Committee as excellent overall abstracts.

Medical Resident Excellent Abstract Award

Empowering Medical Assistnats to Identify and Respond to Abnormal Vital Signs: An Educational Intervention

Mariam Japaridze, MD; Erica Shroff, MD; Tahlianna Almonte, MD; Ronald Benard Saborio, MD; Elizabeth Towner*, PhD
Department of Family Medicine and Public Health Sciences

Vital signs, including blood pressure and heart rate, provide critical information about a patient's overall health and well-being. Frequent monitoring and rechecking of vital signs is essential in identifying potential health issues and ensuring timely interventions. Review of the electronic medical record at the Community Health and Social Service (CHASS) Center, a community health center in Southwest Detroit, over a two-month period revealed that rechecks occurred in only 27.9% of patients with previously abnormal vital signs. A quality improvement (QI) project was thus initiated to address this care gap. The long-term project goal is rechecking occurring for 100% of patients documented as having abnormal vital signs. The improvement goal for the first QI cycle is an increase in vital sign rechecking to 50%. A route-cause analysis of why vital signs were not being rechecked was conducted and ensuring medical assistants know vital sign and rechecking guidelines was selected as the intervention target for the first Plan-Do-Study-Act(PDSA) cycle. A resident member of the QI team provided a brief(20 minutes) vital signs lecture during a regular staff meeting. Educational impact of the didactic was assessed by examining changes in correct responses on a 10-item knowledge questionnaire administered before and after the didactic. Medical assistants also reported on prior vital signs education at CHASS in the pre-didactic survey. The electronic medical record was reviewed in the two months following the didactic to calculate the percentage of rechecks that occurred by the total number of encounters with previous abnormal vital signs. Intervention impact was determined by comparing this value to the QI project goal of 50%. Results: Medical assistants(N=17) participated in the didactic session. Only 35% reported receiving formal vital signs education since becoming employed at CHASS. Mean knowledge score increased from 6.4 before the didactic to 9.4 after the didactic. Medical assistants completed 41.3% of vital signs rechecks in the two months following the didactic. Our intervention was effective at increasing medical assistant knowledge about vital signs and recheck guidelines. Although providing education led to a 13.4% increase in vital sign recheck completion, we did not meet our goal of 50%. Outcomes inform two next steps for this QI initiative. First, we will explore adding vital signs education as part of onboarding for new staff and as an annual refresher for extant staff. Second, we will evaluate whether adding visual reminder cues (e.g., signs and hard stops in clinical templates within the electronic health record system) results in additional increases in recheck completion rates. Verifying a patient's vital signs helps medical provider and ancillary staff determine the appropriate steps to follow regarding a patient's immediate medical care. When used in conjunction with periodic updates for support staff, urgent or emergent life conditions can be identified sooner, and patient care and safety improved. Our project demonstrates the importance of regularly reviewing vital signs and rechecking guidelines. By educating ancillary staff, our goal is to optimize and streamline clinical workflow across a broad range of settings.

MPH Student Excellent Abstract Award

Supporting Patient-Provider Collaboration on Long-COVID through Adaptation of Healthlink for Building Capacity in Patient Centered Outcomes Research

Zahra Dawson, BS; Elizabeth Towner, PhD, MS; Rachel Mahas, PhD, MS, MPH; Anita Friday; Victoria Neale, PhD; Jinping Xu*, MD, MS, FAAFP
Department of Family Medicine and Public Health Sciences

Long COVID (LC), the continuation or new symptoms 3 months after initial infection, impacts ~10% of Americans and affects patient functioning and quality of life (1). LC treatment often begins in primary care settings but disease pathophysiology is unclear and there are few standards for care. These challenges provide an opportunity for patient-provider stakeholder groups to inform research agendas on LC. This project adapted our established Healthlink model to build infrastructure and capacity for patient-centered outcomes research (PCOR) on LC in primary-care settings (2). Providers, office staff, and patients with LC were recruited from MetroNet practice-based research network to serve on an Advisory and Oversight Committee (AOC;N=7) or Primary Care Action Council (P-CAC; N=14). AOC provided feedback on an adaptation of our formal PCOR capacity building curriculum with LC research examples and content from other established curricula. P-CAC members completed the adapted curriculum. Surveys and pre/post knowledge questions were administered electronically to examine curriculum acceptability and research capacity building effectiveness. The Community Priority Index (quantitative approach to priority ranking) was used to identify and rank P-CAC generated LC priorities and to guide future research questions. Mean attendance for virtual AOC and P-CAC meetings was 71% (range 43-100%) and 84% (range 57-93%) respectively. AOC found curriculum content balanced on depth and breadth, presentation style/pace encouraged engagement and supported learning challenges patients with LC might face, and research examples matched P-CAC priorities. P-CAC members rated overall satisfaction as very good or excellent for all modules and endorsed the curriculum as interesting, easy to understand, and relevant. Qualitative themes included motivation for research process participation, preferences for discussion-based activities, and appreciation for opportunities to share personal experiences. An increase in correct answers was observed for most knowledge questions (14/27, 52%). Physical, mental, and cognitive impact of LC were ranked as top research priorities. The diversity of our stakeholder group was a strength but also presented challenges (e.g., perceived lack of new information to someone who has prior research experience/training). Our continuous feedback loop allowed for ongoing adaptations to meet the needs of participants (e.g., recaps added to address concerns about recalling previous content). While the majority of participants found the adapted curriculum engaging and informative, future work should engage stakeholders to explore how to balance the curriculum for those with prior research experience. Difficulties with time coordination for P-CAC meetings also resulted in lower provider attendance. In conclusion, LC is prevalent and problematic. Collaborations between patient and provider groups can provide deep and multifaceted understanding of the disease processes and identify priorities that ultimately improve patient-provider relationship and experience related to management of LC and health outcomes. Healthlink is a feasible and acceptable model for how to build research capacity and infrastructure for these partnerships.

Citations:
1. https://www.kff.org/policy-watch/long-covid-what-do-latest-data-show/
2. https://www.karmanos.org/karmanos/healthlink

Acknowledgement of Funders: This project is funded by a Eugene Washington PCORI Engagement Award, awarded to Dr. Jinping Xu (#EASC-COVID-00268).

Medical Student Excellent Abstract Award

Longitudinal Quality of Life of Men with Low-risk Prostate Cancer in the Population-based Treatment Options for Prostate Cancer Study (TOPCS)

Emma Streveler, BS; James Janisse, PhD, MA ; Justin Woo, MPH ; Michael Goodman, MD, MPH; Jinping Xu, MD, MS, FAAFP; Cathryn Bock*, PhD, MPH
Department of Family Medicine and Public Health Sciences

Multiple treatment options are available for men with low-risk prostate cancer (LPC); active surveillance (AS) is a preferred treatment option according to the current practice guidelines (1,2). AS allows patients with LPC to be carefully monitored for disease progression, and thereby avoiding or delaying invasive curative treatment (i.e., surgery or radiation) and their side effects (3). We hypothesize that men with LPC who chose AS will report higher quality of life (QOL) scores upon 2-year follow-up than those who chose curative treatment (Tx). The longitudinal Treatment Options for Prostate Cancer (TOPCS) cohort study included black and white men ≤75 years with newly diagnosed LPC during 2014 to 2017 from population-based samples recruited from two cancer registries. Patients were grouped by their decision to pursue curative Tx or AS. QOL was assessed at baseline and 2-year follow-up using a mailed survey which included the SF-12 Physical Component Summary (PCS) and Mental Component Summary (MCS), and EPIC-26 measures of urinary incontinence, urinary irritation, bowel function, sexual function, and hormonal function (4–6). To assess QOL differences between the AS and Curative Tx groups at baseline and changes over time after controlling for appropriate covariates, multiple regression analyses and mixed design ANOVA were used. Multiple imputation was employed to handle missing data. Analyses were performed using SPSS version 29 and R version 4.2.2. Of the 1688 patients enrolled at baseline, 1049 were followed-up at 2-years after diagnosis. Among these, 475 (45%) underwent curative Tx, and 574 (55%) were on AS. There were significant declines in all the QOL measures from baseline in the Tx group while there were only minimal changes in most of the measures in the AS group. The time by group interaction was significant in MCS, urinary incontinence, sexual function, and hormonal function. The largest decline was in sexual function in the Tx group (70 vs. 43, p<0.001) while there was a much smaller decline in sexual function (69 vs. 64, p<0.001) in the AS group. Most QOL measures deteriorated to a much larger extent in the Tx group, particularly in sexual function. We are currently collecting 5-year follow-up QOL data to evaluate longer term treatment choice impact (7). Given that most men are initially diagnosed with LPC (45.3% from 1999-2001) understanding the differences in QOL between men with LPC who choose to pursue AS or curative Tx is critical (8). This information will inform treatment guidelines and give physicians and patients the ability to make informed decisions about the plan of care that provides the best patient outcomes. Citation: 1. Nichols CR, Roth B, Albers P, et al. Active surveillance is the preferred approach to clinical stage I testicular cancer. J Clin Oncol Off J Am Soc Clin Oncol. 2013;31(28):3490-3493. doi:10.1200/JCO.2012.47.6010 2. Cooperberg MR. Active Surveillance for Low-Risk Prostate Cancer—An Evolving International Standard of Care. JAMA Oncol. 2017;3(10):1398-1399. doi:10.1001/jamaoncol.2016.3179 3. Loeb S, Bjurlin M, Nicholson J, et al. Overdiagnosis and Overtreatment of Prostate Cancer. Eur Urol. 2014;65(6):1046-1055. doi:10.1016/j.eururo.2013.12.062 4. Ware J, Kosinski M, Keller SD. A 12-Item Short-Form Health Survey: construction of scales and preliminary tests of reliability and validity. Med Care. 1996;34(3):220-233. doi:10.1097/00005650-199603000-00003 5. Einstein DJ, Patil D, Chipman J, et al. Expanded Prostate Cancer Index Composite-26 (EPIC-26) Online: Validation of an Internet-Based Instrument for Assessment of Health-Related Quality of Life After Treatment for Localized Prostate Cancer. Urology. 2019;127:53-60. doi:10.1016/j.urology.2019.02.004 6. Ware J, Kosinski M, Keller S. SF-12: How to Score the SF-12 Physical and Mental Health Summary Scales. Published online January 1, 1998. 7. Xu J, Goodman M, Janisse J, Cher ML, Bock CH. Five-year follow-up study of a population based prospective cohort of men with low-risk prostate cancer: the treatment options in prostate cancer study (TOPCS): study protocol. BMJ Open. 2022;12(2):e056675. doi:10.1136/bmjopen-2021-056675 8. Cooperberg MR, Lubeck DP, Meng MV, Mehta SS, Carroll PR. The Changing Face of Low-Risk Prostate Cancer: Trends in Clinical Presentation and Primary Management. J Clin Oncol. 2004;22(11):2141-2149. doi:10.1200/JCO.2004.10.062 Acknowledgement of Funders: This work is supported by the Department of Defense of the USA, grant number: DoD//W81XWH910794 and the American Cancer Society, grant number: RSG1316401CPPB.

Poster Presentations: Health of Patients and Healthcare Workers

Routine Elastomeric Use and Evaluations in Healthcare (REUSE): Use Barriers in a Three-Month Follow-Up Study at Sinai-Grace Hospital, Detroit Medical Center

Preti Chowdhury; Yougheng Liu, MD, ScD, MPH, MS; Hafsa Usman, BS; Jazmine Mui-Blackmon, MPH; Liying Zhang, MD, PhD; Jinping Xu, MD, MS, FAAFP; Robert Sherwin, MD
Department of Family Medicine and Public Health Sciences; Department of Emergency Medicine; Sinai-Grace Hospital

Reusable elastomeric half-mask respirators (EHMRs) may provide an alternative to assist with supply shortages of N95® filtering facepiece respirators) during pandemics and have been recommended by the U.S. CDC. This 3-month observational study was conducted to examine the feasibility of EHMR wearing in healthcare workers (HCWs) and to assess their use experience and barriers. The hypothesis was that HCWs are able to use EHMRs in their daily healthcare tasks after appropriate training. After training and fit testing, HCWs used the EHMR for 3 months on a daily basis during their patient care tasks. Biweekly, they filled out an online questionnaire to assess barriers. A composite score was calculated by summing up the scores of all seven items of use barrier (scores ranged from 7 to 28), with a higher score indicating a higher level of experienced barrier. The analysis of variance (ANOVA) was used to test the differences in the mean score of barriers among groups. The daily total use hours were also assessed with Chi-square test. The generalized linear model analysis was performed to examine the predictors of average barrier score change over time. A total of 115 participants were consented to participate in this study initially, 68 participated in the 3-month observational follow-up study and 59 participants completed all biweekly surveys. For EHMR wear time, 29.9% used it for 1-3 hours, 24.1% for 4-6 hours, 19.5% for 7-10 hours, and 20.7% ≥ 11 hours. The mean total score for all barrier items was 12.55 (±3.61). There was no significant difference ($p>0.05$) in total mean score among all six biweekly surveys. Physicians had less barriers of using EHMR (9.00 in physicians vs 12.58 in nurses, $p = 0.016$). Younger participants (aged 18-25 years) reported higher scores than older ones (15.67 vs 10.33, $p<0.001$). Participants with high school of education reported a higher level of barrier score compared to those with a higher education (16.50 vs 12.39, $p < 0.01$). African Americans reported higher scores than Caucasians and other ethnic groups (13.06 vs 12.01, nonparametric test $p < 0.03$). After controlling for other covariates, variables at baseline including education, race, and EHMR wear hours were statistically significantly associated with average changes in the barrier scores. Implementing an EHMR use program in a mid-sized hospital is feasible although overall wear time of the EHMR during the work shift was variable. The conversion to the use of EHMRs needs to consider the demographic characteristics of HCWs. Prior training needs to be provided. Further studies at more locations and more EHMR models are needed for improved assessment, and methods to increase the use time needs to be trialed. The study provides evidence that implementing an EHMR use program in a mid-sized hospital is feasible. The EHMR use data may help healthcare organizations to develop strategies to increase EHMR wear time. Adequate training on use is a requirement for use. EHMRs provide alternative respirators during pandemics as well as routine healthcare activities, and healthcare organizations should consider implementing an EHMR program to help mitigate potential N95 respirator shortages and as a reusable respirator alternative to reduce cost.

Routine Elastomeric Use and Evaluations in Healthcare (REUSE): Perspectives of Focus Group Members on Implementing a Reusable Respirator

Beza Sahlie, MD; Youcheng Liu*, MD, ScD, MPH, MS; Jazmine Mui-Blackmon, MPH; Preti Chowdhury, BSPH; Liying Zhang, MD; Jinping Xu, MD, MS, FAAFP; R. Sherwin, MD

Frontline healthcare workers (HCWs) are at increased risk of exposure to highly infectious agents. CDC recommended that elastomeric half-mask respirators (EHMRs) be used as an alternative to N95 filtering facepiece respirators during a supply shortage. This study examined a focus group's perspectives on implementing an EHMR and discussion on the advantages, benefits, potential discomforts, and user barriers of the EHMR. Focus group participants were recruited from a mid-sized hospital, Detroit Medical Center (DMC), in Detroit, Michigan, USA, representing different hospital units. The focus group members consisted of 5 healthcare workers who participated in the CDC EHMR study in using it for 3 months. They were convened to gain their perspectives on implementing the EHMR program in different healthcare units. The semi-structured discussion covered barriers and solutions to implementing the program, and respirator use management, including purchase, storage, distribution, cleaning and disinfection. The results of two EHMR implementation projects of the CDC study we conducted on EHMR use training and fit testing, and its actual use in healthcare settings for three-months were presented to the focus group members as background information. The focus group session was video-recorded on Zoom and lasted 90 minutes, which was transcribed and noted. The comments, feedback and suggestions provided by the focus group members were analyzed thematically by study team members, with findings summarized into major categories. *Management of respiratory protection: This* mid-sized hospital serving disadvantaged communities did not have a Department of Occupational Health to manage the hospital's respiratory protection program, but there was an infection control department that is in charge of setting rules (such as what respirators are allowed and when). *Respirator purchase and distribution:* It was based on the needs of HCWs performing specific patient care tasks. Nurse manager/unit leaders must put in requests followed by multiple levels of approval. Each unit works separately but there are unifying department managers. The purchased respirators were then distributed to the HCWs who needed them. *Storage:* Individual use and storage was preferred. A case designated to each worker's respirator in a central, safe and sanitized area was suggested. *Training:* It is unit-based currently. Having a hospital specific plan is beneficial. *Cleaning and disinfection:* Dish soap and water cleaning at the end of shift was recommended. Disinfection by CDC-recommended Oxivir wipes worked well. *Filter change schedules:* It should be on a yearly basis and controlled by nurse managers. The preliminary results from this meeting indicated that implementing EHMR use programs in healthcare settings is dependent on the size and resources of the healthcare organization. A tailored approach is necessary for each unit based on their duties and potential emergency situations. Lower-level administrators need to support and coordinate the use of respirators during high-risk tasks. Future studies in multiple healthcare organizations can provide more feasible strategies for EHMR use programs that fit different sizes of organizations. Healthcare organizations need to prioritize the investment of appropriate resources and strategies to ensure the effective implementation of EHMR use programs during pandemics or public health disasters as part of their overall plan to mitigate the short supply of routinely used N95 facepiece filtering respirators. The tailored approach suggested in the study highlights the importance of considering the size and needs of each unit to create effective and feasible strategies for EHMR use.

Acknowledgement of Funders: This study was funded by a contract from the U.S. Centers for Disease Control and Prevention (Contract#: 75D30118C02647).

The association of length of stay in the emergency department (ED) with the incidence of adverse events in African American patients transitioning from the ED to the inpatient setting

Maria Tjilos, MPH; Liying Zhang, MD, PhD; James Paxton, MD, MBA; Elizabeth Dubey, MD; John Wilburn, MD; Dennis Tsilimingras*, MD, MPH
Department of Family Medicine and Public Health Sciences

Transitional care adverse events (AEs) are an important public health concern (1-3). Evidence indicates that African American (AA) patients are likely to experience more preventable AEs (4). The association of length of stay (LOS) with AEs in the AA population has been understudied (5). Our study aimed to investigate the association of LOS with AEs in AA patients transitioning from the ED to inpatient setting at Detroit Receiving Hospital and Sinai-Grace Hospital. We hypothesized that AA patients who stayed in the ED longer were more likely to experience AEs in the inpatient setting. We used data from a prospective cohort study of AA patients (n=67) from two EDs during Aug 2020-Jan 2022. After admission to the ED, a trained study nurse conducted bedside interviews using an online questionnaire and reviewed electronic health records during patients' hospitalization. Two trained ED physicians identified AEs independently (their agreement rate was 86%, Kappa statistics=0.72, p<0.01). The LOS was divided into three categories (≤ 5 days, 6-10 days, ≥ 11 days) based on clinical relevance. Descriptive analysis was conducted and group differences on AE incidence were examined using Chi-square/Fisher's exact test for categorical variables and Independent-Sample T-test/Mann-Whitney test for continuous variables depending on the normality test results. Multiple logistic regression was employed to examine the association between LOS and AE incidence after controlling for age, sex, education level, and the number of discharge diagnoses. All statistical analyses were performed using SPSS v28. The mean age of patients was 52.57 years (SD=13.82). Of 67 AA patients, 31 (46.3%) were female, 53.8% had high school education or less, 68.7% had annual household income less than $25,000, and 76.4% had Medicare/Medicaid. The median LOS in the ED was 3.2 days (range: 0-15, IQR: 1.7-7.0). The average number of discharge diagnoses was 5.0 (IQR: 3.0-7.0). The incidence of AEs was 19.4% (n=13). Overall, 76.9% of AEs were preventable and 23.1% were ameliorable. Of 13 AEs, 46.2% (n=6) were adverse drug events, 38.5% (n=5) were management errors, and 15.4% (n=2) were diagnostic errors. Serious AEs accounted for 46.2% (n=6) of AEs. Compared to the patients with LOS ≤ 5 days, those with LOS ≥ 11 days were 21.63 times more likely to experience AEs (p=0.009), after controlling for age, sex, education level, and the number of discharge diagnoses. A prolonged LOS in the ED was significantly associated with AEs in AA patients in the inpatient setting. This could be due to increased opportunity for error. ED LOS can signify disease severity and boarding time in the ED is often a marker of biopsychosocial complexity. In our study, nursing staff shortages and lack of bed availability may have contributed to the prolonged ED LOS. Further research is needed to understand the association of AEs with LOS in the ED. Understanding factors such as LOS in the ED will aid efforts to improve equity in healthcare delivery by enabling hospitals and their EDs to test and develop interventions that improve the transition from ED to inpatient settings. Thus, our study may inform improvements in patient safety and equity during transitions of care.

Citation: 1. Tsilimingras D, Schnipper J, Duke A, Agens J, Quintero S, Bellamy G, Janisse J, Helmkamp L, Bates DW. Postdischarge Adverse Events among Urban and Rural Patients of an Urban Community Hospital: A Prospective Cohort Study. J Gen Intern Med. 2015;30:1164-71. 2. Costello WG, Zhang L, Schnipper J, Tsilimingras D. Post-discharge adverse events among African American and Caucasian patients of an urban community hospital. Journal of Racial and Ethnic Health Disparities 2021; 8:439-447. 3. Tsilimingras D, Zhang L, Chukmaitov A. Postdischarge adverse events among patients who received home health care services. Home Health Care Management and Practice 2019; 31:257-262. 4. Pinheiro LC, Reshetnyak E, Safford MM, Kern LM. Racial disparities in preventable adverse events attributed to poor care coordination reported in a national study of older US adults. Medical Care 2021; 59:901-906. 5. Hauk K, Zhao X. How dangerous is a day in hospital? A model of adverse events and length of stay for medical inpatients. Medical Care 2011; 49:1068-1075.

Acknowledgement of Funders: Funding for this study was provided by the Department of Emergency Medicine at Wayne State University School of Medicine. We thank faculty and staff who contributed to this study. We also thank the support from the Office of the Vice President for Research at Wayne State University.

The Relationship Among Depression, Motivational Factors, and Diabetes Management in Emerging Adults with Type 1 Diabetes

Sahar Elmenini, BA; April Idalski Carcone*, PhD, MS; Deborah Ellis, PhD
Department of Family Medicine and Public Health Sciences

Self-determination theory (SDT) posits intrinsic motivation arises from fulfilling three psychological needs – autonomy, self-efficacy, and relatedness. SDT is useful for understanding the challenges emerging adults (EA, age 18-30) living with a chronic illness, like type 1 diabetes (T1D), face including developing independence, autonomy and new relationships while parental support and involvement decrease. This places EAs at risk for sub-optimal health. Depression can further decrease motivation, as well. The aim of this study is to test the hypothesis that depressive symptoms are associated with motivation (autonomy and self-efficacy) which are associated with diabetes management (DM) in EAs with T1D. Participants (N=52) were from a larger randomized clinical trial testing an intervention to improve DM. At study entry, EAs endorsing higher depression levels also reported statistically significantly lower self-efficacy on the Perceived Health Competency Scale (PHCS; r=-0.350, p=0.011). Self-efficacy assessed by the Diabetes Empowerment Scale (DES; r=-0.217, p=0.123) was not associated with depression, nor was autonomy assessed, using the Treatment Self-Regulation Scale (TSRQ; r=-0.157, p=0.267), although both were in the hypothesized direction. EAs reports of self-efficacy (r_{PHCS}=0.123, p=0.206; r_{DES}=0.055, p=0.701) and autonomy (r=0.178, p=0.206) were not correlated with DM, although responses were in the intended direction. Therefore, in this sample, there was partial support for the hypothesis that depression reduces motivation, but there was not support for the relationship between motivation and DM. Routine depression and motivation screening amongst EAs may be beneficial to improving health management. So that, as EAs develop autonomy, self-efficacy, and relatedness, depression and motivation factors impacting diabetes health are identified and patients referred to support services to address the newly identified, unmet need. Furthermore, screening can allow for a better understanding of the scope of these issues.

Acknowledgement of Funders: Research reported in this presentation was supported by the National Institute of Diabetes, Digestive, and Kidney Diseases under award number R01DK116901. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

The Utility of MRI in Active Surveillance of Low-risk Prostate Cancer

Jessica Zhao, BS; Tara Gloystein, BA; Justin Woo, MPH; Irene Chen, MD; Danni Feng, MD; Jinping Xu*, MD, MS, FAAFP
Department of Family Medicine and Public Health Sciences

Prostate cancer (PCa) is the most common non-skin cancer in American men and the second leading cause of cancer death. However, most PSA-screen detected PCa has an indolent course, especially for those that are classified as low-risk. Low-risk prostate cancer (LRPC) is defined as small, localized cancer with pathology of Gleason Score =<6, and PSA <10mg/dl. Based on clinical practice guidelines, most LRPC cases should be managed initially with active surveillance (AS) until there are signs of cancer progression. Recently, Magnetic Resonance Imaging (MRI) has become an increasingly used tool in conjunction with serial prostate biopsies for patients undergoing AS. However, the precise role/reason for obtaining MRI in the AS protocol is still under investigation. We aim to identify how physician use MRI in LRPC patients undergoing AS. Male patients (n=204) from the metro-Detroit area with newly diagnosed LRPC on AS were identified through a population-based cancer registry (SEER). Patients were surveyed at baseline (<4 months after diagnosis), 2-year, and 5-year follow-up intervals as part of the Treatment Options for Prostate Cancer Study (TOPCS). Through medical record review, we identified if the patient had an MRI for their LRPC while on AS, number of MRIs obtained, and reasons for obtaining an MRI. Subcategories for MRI indication include work up for increase in PSA level, alternate with prostate biopsy, guide for fusion biopsy, and other reasons. Of the 204 patients, 93 (46%) patients had at least one MRI during the 2 or 5-year follow-up and 61 (30%) patients had ≥2 MRIs. Average length of time between the date of diagnosis and the first MRI was 1.21 years (SD=1.18). Among patients with least one MRI, most (n=28, 30%) received it in place of prostate biopsy, followed by increase in PSA (n=23, 25%), other (n=22, 24%), unknown reason (n=17, 18%), and guide for fusion biopsy (n=3, 3%). Among patients who received ≥2 MRI, guide for fusion biopsy was most cited as the reason (n=26, 43%), followed by increase in PSA (n=14, 23%), in place of prostate biopsy (n=9, 15%), other (n=8, 13%), and unknown (n=4, 7%). For those obtaining an MRI for “other” reasons, this included evaluation for high grade lesion, determine eligibility for AS, curative therapy planning, per request of the patient, etc. Interestingly, patients who had at least one MRI were also more likely to have genetic testing and were less likely to remain on AS (i.e. switch to radical treatment like surgery or radiation). In conclusion, almost half of all patients undergoing AS had at least one MRI during the 2 or 5-year follow-up period. Most MRIs were used in place of prostate biopsy or for guidance of fusion biopsy. However, there were a variety of reasons why MRI was being used. Study limitations include a relatively small sample and that findings from metro-Detroit may not represent patterns from other geographical locations. MRI use is increasing, but its role as standard AS protocol requires further investigation. To better understand how physicians use MRI, improving documentation regarding the reason for ordering the test is needed.

Acknowledgement of Funders: This study is funded by the American Cancer Society and the Department of Defense (PI: Jinping Xu, MD, MS).

Citations: Alagbe OA, Westphalen AC, Muglia VF. The role of Magnetic Resonance Imaging in active surveillance of prostate cancer. Radiologia Brasileira. 2021;54(4):246-253. doi:10.1590/0100-3984.2020.0069 Dominique G, Brisbane WG, Reiter RE. The utility of prostate MRI within active surveillance: Description of the evidence. World Journal of Urology. 2021;40(1):71-77. doi:10.1007/s00345-021-03853-9 Ploussard G, Rouvière O, Rouprêt M, van den Bergh R, Renard-Penna R. The current role of MRI for guiding active surveillance in prostate cancer. Nature Reviews Urology. 2022;19(6):357-365. doi:10.1038/s41585-022-00587-0 Rajwa P, Pradere B, Quhal F, et al. Reliability of serial prostate magnetic resonance imaging to detect prostate cancer progression during active surveillance: A systematic review and meta-analysis. European Urology. 2021;80(5):549-563. doi:10.1016/j.eururo.2021.05.001 Sklinda K, Mruk B, Walecki J. Active surveillance of prostate cancer using multiparametric magnetic resonance imaging: A review of the current role and future perspectives. Medical Science Monitor. 2020;26. doi:10.12659/msm.920252

Pilot testing an asynchronous online harm reduction and pharmacotherapy stigma reduction training for substance use professionals

Margo Mekjian, BS; Mindy Vincent, LCSW, MPA; Felicia Frabis, MPH; Erin Fanning Madden*, PHD, MPH; Tyson S. Barrett, PhD; Suzanne Prevedel, MEd; Chris Mejer, PhD, MPH, MSW; Claire Warncik, MA; Maren Wright Voss, ScD, PhD; Sandra Sulzer, PhD
Department of Family Medicine and Public Health Sciences

Overdose deaths in the United States increased over 1000% in the last decade, including 103,000 overdose deaths in 2021. The growing number of drug overdose deaths has emphasized the need for intervention. Both harm reduction and pharmacotherapy interventions for substance use disorder (SUD) display strong evidence for reducing adverse events and drug overdose risk. Despite this substantial evidence, stigma continues to withhold the use of these interventions. Previous stigma research suggests that contact-based educational interventions that connect professionals to individuals with lived experience and allow opportunity for self-reflection reduces stigmatizing attitudes towards people who use drugs (PWUD). There is a gap in stigma research on stigma interventions specifically aimed at substance use treatment providers and altering their attitudes toward evidence based interventions. Purpose: This pilot study aimed to explore changes in attitudes and planned actions associated with an online harm reduction and pharmacotherapy training among substance use professionals. A free 4-hour asynchronous online harm reduction and pharmacotherapy curriculum was delivered to healthcare professionals who work with PWUD between 2020-2021. Pre- and post-training surveys used Likert-scale questions to assess knowledge, attitudes, and planned actions. Stigma scores were calculated for each participant based on survey responses, with higher scores indicating more stigmatizing attitudes. McNemar tests were performed to analyze pre-and post-test changes in stigma. A total of 76 participants completed the training and 32 participants completed both the pre- and post-survey (n=63 responded pre-training and n = 36 responded post-training). Five of the 23 survey items demonstrated a significant change in attitudes and planned actions relating to harm reduction or pharmacotherapy interventions after the training. These items included attitudes towards: methadone and buprenorphine (P=.021), overdose prevention sites (OPS)/“drug consumption facilities'' (two items, P=.025, P=.056),naloxone distribution (P=.017), and intent to promote pharmacotherapy interventions (P=.006). The majority of these survey responses to stigmatizing attitude statements changed from “neutral” in the pre-survey to “disagree” in the post-survey, demonstrating increased acceptance of harm reduction strategies following the training. This study demonstrated that online asynchronous educational interventions show promise in reducing stigmatizing attitudes towards harm reduction and pharmacotherapy in substance use treatment providers. Our study fills a gap in research seeking to reduce stigma toward evidence-based practices among substance use treatment providers and illuminates a need for addressing the underlying drivers of stigma in this population. Future research may benefit from using a more robust randomized study design to build upon the results seen in our study and identify strategies that go beyond education to target the wider societal factors influencing stigma. SUD and drug overdose are public health emergencies in the US. Interrupting stigma in the substance use treatment workforce is a step towards curbing this crisis. Online educational interventions are cost effective and low burden, making it a feasible intervention.

Acknowledgement of Funders: Project funding was provided by the United States Department of Agriculture, National Institute of Food and Agriculture (USDA-NIFA), Rural Health and Safety Education Award No. 2018-46100-28782.

Poster Presentations: Community Public Health

Building Community Capacity for Research for Cardiometabolic Health in Detroit

Abigale Vaquera, MPH; Tanisha-Kelly Garret, BS; Jillian Sjostrom, BS; Parada Jordan, MS; Rhonda Dailey*, MD; Elizabeth Towner, PhD; Deborah Ellis, PhD
Department of Family Medicine and Public Health Sciences

Cardiovascular disease is the leading cause of death in the United States with persistent inequities among African Americans (AA). The ACHIEVE Greater Center (NIH P50MD017351) was established to decrease cardiometabolic disparities in AA communities of Detroit, MI, and Cleveland, OH. A primary aim of this work is building infrastructure to support community engagement across the continuum of research being conducted within the center. This abstract describes processes and emergent outcomes of adapting the research capacity-building component of the Healthlink model for use with members of our Cardiovascular Health Equity Action Council (CHEAC) which is integral to the center. An Advisory and Oversight Committee (AOC) of academic researchers, community members, physicians, and project staff met monthly to adapt our 10-module Building Your Capacity for Community Engaged Research curriculum specifically to cardiovascular health equity research. The curriculum is virtually delivered to the 24-member CHEAC. Detroit CHEAC members completed surveys at each module to discern knowledge gained and module. satisfaction The Community Profile Index was used to identify and rank CHEAC research priorities. Concept mapping is being applied to guide developing research questions to address CHEAC priorities and inform pilot projects funded by the larger P50 grant. Changes recommended by community AOC members included adding more images of older AA adults to slides, reorganizing content to improve comprehension (e.g., tables instead of bullet points), and simplifying language. Mean attendance at curriculum sessions is 83% (range 67-100%). Detroit CHEAC members have rated each completed curriculum module as "very good" to "excellent" and described content as informative, understandable, and relevant. Curriculum modifications include adding interactive polls, more breakout room activities, and starting each module with recap of previous content and review of answers to knowledge questions. Knowledge increases were observed for 15/21 questions and CHEAC members answered some questions correctly before completing modules. Top research priorities identified are social determinants of health, education, environment, and nutrition. Including community members in the curriculum adaptation process is a valuable way to gain insight into how to make material meaningful for the community, promote positive group dynamics, and maximize engagement in virtual curriculum sessions. CHEAC feedback allows quick tailoring to meet the group's learning needs. CHEAC members find the curriculum valuable to their understanding of research practices, community involvement in academic settings, and identifying priorities that matter to their communities. Data suggests the curriculum is aiding the research team in achieving the goal of building community capacity for research to address cardiovascular health equity. Our partnership experience demonstrates the willingness of community members to engage in the research process. Engaging communities in partnerships across the research continuum is necessary to improve cardiovascular health equity. Healthlink model is effective in increasing community research knowledge and building research skills; a critical step for community members to voice needs and concerns.

Acknowledgement of Funders: NIH

Implementing new services at WSU Mobile health unit using a community health asset survey

Haria Henry, MD; Jahanavi Ramakrishna, MD; Matthew Merranda, MD; Tahlianna Almonte, MD; Capricia Bell; Arichena Manmatharayan, MD; Amy Cortis, MD
Department of Family Medicine and Public Health Sciences

Minority and vulnerable groups populations continue to experience significant health inequities. Inequitable distribution of social determinants of health and lacking accessibility to quality healthcare are well established barriers to meeting the health needs of these populations. Mobile health clinics (MHCs) can address many of these barriers as by a means of leveraging existing community assets to improve chronic disease outcomes, increase rates of preventative health screenings, and decrease emergency room visits in underserved groups. This method of healthcare delivery is flexible, able to dynamically respond to evolving community needs and fill gaps in the health-care safety net. The Global Health and Urban Equity (GLUE) program at Wayne State University aims to address health inequities in urban populations worldwide through research, education, and community engagement. The program aims to bring together interdisciplinary teams of scholars and practitioners to develop and implement innovative solutions to health challenges faced by urban populations. Wayne State University's (WSU) Mobile Health Unit, an initiative that initially started as an emergency response to COVID-19 but, due to its success, is in the process of expanding services provided. Each member of GLUE chose a capstone project that involved conducting research on a particular health equity issue, analyzing the data, and proposing a solution or intervention to address the issue. GLUE members along with the WSU Mobile Health Unit conducted a needs assessment survey to identify the health issues and concerns that are most pressing for the community, as well as the available resources, such as healthcare facilities, social services, and community organizations. This information can then be used to develop targeted interventions and outreach strategies to address the identified health issues and leverage the available resources to support the health of the community. The GLUE Capstone team developed a community health asset survey for the purposes of this project. Using single or serial validated surveys to assess community member healthcare needs. The surveys will be completed on paper or electronically, then entered into a database for further review by team members. Each survey inquired about healthcare and preventative services that participants would want to see implemented at each site. The team began distributing surveys (both paper/pencil and electronic options are available) at MHU sites in February 2023. Data collection will continue until April 2023. Data collected will facilitate developing new interventions and identifying resources suggested by community members and site leaders. The project may have uncovered new opportunities or challenges that required a shift in focus or priorities. Initially some of the objectives were to examine barriers to community level needle exchange programs and implementation of women sexual health screening and preventive services in established the Mobile Health Unit. Through further evaluation and collaboration with the MHU leaders, moving in the direction of community health asset survey was the priority. We anticipate proposing a wound care component utilizing resident physicians or medical students volunteering at each site. In the future we would also propose a partnership with Wayne Health for STD/STI treatment and dental services. Two primary drivers of modern healthcare inequity are the lack of access to and relative disincentivizing primary and preventive care. Mobile health is one approach to address these barriers and improve health equity. By involving community members in the Detroit area in the survey process, the mobile health unit can help to build trust and rapport with the community, which can lead to greater engagement and participation in health promotion activities and services. Downstream, greater morbidity related to preventable conditions such as diabetes, colon cancer, sexually transmitted infections, and hypertensive heart disease is conferred on vulnerable, underserved patient populations. For this reason, there has been increased movement on the national scale towards more community-centric methods of care delivery. This appears in the form of free clinics, student run health centers, and mobile healthcare delivery systems which serve to meet underserved populations in settings other than the brick and mortar of contemporary hospitals.

Implementing the Reach for Control Intervention for Youth with Asthma: Exploring Caregivers' Impressions

Madeleine Reardon, BA; April Idalski Carcone*, PhD, MSW; Deborah Ellis, PhD, MA
Department of Family Medicine and Public Health Sciences

Adolescents with asthma are at increased risk for poor illness management compared to younger children leading to frequent emergency department visits or hospitalizations. Black adolescents are at even higher risk but effective interventions are lacking. Reach for Control (RFC), a homebased, family intervention delivered weekly over a six-month period, was developed to improve asthma management among Black youth with ≥2 ED visits. RFC was delivered by community health workers (CHWs) from Kids Health Connection, a community agency in Detroit, and tested in a randomized controlled trial. The present study explored caregivers' impressions of RFC, including delivery approach, location and content. Research assistants interviewed caregivers (*N*=45) who received RFC using open-ended questions. Interviews were audio-taped and transcribed for analysis. Two coders analyzed the interviews using conventional content analysis resolving coding discrepancies to consensus. Caregivers rated RFC's "helpfulness" 9.2 out of 10 where 10 meant "extremely helpful". Caregivers expressed satisfaction with the intervention content reporting significant *knowledge gain* (asthma education, working with the healthcare team, and working with the school) from participating in the program. Suggestions to improve content included additional asthma education, emotional coping skills, and social support for asthma. Caregivers highlighted the importance of tailoring intervention content and intensity to individual needs, e.g., titrating education to families' current level of asthma knowledge. The majority of caregivers were satisfied with the intervention duration (88%) and session frequency (64%). Most preferred home-based intervention sessions because it saved time and cost, was comfortable, and convenient. Some caregivers reported barriers to home-based treatment such as being distracted at home by frequent interruptions. Other attendance barriers related to life events, like deaths in the family, or work and school commitments. In Feedback on the Agency, caregivers described positive experiences working collaboratively with CHWs. Caregivers reported CHWs understood their non-asthma-related needs, like food insecurity, and effectively engaged the whole family unit in care. For those engaged in treatment during the pandemic, they valued the social connection and emotional outlet the CHWs provided. Overall, caregivers found the program helpful and valuable for improving asthma management. Caregivers valued RFC's educational content, at-home session delivery, and engagement with the CHWs. These results highlight the acceptability of home-based delivery intervention and care. Home-based delivery facilitated attendance and eliminated barriers related to transportation and childcare allowing RFC to reach disenfranchised families. Caregivers responded positively to working with CHWs, feeling comfortable and engaged in an intervention to improve their child's asthma management without fear of judgment. CHWs have previously been shown to be effective agents in meeting families' needs and understanding their lived experiences to support better illness management.

Acknowledgement of Funders: Research reported in this presentation was supported by the National Heart, Lung and Blood Institute of the National Institutes of Health under award number R01DK116901. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Planning a Multi-Level Intervention to Reduce Substance Use Stigma in HIV Prevention and Care

Felicia Frabis, MPH; Erin Fanning Madden*, PhD, MPH; Mark Greenwald, PhD; Jonathan Cohn, MD; Fares Qeadan, PhD
Department of Family Medicine and Public Health Sciences

Stigma towards people who use drugs (PWUD) is well documented and arises from multiple mechanisms, including from health professionals. This "provider-based stigma" can intersect with stigma from other sources, including "structural stigma" from policies or individuals who carry out policies. Provider-based stigma can create barriers to accessing health services for PWUD. Existing stigma intervention research primarily focuses on education to reduce stigma among medical students in various healthcare settings. There is limited research that addresses structural drivers of provider-based stigma and effective interventions in primary care settings. The goal of this project is to use qualitative interviews with primary care personnel to identify organizational policies that may reduce structural drivers of stigma and enhance the effects of professional education on reducing stigma toward PWUD. These data are part of a larger project to plan and execute a trial study that will assess whether educational interventions, when combined with facility policy changes, may improve provider attitudes and behaviors towards PWUD, and whether these changes result in improved patient outcomes, especially those related to HIV prevention and care. Purposive sampling was used to select primary care personnel for semi-structured qualitative interviews. Patient-facing personnel were interviewed from October 2022 – February 2023. Participants were recruited via email by nine clinic administrators at primary care sites who agreed to support the trial planning as paid site planning stakeholders. Recruitment targeted a diverse range of primary care roles from prescribers to transportation drivers. Interviews lasted between 36-69 minutes via Zoom and were recorded and transcribed. Interview participants received $100 for participation. Data collection and analysis occurred simultaneously and were guided by the Qualitative Description Approach. Thematic analysis was used by the Lead PI and Research Coordinator to code and identify major themes/subthemes. Results were member checked with the site planning stakeholders after being de-identified. A total of 15 interviews were collected and analyzed. Four main categories of drivers of stigma towards PWUD were identified: patient-level factors, professional-level factors, internal clinic-level factors, and external factors. The interviews described what stigma looks like in primary care context, which included individual-level behavior, low resource levels impeding care quality, and policies that unintentionally stigmatize PWUD. Finally, participants expressed enthusiasm for two potential stigma reduction interventions: professional training and inclusion of peer support workers. However, other interventions, including changes to urine drug screening practices and increasing clinical encounter times elicited mixed responses. These data provide indications of feasible and acceptable stigma interventions to test in primary care settings. Most research on stigma focuses on educational interventions, but this project provides preliminary data on additional organizational interventions that may be tested to determine whether they enhance the impact of education on provider-based stigma and health outcomes among PWUD.

Acknowledgement of Funders: Funding for this project is provided by the National Institutes of Health – National Institute on Drug Abuse (NIH-NIDA) award #R34DA053758.

Residential Racial Segregation and Neighborhood Adversity: Associations with Hemoglobin A1c in Adolescents with Type 1 Diabetes

Zechariah Jean, BS; April Idalski Carcone, PhD, MS; Deborah Ellis*, PhD, MA
Department of Family Medicine and Public Health Sciences

Black adolescents with Type 1 Diabetes (T1D) are at increased risk for disparities in health outcomes. Limited research is available on the effects of neighborhood characteristics such as residential racial segregation (RRS) and neighborhood adversity on health. The purpose of this study was to determine the degree to which glycemic control is associated longitudinally with residence in segregated neighborhoods or neighborhoods with high adversity. 149 Black youth with T1D were recruited from seven pediatric diabetes clinics in Detroit and Chicago to participate in a clinical trial to improve diabetes management. RRS was calculated at the census block group level based on US census data using Location Quotients. LQs represented the ratio of patients to total population in the block group compared to the same ratio in the metro area. Neighborhood adversity was assessed at the census block group level using the Neighborhood Adversity Index (NAI). Bivariate associations between RRS, NAI and HbA1c were calculated at baseline and 18-month follow-up, controlling for multiple factors including age, sex, and family income. At baseline, mean youth age =13.4 years + 1.7, mean family income = \$35,276 + \$27,181, and 49.7% were from single-parent households. Mean HbA1c = 11.49 ± 2.71, suggesting suboptimal control. In bivariate associations, baseline HbA1c was significantly associated with RRS (r=.32, p=.002) and NAI (r= 0.35 p= 0.001) concurrently and at 18-month follow-up, RRS (r=.38, p= .001) and NAI (r=.25 p=.016). Black adolescents with T1D residing in adverse and segregated neighborhoods are more likely to have persistently poorer glycemic control. Residing in more adverse and more highly segregated neighborhoods was associated with poorer glycemic control over an 18-month window, even after accounting for family income and other demographics. Further studies are needed to understand if moving between neighborhoods affects glycemic outcomes or whether neighborhoods affect long-term health. Culturally competent physicians are vital for providing information to patients on neighborhood resources which could mitigate the effects of residence in adverse contexts on health. Routine screening of families for neighborhood adversity during health care visits and connecting them to community resources should also be considered.

Increasing Public Vaccine Uptake through Peer-to-Peer Education with High School Vaccine Ambassadors

Catherine Maples; Soham Desai; Sofia Howson; Jack McConnell; Jennifer Schmidt; Teena Chopra*, MD, MPH
Department of Internal Medicine

Despite the widespread availability of a COVID-19 vaccine, Michigan and its counties have not reached herd immunity. Detroit only has a COVID-19 vaccination rate of 75.1% since the beginning of the pandemic.[1] To improve vaccination rates and overall health, there needs to be a movement towards community involvement and education in vaccines. Key members of the community that are often overlooked as agents of change are the youth. The Vaccine Ambassador Program was implemented with highly motivated Detroit area high school students. Ambassadors were educated on the history of vaccines, immunology behind vaccines, types of vaccines, administration and side effects of vaccines, herd immunity, aspects of false news, and different teaching and leadership techniques. Ambassadors aimed to spread this knowledge through outreach events in Detroit area communities to lower misinformation and increase vaccination. Participants were given two surveys—a pre-survey and a post-survey with the same seven questions to determine what they knew previously to what they learned during the educational session. These questions gauged participants' level of knowledge regarding vaccinations and immunity. Results were analyzed by comparing both mean responses and individual responses before and after ambassador presentations with a paired sample t-test ($\alpha=0.05$). This on-going study has preliminary results from 25 participants. Ages range from 6-12 years old. The average correct answers from the pre-survey are 45% ($s^2 = 0.05$). The average correct answers from the post-survey are 82% ($s^2 = 0.06$). The paired sample t-test was significant meaning there is a statistically significant difference between the two means ($t=-6.71$, $p>0.001$). One participant answered all the questions correct on the pre-survey and thirteen who answered all correctly on the post-survey. The number of correct answers in the pre- and postsurvey increased for every question. This study has preliminarily showed that Detroit area children are not well versed on what vaccines are, how vaccines work, or why they are used. Children were not able to determine whether vaccines were a treatment or a preventative measure and believed that vaccines and antibiotics work the same way. Based on the pre-survey responses, it is apparent that Detroit youth lack information regarding vaccines. This proves there is a significant knowledge barrier to understanding the methodology behind vaccines amongst the youth and demonstrates the need to educate them about vaccines. The increase in post-survey responses shows initial success and effectiveness of youth-led health education in the community. Not only are youth able to learn, but they are able to apply their knowledge and teach others. By teaching their peers, youth can make informed decisions when older and enact behavioral changes that promote healthier living. This program could be implemented in any other community to increase vaccine knowledge and vaccination rates. Programs that tackle other public health related issues may mirror this format. For example, antibiotic resistance awareness, advocating for policy change, and human papilloma virus (HPV) education. By equipping the youth with knowledge and empowering them to share it, this program can have a lasting impact on the health of the current and future community. This education will bridge the gap and introduce more trust between communities and healthcare workers.

Poster Presentations: Healthcare Management

Evaluating the Impact of Patient-Provider Relationships on Adherence to Type 1 Diabetes Management Tasks and Glycemic Control in Emerging Adults

Deepika Baskar; April Idalski Carcone*, PhD, MS; Deborah Ellis, PhD, MA
Department of Family Medicine and Public Health Sciences

Type 1 Diabetes (T1D) is a demanding chronic illness affecting approximately 3 million youth and adults in the United States. T1D requires patients to engage in diabetes care tasks (i.e., regular monitoring of blood sugar, insulin delivery, carbohydrate counting) and frequently meet with clinicians for medical management. During adolescence, T1D management declines due in part to changes in parental involvement. Although T1D management was thought to improve during adulthood, poor diabetes management persists into emerging adulthood (EA). The transitional period of EA (18-25 years), characterized by identity development and the desire for autonomy, places some EAs at risk for poor adherence to T1D care tasks. Some prior studies have shown that EAs with positive patient-provider relationship (PPR) quality demonstrate improved adherence to T1D care tasks and glycemic control. However, this work was completed with predominantly White samples. This study aimed to evaluate the association between PPR quality, adherence to T1D care tasks, and glycemic control in EA. The study secondarily aimed to test whether perceptions of PPR quality vary between White, Black, and other ethnically under-represented EA. Fifty-one EAs (16-25 years) with T1D, recruited from care providers in Detroit, attended one study visit. During the visit, EAs completed surveys gathering demographic and illness characteristics. Youth participating in the program also completed questionnaires evaluating perceptions of PPR quality and T1D management. Perceptions of empowerment by the diabetes care provider was measured using the Patient Activation Scale (PAS). Relationship quality was assessed using the Health Care Climate Questionnaire (HCCQ). Adherence to T1D care tasks was measured using the Diabetes Management Scale (DMS) and glycemic control, the primary T1D outcome, with the hemoglobin A1C (HbA1c) lab test. Correlation coefficients between the DMS and PPR measures (PAS and HCCQ) did not demonstrate statistical significance and were not in the hypothesized direction. Correlation coefficients between HbA1c and PPR measures (PAS and HCCQ) did not demonstrate statistical significance but were in the hypothesized direction. Independent samples t-tests did not identify significant differences in PPR quality between White EA and Black or ethnically underrepresented EA. The results of this study did not support the hypothesis that T1D management, glycemic control, and PPR quality are related in a diverse sample of EAs. Nor was the quality of the relationship with the healthcare provider different for youth from ethnically underrepresented backgrounds than for White youth. The diabetes literature suggesting that positive PPR quality is associated with improved adherence to diabetes care tasks and glycemic control are primarily focused on White adolescent and adult patient populations. These results suggest that other factors may be more important in predicting T1D management among EAs than the quality of the PPR. Further research may be needed to understand the role that PPR quality or racial-ethnic disparities play in EA living with T1D.
Acknowledgement of Funders: Research reported in this presentation was supported by the National Institute of Diabetes, Digestive, and Kidney Diseases under award number R01DK116901. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

A Point of Care Educational Intervention to Improve Hand-Hygiene Compliance in Enhanced-Contact Precautions

Amaan Dawood, MD; Katrina Siemiesz, MD; Lauren Hodge, MD; Canada Steve Nguyen, MD; Monica Aguilar, MD; Imo Udo-Inyang, MD; Eleanor King*, MD; Molly Guerin
Department of Family Medicine and Public Health Sciences

Enhanced-Contact Precautions (ECP) are instructions to prevent the spread of infectious diseases that are resistant to routine measures. For example, the spore-forming bacteria *Clostridium difficile* is resistant to alcohol-based solutions and requires soap and water to perform adequate hand hygiene (HH) which is one of the instructions of ECP. HH is the most impactful intervention to prevent health-care acquired infections (1). Studies have shown that even the location of a sink can impact HH behavior (2). The COVID-19 pandemic has increased the use of alcohol-based solutions worldwide (3). We hypothesized that this shift may impact how health-care providers (HCP) perform HH when managing patients with ECP and aimed to developed an intervention to encourage soap and water instead. Data was collected on ECP HH compliance from 10/22 - 10/28/2022 and 02/16 – 02/28/2023 by direct observation of all ECP patient rooms during these time periods. Data was collected with the following methodology: a list of patients with a known infection from *Clostridium difficile* was generated by the infection control team daily and shared with our QI team. A member of the team would position themselves in direct view of the door of these patient rooms and record all HCP entering and leaving the room, as well as which type of HH they employed. This required no financial investment and enabled the team, by being physically present outside these patient rooms, to stop and educate providers at the point of care if they utilized inadequate HH. The education was provided by the authors listed and medical students and included reminding the staff member of the correct ECP HH techniques, how they work and why they are important. Observations were completed in this manner and categorized by indication (before or after patient room) and for the type of hand hygiene performed: alcohol rub, soap and water or none. Observations included HCP in all fields and departments. 149 HH observations were in October 2022 and the majority were on nursing staff (40%, n = 59), nurse assistants (26%, n = 38) and physicians (8%, n = 12). 62 HH observations were performed in February 2023 and consisted of nursing staff (50%, n = 31), nurse assistants (6.5%, n = 4) and physicians (6.5%, n = 4). HH compliance was defined as the use of soap and water exclusively when leaving the patient room, however upon entering the room either soap and water or alcohol hand rub was considered acceptable. 48% (n = 71) of HH observations in October were compliant with ECP and 29% (n = 18) in February. Our results, unfortunately, showed a decline in HH compliance over the duration of this project and our point-of-care education. During this time period, however, there was a decrease in the percentage of HCPs who completed no HH, 42% and 38% respectively. Use of alcohol rub increased, 28% to 61% respectively. We speculate that the seasonal change in compliance may be related to COVID-19 surges, regionally. Looking at the three weeks leading up to each session of observation we see a 65% increase in daily COVID cases between October 2022 and February 2023 in Oakland county (4.) We hypothesize that during and after COVID surges, HCPs are more inclined to engage in HH but favor alcohol-based rubs which would be appropriate for COVID but inadequate for ECP. Based on our findings, for future investigations, we would like to survey HCPs on knowledge and barriers regarding ECP and keep hospital-specific data on the relationship to COVID-19 cases. Appropriate HH can mitigate the transmission of preventable infections like *Clostridium difficile* which is a public health issue, especially when cases are contracted within our hospital systems. Systematic and repetitive educational interventions may help to encourage appropriate HH and prevent this potentially deadly outcome. The COVID-19 pandemic has brought a focus on preventing spread of COVID-19 but may have had an impact on *Clostridium difficile* infections that are not susceptible to the same precautions.

A Sequential Exploratory Mixed Methods Research Approach to Lifestyle Change of Detroit Residents During the Covid-19 Pandemic

Abdullah Hafid, MD; James Blessman*, MD
Department of Family Medicine and Public Health Sciences

Detroit as a geographic location and gender as a demographic factor are interesting to focus on in a study of lifestyle habits during COVID-19. Regarding gender, studies have explored gender differences in COVID-19-related lifestyle habits, including mask-wearing, social distancing, and handwashing [1,2]. Additionally, Detroit has been affected by COVID-19 differently than other regions, with a higher infection rate and mortality rate than the rest of Michigan [3]. The hypothesis is that there may be differences in gender with lifestyle habits of Detroit residents aged 18 years and older. This study utilized a sequential exploratory mixed methods research approach that involved a qualitative phase followed by a quantitative portion. Convenience sampling was used during both surveys as subjects were sought from the author's social network. In addition, snowball sampling was implemented to increase the sample size by asking participants to share surveys with family and friends. A phenomenology model guided the qualitative section to understand the essence of lifestyle changes during the Covid-19 pandemic. The qualitative portion yielded eight surveys, and one person analyzed and coded the data. The codes and themes were derived by hand without using online software. The quantitative survey inquired about gender and self-reported lifestyle habits during Covid-19. There were ten responders with, five males and five females. The quantitative data was extrapolated from surveys into SPSS, and a cross-tabulation frequency table was designed to show the differences among gender for each lifestyle-based question. Chi-square and Fisher-Freeman-Halton tests were used to determine associations among data. The qualitative results showed some recurring codes. One was that individuals had increased food intake, "more overall calories," and "eating more than usual." Others indicated "Uber eats" were utilized more. One notable theme boiled down to fewer in-person interactions. There appeared to be fear or restriction on activities to maintain good health during the Covid-19 pandemic. In the quantitative section, 80% considered their caloric intake to have increased, 70% had at least four servings of fruits and vegetables daily, and 60% endorsed an increase in food delivery services and decreased exercise. Nonetheless, only 30% stated to get an hour of moderate to intense exercise daily. There were 60% who endorsed a shutdown or limitation on exercise facilities, 80% whose outdoor social interaction decreased, and 90% denied their health had improved since the pandemic began. There was no statistically significant association between gender in any lifestyle question or dependent variable. The findings of this study suggest that COVID-19 has had a significant impact on the lifestyle habits of Detroit residents, similarly for both men and women. One limitation of this study is the small sample size, which may limit the generalizability of the findings. Additionally, convenience and snowball sampling may have introduced bias into the sample. Overall, this study provides valuable insights into the impact of the COVID-19 pandemic on the lifestyle habits of Detroit residents. Future public health goals should investigate mitigating unhealthy dining habits, finding solutions for social interaction, and providing resources and support for individuals to maintain their physical and mental well-being.

Citation:

1. Galasso V, Pons V, Profeta P, Becher M, Brouard S, Foucault M. Gender differences in COVID-19 attitudes and behavior: Panel evidence from eight countries. Proc Natl Acad Sci U S A. 2020 Nov 3;117(44):27285-27291. doi: 10.1073/pnas.2012520117. Epub 2020 Oct 15. PMID: 33060298; PMCID: PMC7959517.
2. Cholankeril R, Xiang E, Badr H. Gender Differences in Coping and Psychological Adaptation during the COVID-19 Pandemic. Int J Environ Res Public Health. 2023 Jan 5;20(2):993. doi: 10.3390/ijerph20020993. PMID: 36673747; PMCID: PMC9859033.
3. Michigan Department of Health and Human Services. (2021). COVID-19 data. Retrieved from https://www.michigan.gov/coronavirus/0,9753,7-406-98163_98173---,00.html

---

HOCUS POCUS: Introducing the Magic of Ultrasound to Family Medicine Residents

Leo Brayman, MD; Alexander Christofis, DO; Donald Johnson, MD; Ankur Kapadia, MD; Olivia Schimmel, MD; Kathryn E. Cox*, MD, MS
Department of Family Medicine and Public Health Sciences

Point of Care Ultrasound (POCUS) is a rapidly evolving technology used by many medical specialties.[1] It has been shown to improve clinical outcomes, increase the efficiency of care, and lower costs. The American Academy of Family Physicians (AAFP) recommended POCUS training as part of Family Medicine (FM) residency programs.[2] However, many FM residency programs have yet to integrate a POCUS curriculum.[3] The aim of the Quality Improvement project (QI) is to implement a formal POCUS curriculum utilizing AAFP's guidelines. Prior studies have demonstrated that didactic and hands-on POCUS training improves FM resident confidence and comfort in POCUS utilization.[4] We are focusing on improved resident comfort with POCUS in regards to: medical decision making, patient evaluation, and treatment. We followed the Plan, Do, Study, Act (PDSA) model, specifically the Plan and Do phases. Over the course of November 1, 2022 until present, we conducted three 1-hour voluntary POCUS training sessions with FM residents utilizing didactic and hands-on training. Additionally, residents had access to only POCUS modules. Residents were given an anonymized survey pre- and post- training session to determine resident confidence in: using and interpreting POCUS, medical decision making, patient evaluation, and treatment. Surveys utilized a 5-point scale. Each training session had 9 FM resident attendees. Of the 9 attendees, 7 completed the pre-session survey and 6 completed the post-session survey. Prior to the first session, resident confidence in evaluating a patient using POCUS averaged 1.29 (0.49). This increased to 3.17 (0.75) by the end of the third session. Confidence in medical decision-making based on POCUS findings increased to 3.17 (0.75) after the third session. With regard to providing therapeutic intervention, resident confidence increased to 2.5 (0.84) at the end of the third session. Post-session, all residents (N=6) either agreed or strongly agreed that they had improved confidence in using and interpreting POCUS to improve quality of care and allow for more cost-effective care. Our results show participants in our training sessions had increased confidence with utilizing POCUS technology, implementing medical decision making based on their skills, and that they will be able to provide more cost-effective care. Based on this QI project, our next steps will expand on the number of training sessions and participants with a goal towards implementation of a formal POCUS curriculum at the Wayne State University Family Medicine Residency Program. POCUS training is a worthwhile endeavor to train family medicine residents in providing cost-effective care.

Citation:

1. Arnold MJ, Jonas CE, Carter RE. Point-of-care ultrasonography. *Am Fam Physician*. 2020;101(5):275-285
2. Capizzano JN, O'Dwyer MC, Furst W, et al. Current State of Point-of-Care Ultrasound Use Within Family Medicine. *J Am Board Fam Med*. 2022;35(4):809-813
3. American Academy of Family Physicians. AAFP Recommended Curriculum Guidelines for Family Medicine Residents Point of Care Ultrasound. Reprint No. 290D. https://www.aafp.org/dam/AAFP/documents/medical_education_residency/program_directors/Reprint290D_POCUS.pdf.
4. Johnson J, Stromberg D, Williams, B, Greenberg N, Myers O. Point-of-Care Ultrasound for Family Medicine Residents: Attitudes and Confidence. Fam Med. 2021;53(6):457-460. https://doi.org/10.22454/FamMed.2021.930080.

Improving Advanced Care Planning in an Outpatient Academic Family Practice Residency Program

Jose Almonte, MD; Arshdeep Chauhun, MD; Hanna Hanna, MD; Zainah Rasheed, MD; Asal Yousif, MD; Andrea Milne*, PhD
Department of Family Medicine and Public Health Sciences

A majority of people would prefer to pass away at home[1]. For the first time in the 20th century, this wish has become a reality in the United States[2]. This is due in part to better community understanding of hospice/palliative care, and also greater societal importance placed on Advanced Care Planning (ACP). ACP is accomplished in several ways, including by utilizing the comprehensive and personalized end-of-life planning Five Wishes[3] (FW) document. The aim of this Quality Improvement (QI) study is to better serve the wishes of our patient population by investigating the effectiveness of ACP in our clinic – Rochester Academic Family Medicine (RAFM) using the FW tool. Medicare Wellness visits at RAFM in May 2022 were examined via electronic medical records. Information gathered included: the presence of pre-existing Durable Power of Attorney (DPOA) paperwork, the Patient's current wishes, and if the clinic received DPOA paperwork after the visit. The first cycle of our Plan, Study, Do, Act (PDSA) phase involved modifications to our Medicare Wellness template to include discussion, and documentation of FW with each patient. Similar data were then recorded over three months (July – September 2022). Our next PDSA cycle involved attempting to contact patients via phone with a phone survey after their visit to determine reasons why they had not returned the FW document to RAFM. Initial data gathered in May 2022 showed that 3/31 patients had completed ACP, although 21/31 patients discussed what their wishes would be. During Cycle 1, it was documented that FW was discussed at 32/80 Medicare Wellness visits. Of those 32, only 1 patient returned FW. 47/80 patients discussed what their wishes would be. During Cycle 2 we spoke with 10/32 patients who reported that they did not remember ACP being discussed (3/10), they already completed ACP (2/10), did not think it was important (1/10), or had other reasons (4/10) as reasons for not returning FW to the office. Our results show that there are several areas of improvement in ACP at RAFM. Most notable are improved physician and patient understanding of the importance of written DPOA paperwork. It is possible that more time is needed to have a meaningful discussion with a patient regarding ACP goals than can be afforded during a Medicare Wellness visit. Future PDSA cycles will trial having a separate office visit to specifically discuss ACP. It is also possible that one's level of medical training impacts the ability to conduct ACP discussions. Further research is needed to examine if there is a difference between Attending Physician and Resident Physician ACP outcomes. It is well documented that healthcare expenditures rise in the last years of one's life[4]. While advancements in acceptance of hospice/palliative care have been made, more work is needed. End-of-life discussions and ACP are difficult discussions to have, however they are crucial in understanding and respecting Patient's wishes for their own care. It is our hope that this project will help to improve ACP at RAFM.

Citations:
[1] Higginson, I.J., Sen-Jupta, G.J.A. Place of Care in Advanced Cancer: A Qualitative Systematic Literature Review of Patient Preferences JPM, (2005), 287-300
[2] Cross, S.H., Warraich, H.J., Changes in the Place of Death in the United States. NEJM, (2019). 281:2369-2370
[3] Five Wishes (2023). Aging with Dignity, https://www.fivewishes.org
[4] Duncan, I., Ahmed, T., Dove, H., Mawell, T.L., Medicare Cost at End of Life, AM J Hosp Palliat Care, (2019). 36(8): 705-710

A Snapshot of the Scholarly Work of DFMPHS in 2022

Grants

- $13.9 million requested from Oct. 2021-Apr. 2022
- $1,478,079 awarded in NIH funding

Ranking

- 17th in the Nation (2nd in Michigan) for NIH funding among family medicine departments

Honors

- Dr. Samuele Zilioli received the 2022 Academy of Behavioral Medicine Research (ADMA) Neal E. Miller New Investigator Award
- Drs. Fatin Sahhar, Lawrence Fischetti, Tess McCready, and Samuele Zilioli were promoted

Publications

- 75 Peer-reviewed and other publications

Presentations

- Faculty presented abstracts/podium presentations/posters/lectures at 107 national, regional, and local conferences and seminars

In the news

- MPH graduate Sarah Parker, mentored by Dr. Gleason-Comstock, was featured in CBS News/Detroit/Health with DMC collaborators Dr. Amy DeLaroche and Dr. Raja Arora for their research on "Influenza Vaccination Coverage Among an Urban Pediatric Asthma Population: Implications for Population Health"
- Dr. Rhonda Dailey moderates Governor Gretchen Whitmer's Flint roundtable discussion

Please take a moment to give your feedback on our 7th Annual Research Day at:
https://waynestate.az1.qualtrics.com/jfe/form/SV_5BH6v2KMqyvieCW

SAVE THE DATE!

8th Annual Department of Family Medicine and Public Health Sciences Research Day

April 18, 2024