

## **OP10: Prevention of repeat pregnancy among teens through implementation of mentoring program**

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**BACKGROUND:** Almost one million pregnancies occur annually among adolescents under the age of 19. The United States has the highest prevalence of teen birth rates among all industrialized countries. Programs aimed at preventing repeat pregnancy and increasing educational attainment have shown to be effective in improving health and socioeconomic outcomes for both the mother and her child. The Maikuru Program is a teen mentoring program with the objective to prevent repeat pregnancy among teens by implementing a community-based low cost, sustainable mentoring project to improve teen mom's self-confidence, self-efficacy, communication skills and social support.

**SETTING/PARTICIPANTS:** The program enrolls teenage mothers under the age of 20, who are currently not pregnant, from the greater Pittsburgh area (including neighborhoods such as Garfield and Homestead). Mentors (maikurus) are older women recruited from the Pittsburgh community. The mentors are required to be at least 15 years older than the teen mother they are paired with.

**METHODS:** The program is a longitudinal study consisting of 5 weekly, two-hour cohort sessions. These sessions are dedicated to topics that are relevant to the participant population. The sessions topics include psychoeducation, spirituality/self-confidence, parenting and family planning, and intimate partner violence. In addition to the educational sessions, teen mothers are paired with a mentor. The mentor and mentee are encouraged to interact with each other outside of the scheduled group sessions. The mentor is encouraged to contact the teen mother at least once a week and meet in person at least once a month. After completion of the intervention, 3-month follow up surveys will be conducted for the following year to determine the effectiveness of the program and observe the success of participants.

**RESULTS:** Outcomes will be evaluated using documented outcome measures of pre- & post interviews and surveys. Data collected from survey and interviews will be used to compare areas such as educational attainment, perceptions of the program, and other successes identified by participants. Levels of depression among the participants will also be measured pre-post intervention and during the follow up interactions.

**CONCLUSION:** From previous cohorts the project team have learned that teen mothers manifest a high prevalence of depression and securing participation of their babies' fathers is challenging. Furthermore, geographic accessibility of meetings sites and child care services are important for participant attendance and engagement. Results from future cohorts will illustrate the effectiveness of the program and areas which may benefit from change and further development.

**RELEVANCE STATEMENT:** Providing support for teen mothers is important for their success and the success of their children. Reducing the risk of repeat teen pregnancy among program participants may provide them with the opportunity to fulfill life goals and reach important milestones, such as completion of educational programs. Social support is an important resource for teen mothers to be successful in areas such as academics, employment, and family planning.

## **OP11: Parent Perceptions and Preferences for Pain Management During Child Vaccinations**

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**BACKGROUND:** Pediatric immunizations are the most common source of procedure-related pain and distress in children. Despite the availability of effective pain management strategies, few pediatric practices use them routinely. Our objective was to understand how parents perceive their children's experiences with routine immunizations and determine their preferences for pain management among various ages of children.

**SETTING/PARTICIPANTS:** Parents were recruited from email listings in our pediatric practice group affiliated with our Practice-Based Research Network (PBRN), and our Clinical and Translational Science Institute Research Registry. Eligible participants were parents age 18 years and older and had accompanied their child to a pediatric primary care office to receive routine immunizations. From October 2018 through March 2019, 257 participants started the survey and 249 completed it. Participants (3%) were excluded if they didn't answer any question on the survey.

**METHODS:** This was a cross-sectional online survey of parents regarding their perceptions of their children's discomfort with vaccinations and their preferences for pain management options during child vaccinations.

**RESULTS:** From our sample, 93% of parents were female, with half aged 30-39 years, from 109 different zip codes and 45 different pediatric offices. About 93% of parents had pediatric primary care offices within our pediatric PBRN. Parents had a mean of 2 children (SD=0.96) and had accompanied their children for vaccines as infants from 0-12 months (98%), young children aged 4-6 years (70%), and young adolescents 11 years and older (29%). When asked about perceived child discomfort, many parents said their child was uncomfortable with vaccinations during infancy (86%), young childhood (63%), and young adolescence (20%). For infants, most parents (84%) were asked to hold their baby during vaccinations and most (97%) were allowed to hold their child if they wanted. For children receiving kindergarten vaccines, most parents preferred several pain management options including distraction such as singing a song or blowing on a pinwheel (37%), a topical cooling spray (vapocoolant) (39%), and a ShotBlocker® which is a C-shaped device with small bumps (30%). Parents reported a smaller percentage of their children received these pain management options: 12% distraction, 4% vapocoolant spray, 2% ShotBlocker®. About 50% of parents said their child was offered no pain management options. For teenage vaccines, most parents preferred similar pain management strategies, including distraction like listening to music (14%), vapocoolant spray (15%), and ShotBlocker® (12%), while a smaller percentage of adolescents received these pain management options: 2% distraction, 2% vapocoolant spray, and 1% ShotBlocker®. About 20% of parents said no pain management options were offered to their child for teenage vaccines. Many parents had ideas for improving pain management of routine pediatric immunizations, including allowing mothers to breastfeed during vaccine administration, providing consistent enthusiasm from office staff to aid with distraction, and adjusting the timing and office location of vaccine administration during preventative visits in order to reduce child anxiety/discomfort.

**CONCLUSION:** Most parents perceived discomfort when vaccines were administered to their infants, young children, and adolescents. Parents preferred that several pain management options be offered to their child during vaccination, including distraction techniques, vapocoolant spray, and the ShotBlocker®, yet few of these options were actually utilized for their children.

**RELEVANCE STATEMENT:** Many parents perceive children's discomfort during routine vaccinations and prefer that readily available and effective options for pain management be utilized, including distraction, vapocoolant spray, and/or a ShotBlocker®. PBRNs could enhance patient and parent experiences during routine pediatric immunizations by promoting these pain management strategies.

## **OP12: Healthier Together: A Community-Based Prevention Outreach Program in Underserved Rural Counties**

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**BACKGROUND:** Preventing premature death and disability is arguably the most important goal of healthcare, however, primary care practices continue to fall short of providing preventive services to all patients who could benefit. Rural populations suffer from both poorer health and worse healthcare than their urban and suburban counterparts and they have limited access to many healthcare resources. Therefore, new models of healthcare delivery in rural America are needed that may integrate and align primary care and public health in innovative ways. The Healthier Together study aimed to implement and evaluate a sustainable, rural community-based patient outreach model for preventive care provided through primary care practices located in three rural counties in Oklahoma.

**SETTING/PARTICIPANTS:** Six community-based Wellness Coordinators (WCs) working with primary care practices (PCPs), county health departments, local hospitals, and health information exchange (HIE) networks helped rural residents receive high-priority evidence-based preventive services.

**METHODS:** Community-based WCs used a wellness registry connected to electronic medical record data via HIEs and called patients at the county level, based on PCP-preferred protocols. The registry flagged patient-level preventive care gaps, tracked outreach efforts, and documented the delivery of services throughout the community. Return on investment (ROI) was estimated in participating organizations.

**RESULTS:** Forty four of the 59 eligible PCPs participated in the study. Two regional HIEs supplied periodic health data updates for 71,989 residents in the three implementation counties. A total of 45,862 outreach calls were made by the WCs and 100,896 high-priority recommendations were offered based on care gaps. Of all the patients reached, 1,917 (4.2%) were up-to-date on all prioritized services, while 43,945 (95.8%) were due for one or more services. Participating PCPs significantly improved the delivery of preventive services (mean increase: 20.2% across 12 services;  $p < 0.001$ ; range: 7% to 43%) and realized a mean ROI of 68%. Health systems that employed the WCs earned a mean revenue of \$175,000 realizing a 75% ROI for the outreach program.

**CONCLUSION:** When rural health partnerships are established successfully, they may be able to achieve and economically sustain community-wide health outreach programs by creating a win-win situation for all partners.

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**RELEVANCE STATEMENT:** To our knowledge, our study is one of the largest and most ambitious projects that attempted to create rural county-wide health improvement collaborations focusing on primary care and scalable outreach to entire rural communities and aimed to sustain this activity in a cost-effective manner.

## **OP13: Limitations of electronic health records in identifying study participants for pragmatic asthma studies**

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**BACKGROUND:** Asthma among African-Americans and Latinos is disproportionately not well controlled, resulting in higher rates of healthcare utilization and death compared to Caucasians. Pragmatic asthma studies, such as the PeRson EmPOWERed Asthma RELief Study (PREPARE) study, are addressing potential gaps in healthcare disparities by utilizing a low complexity Patient Activated Reliever-Triggered Inhaled Corticosteroid (PARTICS) approach. The PARTICS approach involves use of inhaled corticosteroid (ICS) therapy on top of short acting bronchodilator medication when participants with persistent asthma experience increased asthma symptoms. The PREPARE study is targeting African-Americans and Latinos who are at increased risk of asthma exacerbations based on poorly-controlled asthma status. Queries of electronic health records (EHRs) are being heavily leveraged as a potential cost-effective method for participant identification. It is unknown if this strategy has high sensitivity in identifying study participants for pragmatic asthma trials.

### **SETTING/PARTICIPANTS:**

**METHODS:** General inclusion and exclusion criteria were entered for EHR review in the University of North Carolina Healthcare System. These include the follow parameters contained in the EHR: Asthma in the problem list, ages 18-74, alive, Hispanic/Latino, Black or African-American, asthma diagnosis in the past year, another chronic lung disease other than asthma, on a daily ICS or ICS/LABA therapy. The second round of searches included clinics whose providers have agreed to have their patients contacted and who have reviewed the Asthma IQ guidelines. The study staff then review the medical records (clinical notes, medication list, and spirometry) for pre-eligible subjects to confirm current medication, spirometry, and ACT scores if reported in the clinical note. After this review, study staff contact potential participants to review recent exacerbations and ACT score to measure asthma control status.

**RESULTS:** Within the UNC healthcare system, 1038 potential subjects were identified to date using the criteria from the EHR. Preliminary review of medical records by the UNC study staff found that 576 individuals (53% of the original data pull) were ineligible. The most common reason for ineligibility was no current use of inhaled corticosteroid for asthma treatment within the past year (234 subjects, 40% of the initial population). Other more common reasons were daily oral steroid use (n=69), lack of an asthma diagnosis (n=67) and no prescription for rescue albuterol to treat exacerbations (n=45). Of the 479 eligible subjects identified through the EHR (sensitivity of 47%), 68 participants were not eligible after a phone interview based on not currently using any ICS therapy, or the ACT score indicated well controlled asthma (overall sensitivity of 39.5%).

**CONCLUSION:** The use of EHRs to recruit participants for large-scale pragmatic asthma studies are limited by the quality of the information contained in the medical record. Current diagnoses contained in the problem list or current medications are not updated regularly by providers and clinical staff, reducing the ability of searches to identify potential participants accurately that are required to have a diagnosis or a particular medication within a designated timeframe.

**RELEVANCE STATEMENT:** EHRs have low sensitivity for identifying study subjects for asthma clinical trials due to the inaccurate information maintained in EHRs.

## **OP14: Barriers Contributing to Disparities in Adolescent Vaccination in Rural Colorado Communities**

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**BACKGROUND:** Rates of recommended vaccination are significantly lower among rural adolescents than urban adolescents. The objective of this study is to understand the barriers underlying the disparities in vaccination among adolescents in rural areas compared to those in urban areas.

**SETTING/PARTICIPANTS:** Sixteen rural counties and four urban counties in Colorado were identified for inclusion in the study. Within these areas, 22 providers (18 rural, 4 urban) and 20 parents (16 rural, 4 urban) were recruited for participation in interviews. Providers were recruited through two practice-based research networks - Colorado Children's Outcomes Network (COCONet) and Partners Engaged in Achieving Change in Health (PEACHnet) - and were sampled to include pediatrics, family medicine, school health professionals, and county public health nurses. Providers were asked to refer parents within their communities for participation in interviews. Parent participants lived in one of these 20 counties, had a son or daughter ages 11-17 years old, and reported they had experienced at least one barrier to vaccinating their adolescent. Parents were sampled to include parent leaders within communities.

**METHODS:** Qualitative content analysis with a directed approach was used. Semi-structured qualitative interviews were conducted with parents and providers in rural and urban areas of Colorado. Interview questions followed the socioecological model of health and addressed personal, interpersonal, community, and environment/structural barriers and facilitators that impact adolescent vaccination rates. Interviews were audio recorded, transcribed, and coded in ATLAS.ti. A priori and emergent coding strategies were applied to understand barriers to adolescent vaccination. Conceptual frameworks informing our a priori codes and analytic strategy included the socioecological model - which outlines individual, interpersonal, community and structural factors influencing behaviors - and the 5C psychological antecedents of vaccination scale - which includes five factors of confidence, complacency, constraints, calculation, and collective responsibility. Urban and rural interviews are being compared to identify barriers unique to rural communities.

**RESULTS:** Interview findings indicate a number of barriers to adolescent vaccination that are unique to rural communities. Across groups, reported barriers included difficulty making vaccination appointments, infrequent or irregular adolescent health care visits which results in fewer opportunities to offer vaccines to adolescents, transportation challenges, and the unaffordability of co-pays for visits to get vaccines. Barriers that were unique to rural communities included private health care practices not stocking adolescent vaccinations and referring adolescent patients to public health departments, a lack of walk-in visits offered, and a lack of evening and weekend clinic hours. Rural parents also reported that provider turnover resulted in a lack of a consistent relationship with a primary care provider and thus a reduced likelihood of getting their adolescents vaccinated. Barriers reported by rural providers included challenges with accurate and complete immunization records and difficulty reminding patients about recommended adolescent vaccinations when they are due. Final findings from interviews will be presented, including comparisons by urban vs. rural and parents vs. providers.

**CONCLUSION:** Adolescents and their families in rural communities face unique challenges to vaccination. Understanding these barriers can help to tailor education and vaccination promotion efforts to rural communities. Addressing structural issues such as providers not stocking vaccines and not offering walk-in clinic visits on evenings and weekends could be two targets for strategies to address this disparity. Future research will engage rural communities and providers in developing and implementing solutions that address lower vaccination rates by targeting the barriers unique to rural communities.

**RELEVANCE STATEMENT:** There are unique challenges to adolescent vaccination in rural areas that contribute to fewer adolescents living in rural communities receiving their recommended vaccinations. Addressing structural issues such as providers not stocking vaccines and not offering walk-in clinic visits on evenings and weekends could be two intervention targets to address this disparity. Communities need to be engaged in finding solutions to these and other barriers unique to rural communities.

## **OP15: Social Determinants of Health Screening in the Oregon Accountable Health Communities Study**

*Steven Brantley, MPH, CCRP; Cullen Conway, MPH, CCRP;*

**BACKGROUND:** Sponsored by the Centers for Medicare and Medicaid Services (CMS), the Oregon Accountable Health Communities (AHC) study is a statewide initiative to improve screening and resource allocation for health related social needs (HRSN). The study aims to screen 75,000 CMS beneficiaries annually, to provide a list of available community resources for every identified HRSN, and to provide navigation and care coordination services to the highest risk patients screened. Screening and navigation are being conducted by a variety of community stakeholders across geographically diverse and primarily rural parts of the state. The study aims to determine if screening, resource allocation, and navigation are effective in reducing the incidence of HRSNs and costs of care. We will also identify best practices in HRSN screening and care coordination across a variety of sites. AHC is an ongoing five year study and this presentation will present preliminary data from the first year of the intervention.

**SETTING/PARTICIPANTS:** Fifty-one screening and navigation sites include primary care clinics, dental clinics, health systems, hospital systems, coordinated care organizations, social service agencies, public health departments, and community partners. Sites are encouraged to screen all CMS beneficiaries who receive their services during the study period.

**METHODS:** Participating sites began screening and navigating CMS patients in December of 2018. Practice facilitators on the AHC team provided support to develop workflows, screening and navigation targets, and to share best practices between sites. Study data are collected through a custom designed screening and care coordination interface, and data analysis is completed by the study team at Oregon Health and Science University.

**RESULTS:** This presentation will present preliminary results from the first year of screening, which is still underway. We will present statewide statistics, regional statistics, and-where appropriate-site-specific statistics to best represent the work that is being done. We will present identified best practices as well as common challenges that screening sites have faced in the implementation of the study. Finally, we will present selected stories from successful practices of how this work has positively affected their patients.

**CONCLUSION:** There is strong evidence that social determinants of health have a major impact on patient outcomes, and that addressing HRSNs can lead to improved care. Preliminary data and lessons learned from the AHC study in Oregon shed light on how best to do this work in a variety of settings and could be beneficial to other organizations around the country. We will present an overall picture of what has happened so far in the study as well as our trajectory for the next three years.

**RELEVANCE STATEMENT:** The AHC study in Oregon is an attempt to understand how best to screen for social determinants of health as well as to identify current gaps in available resources. The best practices from this presentation could help other sites implement similar screening and navigation programs that could positively affect patients in a variety of settings.

## **OP16: WV Collaborative Outreach Research Engagement (CORE) Survey: accelerating primary care survey research to inform future research agendas**

*Stacey Whanger, MPH; William Lewis, MD; Jennifer Boyd, PA-C*

**BACKGROUND:** Survey research is a valuable tool for obtaining preliminary data and support toward grant submissions and publications. However, it is difficult to collect survey data from primary care clinics, which are the primary settings for practice-based research, as busy clinicians and administrators may decline to complete multiple or frequent surveys. The West Virginia Practice Based-Research Network (WVPBRN) has developed a process to compile research survey questions pertinent to West Virginia primary care from multiple clinician scientists compiled into one annual survey. The purpose of this survey is to 1) reduce the number of surveys that members are asked to complete, 2) provide mentoring and partnership opportunities between the Network and researchers, 3) collect pilot data for upcoming submissions to the Network clinicians, and 4) increase quality and frequency of published practice-based research.

**SETTING/PARTICIPANTS:** Providers and/or administrators of practices in the WVPBRN complete the survey electronically using REDCap. This survey includes the selected survey questions in addition to general demographic data.

**METHODS:** Clinicians and/or investigators submit applications to be included in the annual CORE Survey compilation. These project proposals include a brief rationale and a list of no more than 10 proposed questions, as well as a description of how the survey results will inform future research or be applicable to current practice. The WVPBRN conducts a protocol review on each submitted project proposal and scores submissions based on 1) relevance to primary care, 2) quality of submission, 3) alignment with Network goals and priorities, 4) accessibility of survey responses, and 5) impact on future projects and practice implications. The protocol review team selects the top three project proposals (for a total of 30 questions) that are most relevant and of interest to Network members. Submissions with the highest overall score are selected to be combined into the annual CORE Survey, which is then sent to the membership for completion.

**RESULTS:** During the first year, the CORE Survey received a response rate of 39.83% for a total of 43 Network providers and administrators. In contrast, the average response rate for electronic survey research from other networks is 12.95%. Using data collected from the 2018 CORE Survey responses, two of the three projects have submitted journal articles for publication. The third project used the responses to inform two recent grant proposal submissions to the National Institutes of Health and National Institute on Drug Abuse. For the 2019 CORE Survey, the number of survey research submissions increased from six to eight submissions, all with potential for future clinical research within our Network.

**CONCLUSION:** The CORE Survey has become a successful component of our yearly Network activities, leading to increased survey submissions in the subsequent year, publication submissions, and preliminary data for grant applications. This survey format could be useful in helping other networks increase their survey participation and research capacity.

**RELEVANCE STATEMENT:** This familiar yearly initiative saves clinician time while still allowing the clinicians the opportunity to participate in research. It has provided informative data that benefits primary care in West Virginia by increasing survey research engagement from our Network membership.

## **OP17: Sustaining PBRN Infrastructure Through Partnerships with Grant-funded Research Centers**

*Allison Cole, MD, MPH; Laura-Mae Baldwin, MD, MPH; Gina Keppel, MPH*

**BACKGROUND:** Practice-based Research Networks (PBRNs) support research that improves primary care. Basic infrastructure elements for successful PBRN functioning are personnel, communication and practice-engagement strategies. Partnership with large-scale research centers offers opportunities to integrate primary care settings into important clinical and translational research while securing resources for PBRN infrastructure.

**SETTING/PARTICIPANTS:** The WWAMI region Practice and Research Network (WPRN) is comprised of 70 primary care practices across Washington, Wyoming, Alaska, Montana and Idaho.

**METHODS:** The WPRN seeks to grow and sustain infrastructure through collaborations with grant-funded research centers. Each center provides direct funding to the WPRN Coordinating Center to support ongoing collaborative research.

**RESULTS:** Between 2015-2018, the WPRN partnered with four research centers: the Pacific Northwest Node of the Clinical Trials Network, the ALACRITY Center at the University of Washington (UW), the Patient Centered Outcomes Partnership Program at the UW, Accelerating Change and Transformation in Organizations and Networks (ACTION III), and the UW's Advanced Center for Implementation Science for Cancer Control. Partnerships benefit the research centers by providing at-the-ready opportunities to engage primary care practices in research. Partnerships provide funding for WPRN faculty effort and WPRN research staff, increasing the WPRN Coordinating Center's capacity to support practice-based research. Partnership with the research centers resulted in 19 new grant submissions to conduct collaborative research projects in the WPRN. These research center partnerships also support the WPRN Coordinating Center to lead annual research projects to build research capacity in member sites. The first three of these annual projects, focusing on a domain of interest to a center partner, engaged 30 practice participants; 60% (18/30) of participant practices reported that their practice used results from the study, including efforts to develop new quality improvement programs or clinic policies.

**CONCLUSION:** Partnership with research centers allows the WPRN to conduct network-wide research studies, assist practices in developing new research skills and sustain the core personnel of our coordinating center. Partnerships also ensure that primary care perspectives and primary care settings are integral to healthcare research. Further efforts to grow and sustain these partnerships are critical to maintaining PBRN infrastructure and achieving the translational science mission of PBRNs.

**RELEVANCE STATEMENT:** Partnership with grant-funded research centers increases PBRNs capacity to participate in impactful research.

## **OP18: Developing patient engagement within a data-driven PBRN system for health equity research**

*Anna Rose Templeton, DNP; Mary Frances Ritchie, MPH; Michelle Hendricks, PhD*

**BACKGROUND:** Practice Based Research Networks (PBRNs) develop engagement models based on individual circumstances; models must adapt as needs change. The OCHIN PBRN formed in 2007 among a group of Oregon community health centers using OCHIN's shared electronic health record (EHR). As OCHIN's membership grew and EHR data gained research utility, OCHIN developed the nation's largest research data warehouse for safety-net populations. To maintain patient involvement in research through this shift, OCHIN convened a Patient Engagement Panel (PEP) in 2012. Initially a local group like the PBRN, the PEP has evolved to represent a broader membership and more effectively bring patient perspectives to research. The PEP now includes members from multiple states who serve in diverse roles to inform the development, conduct, dissemination, and health equity focus of OCHIN research.

**SETTING/PARTICIPANTS:** The PEP includes 15 patient representatives from 4 states; 8 are original members, 2 joined over a year ago, and 5 are new in the past year. The PEP is majority female and ranges in age from 30s to 70s. Members join as self-identified patients and caregivers with an interest in how research involves and impacts patients. All but 2 have had long term involvement on OCHIN research studies as patient investigators or advisory panelists.

**METHODS:** As research projects became more diverse, PEP roles varied, a number of PEP members left and needed to be replaced. In response, The OCHIN research Engagement Core, which leads the PEP through the PCRF-funded ADVANCE (Accelerating Data Value across a National Community Health Center Network) infrastructure grant, collaborated across other infrastructure cores and individual research projects to evaluate the PEP to develop a more inclusive, effective, and sustainable model to integrate patient input with our broader PBRN system.

**RESULTS:** Evaluation identified a series of processes to improve support and utility of the PEP in research development, conduct, and dissemination. We used OCHIN's PCORI-funded Health Systems Demonstration project, a multi-phase study examining ways to characterize how patients' social complexity impacts health care utilization and outcomes, as a case study of the PEP's evolution. The project had very high stakeholder input in Phase I to operationalize study questions and select outcome measures and predictors when the PEP was smaller and more local. In Phase II, input was focused on interpretation of results and more intermittent. In Phase III, the PEP is contributing to ongoing interpretation and planning next steps in parallel with Kaiser Permanente Northwest's more socio-economically diverse and privately insured patient advisory team. As the number and spread of patients has grown, there has been greater use of asynchronous and remote feedback. Based on evolving roles, levels of involvement, and input needed at each phase, four overarching priorities emerged: 1) Implement a more accessible and inclusive PEP structure to reflect our expanding membership; 2) Define and delineate patient roles between the PEP and individual projects; 3) Develop relevant support and training resources by role; 4) Develop complementary resources to train study teams in making full use of the PEP and individual members' expertise and capacity. We revised our PEP model to include updated roles and then integrated within our broader PBRN engagement framework. We shifted PEP meetings to an all remote, bi-monthly schedule and introduced a more rigorous facilitation structure to support active participation and discussion. These two initial steps increased participation and laid groundwork to develop training resources, promote the PEP's capabilities, and demonstrate the practical benefits of working with the PEP to understand the realities and priorities of research in vulnerable populations - keeping our efforts to promote health equity firmly grounded in patient and caregiver experience.

**CONCLUSION:** Maintaining an adaptive PEP model and engagement framework has helped expand PEP membership, capacity, and utility. Integrating the PEP with our larger PBRN system has improved the balance of engagement with development of a robust, safety-net focused data warehouse for health equity research. Our updated PEP model and engagement framework have enabled broader participation and laid the groundwork for further development and capacity building.

**RELEVANCE STATEMENT:** Our PEP has changed over time as our organization and PBRN has grown. We have applied practical learning from projects consulting the PEP through its various iterations to evolve and maintain meaningful patient inputs and research participation within a large, robust data-driven PBRN system focused on improving health of safety-net populations. We continue to learn how best to balance these needs and develop our PEP as an integral, sustainable part of our broader organization.

## **OP19: An Ounce of Prevention: Weighing the Role of the Registered Dietitian in Population Health**

*Kathryn Kelley, MPH; Tatyana El-Kour, MA, MS, RDN, FAND; Elizabeth Yakes Jimenez, PhD, RDN, LD*

**BACKGROUND:** Integrating registered dietitian nutritionists (RDNs) into primary healthcare and prevention efforts is effective in improving health and economic outcomes globally. With an aging population, rapidly increasing prevalence of preventable chronic diseases, and a coinciding shortage in healthcare workers in the United States (U.S.) and globally, a well-trained public health workforce is needed. RDNs have unique expertise that is paramount to addressing chronic disease and prevention, but the capacity and preparedness of RDNs working in public health nutrition and community nutrition is not well understood. The objectives of this study are to identify factors influencing dietitians to work in public health and community nutrition and driving their preparedness to work in these fields, and to obtain expert RDN practitioner opinions on capacity of the public health/community nutrition dietetic workforce.

**SETTING/PARTICIPANTS:** Online survey participants (n=316) were primarily female (97%), white (84%), had advanced degrees (65%), and had six or more years of experience in public health nutrition and/or community nutrition (56%). Respondents were most commonly employed by local or state departments of public health (22%). Phone interviews were conducted with seven US and five international experts (n=12). Eleven out of 12 participants were female, and all participants had advanced degrees. U.S.-based experts had an average of 30 years of experience in the field and global experts had an average of 16 years of experience. Most commonly, they worked in college/university or nonprofit settings. Global experts had experience in the Middle East, Africa, and South America.

**METHODS:** A mixed-methods design was used, comprised of a 22-question online survey of US-based RDNs working in positions in public health nutrition and/or community nutrition, and a semi-structured 10-question phone interview with experts in these fields. The survey was distributed to approximately 11,600 participants. Survey data were analyzed using descriptive statistics and chi-square tests of independence to identify relationships between variables. An expert panel identified a variety of eligible interview participants. Transcripts were independently and collaboratively coded by two study team members and aggregated into themes.

**RESULTS:** Most survey participants reported that they are required to be RDNs in their current positions (62%); however, 64% also reported that non-RDNs perform nutrition-related duties at their organizations. Many participants reported that an interest in prevention and population-based health influenced them to work in the field, and on-the-job training and graduate education best prepared them to perform work-related functions. In general, participants were better-prepared to perform community nutrition functions (e.g., culturally and linguistically appropriate program development) than public health nutrition functions (e.g., identifying fiscal resources available through grants and contracts). Among RDNs in the workforce, public health nutrition skills, especially financial planning and management, were self-rated as generally needing further development. Significant associations were found between RDNs' self-rated ability to apply public health nutrition skills and their "usual" application of several public health nutrition functions ( $p < 0.05$ ). Expert interviewees stated that their employers don't specifically seek out RDNs. They said that RDNs are more desirable job candidates if they have advanced degrees or prior experience related to public health or community nutrition. Experts suggested that dietetic programs need to incorporate public health training to increase competency and better prepare RDNs to fill positions in the field. Global workforce capacity and preparedness varied significantly by country, though several experts commented that dietetics training needs an increased emphasis on global nutrition issues and continuing education may be beneficial.

**CONCLUSION:** RDNs, especially those with advanced degrees or field/work experience in public health, can bring valuable expertise to prevention efforts, but employers often don't specifically seek out RDNs. Significant opportunity exists to increase emphasis on public health in dietetics training, and thus increase dietetic workforce capacity in this area, improve RDN preparedness to work in public health settings, and meet future demands in public health nutrition and community nutrition.

**RELEVANCE STATEMENT:** Healthy diets are a critical component of disease prevention and management, and the dietetic workforce needs to increase capacity in public health nutrition and community nutrition to join interdisciplinary efforts to prevent disease at the population and community level.

## **OP20: Using myhealthfinder to improve wellness visits**

*Stephanie Santana; Julia Rozman, BS; Alex Krist, MD, MPH*

**BACKGROUND:** Clinical preventive services (CPS) through screening, counseling, chemoprevention, and immunization can improve health outcomes. Unfortunately, Americans only receive half of recommended preventive care due to multiple health system and patient barriers. The Office of Disease Prevention and Health Promotion has created a publicly available online tool, myhealthfinder, to help people understand preventive service recommendations and increase the delivery of recommended preventive care. The tool aligns with the principles of the Health Literate Care Model. The model suggests that productive interactions come from having informed, active patients as well as a prepared, proactive care team. These productive interactions can lead to improved quality care outcomes.

**SETTING/PARTICIPANTS:** 22 providers from 16 primary care practices were recruited from the Virginia Ambulatory Care Outcomes Research Network (ACORN) in rural, urban, and suburban settings. In total, 1096 patients were recruited for participation.

**METHODS:** We conducted a patient-level randomized controlled trial to test pre-visit education. All patients with an upcoming wellness appointment were randomized into control or intervention groups. Intervention patients received an invitation to use myhealthfinder two weeks prior to the visit via phone, email, and postal mail. Control patients received usual care. All patients were surveyed immediately after their office visit. Survey questions assessed knowledge of CPS, patient-clinician communication, confidence in managing prevention, and satisfaction with the visit.

**RESULTS:** 651 (59.4%) patients completed the survey. Among intervention patients, 33.2% reported using myhealthfinder prior to their visit. Of those who used myhealthfinder 88.6% reported that it helped them find out what preventive care they needed to stay healthy. Patients in the intervention and control groups answered a similar number of knowledge questions correctly (67.1% vs. 67.8% correct,  $p=0.57$ ). However, myhealthfinder users answered more knowledge questions correctly than non-users (70.4% vs. 65.5%,  $p<0.01$ ). While overall knowledge was high, patients were least likely to answer the question about cervical/prostate cancer correctly (27.95%). Intervention patients were more likely to answer this question correctly than control patients (32.0% vs. 23.9%,  $p=0.022$ ) and even more myhealthfinder users answered the question correctly (38.9%). However, intervention patients were more likely to falsely think that cancer screening tests definitively tell if a patient has cancer (49.8% vs. 39.0%,  $p<0.01$ ). Overall, 89.9% of patients were completely or very confident that they would get all the preventive care that they needed and there were no significant differences between the intervention and control groups. We will present further sub-group analyses for patients based on race, ethnicity, and insurance type.

**CONCLUSION:** At least a third of patients chose to use myhealthfinder prior to a wellness examination; a majority of those patients found it helpful. After their wellness examination, patients were confident that they would get the preventive care that they need. While overall knowledge is high for preventive care, myhealthfinder may increase knowledge, particularly for difficult topics like prostate cancer and cervical cancer screening. However, patients may have a false impression that screening tests provide definitive diagnoses. This finding presents an opportunity to conduct additional myhealthfinder user testing to improve the clarity of the information about cancer screening. Further evaluations will be conducted, including chart reviews and analyses of office visit audio recordings, to fully understand the impact of pre-visit education using tools like myhealthfinder on service delivery and clinician-patient communication.

**RELEVANCE STATEMENT:** Myhealthfinder is a health literate tool that offers personalized guidance on recommended preventive services. This simple digital prevention tool may help educate and engage patients in their care in preparation for their wellness visit; making wellness visits more efficient, facilitating more productive clinician-patient interactions and increasing the uptake of recommended clinical preventive services.

## **OP21: Physicians reflect on how myhealthfinder can help patients make the wellness visit more efficient and effective**

*Julia Rozman, BS; Alex Krist, MD, MPH; Stephanie Santana*

**BACKGROUND:** Annual wellness visits give clinicians and patients protected time to address preventive care, update patient health information, and build the clinician-patient relationship. Even with annual wellness visits, which are typically free for patients, practices struggle with delivering evidence-based preventive care. One thought experiment in 2004 demonstrated that it would take 7.4 hours per day of clinician time to satisfy USPSTF guidelines - and there are considerably more recommended services in 2019. Providing patient education to patients prior to wellness visits may help to better engage and activate patients in care and make wellness visits more efficient and effective. The Office of Disease Prevention and Health Promotion has created myhealthfinder, a personalized digital tool (by sex, age and pregnancy status) that explains the USPSTF recommended preventive services they need. Integrating this publicly available health literate tool into routine care helps align physician and patient expectations for the wellness visit by preparing patients to discuss the recommended preventive services they need.

**SETTING/PARTICIPANTS:** 22 providers from 16 diverse primary care practices were recruited from the Virginia Ambulatory Care Outcomes Research Network (ACORN). Practices varied in size and geographically spanned Virginia including rural, urban, and suburban settings.

**METHODS:** We conducted a patient-level randomized controlled trial to test the effectiveness of inviting patients to use myhealthfinder prior to wellness visits. As part of the trial, we conducted semi-structured interviews with participating clinicians to evaluate the impact of myhealthfinder and pre-visit education. Interviews lasted about 45 minutes and were conducted by telephone. Interviews were audio recorded and transcribed. Two investigators coded transcripts using a theoretically derived codebook. Three investigators used an immersion-crystallization approach and grounded theory to identify and explore key themes.

**RESULTS:** Clinicians uniformly believed that wellness visits were important both for patients and clinicians. The visits not only were crucial to keeping patients healthy but also protected clinician time for necessary care. A recurring challenge is that clinicians felt that patients do not know what a wellness visit is and patients often focused on acute and chronic problems during the visit. Many clinicians felt that patient education is needed to help guide patients as to what will happen and will not happen during wellness visits. Clinicians also believe that educational tools, such as myhealthfinder, could be immensely helpful to inform patients about specific preventive services in preparation for wellness visits. Even though tools, like myhealthfinder, are publicly available, a key challenge is developing a process to get patients to use these tools when needed. Combinations of portal messages, emails, texts/calls, and postal mail are needed to proactively reach out to patients and this work can be labor intensive. Furthermore, patients will likely need to access materials at home and in the office. Educational material for patients was much more important for difficult preventive services, specifically services that require shared decision-making (e.g. prostate cancer screening) and helping patients with making health behavior changes (e.g. losing weight). Tools that use a combination of interactive, videos, text, and pictures were thought to likely be more effective at engaging different patients and improving preventive care.

**CONCLUSION:** Clinicians agree that wellness visits and prevention are important but there is a mismatch of patient and clinician understanding about the purpose of the visit. Patients are often misinformed or have lack of knowledge about necessary preventive services. Health literate patient education tools, like myhealthfinder, are easy to use and consistently updated. Evidence from this study suggests that when used, such tools can help prepare patients to engage in a wellness visit focused on the recommended preventive services they need. For their part, clinicians will need to develop innovative and feasible strategies to encourage patients to use these tools.

**RELEVANCE STATEMENT:** Wellness visits are an important time to make sure patients get needed care to stay healthy. Finding ways to make that time more efficient and effective for patients and providers is critical to that goal. By educating patients prior to wellness visits, using tools like myhealthfinder, patients can come to the visit better prepared which can contribute to that desired efficiency and effectiveness goal.

## **OP22: How are patients using the portal? Portal use patterns within two PBRNs**

*Beth Careyva, MD; Treah Haggerty, MD MS; Kyle Shaak, MPH*

**BACKGROUND:** The current health care landscape of intermittent, episodic primary care visits has created gaps in continuity of care. Portals offer opportunities for enhanced and asynchronous bidirectional communication between patients and clinicians. Despite the potential of portals to facilitate communication and overcome challenges related to episodic care, portals have not yet resulted in consistent improvements in health outcomes, cost, or healthcare utilization due to suboptimal use by both patients and clinicians. As more and more patients are seeking convenient access to care, portals provide an opportunity to promote both convenience and continuity.

**SETTING/PARTICIPANTS:** Lehigh Valley Practice and Community Based Research Network and West Virginia PBRN; Adult patients of practices within each respective PBRN

**METHODS:** Retrospective review of adult PBRN patients in 2 geographically distinct PBRNs to characterize current portal use by no use, passive use (view only functions for lab/imaging results, medications, and appointment details) and active use (using the portal to send/request information). After characterizing use patterns for each patient population, we will use descriptive statistics to compare use patterns to key patient demographics (age, gender, race/ethnicity, insurance status).

**RESULTS:** The two PBRNs include more than 360,000 patients enrolled in MyChart, the EPIC EHR portal. Each study site had more than 40 million "hits" in MyChart in the past year; a "hit" is defined as any unique click or touch within the system. A large percentage of these "hits" were categorized as "Other Activity", as they reflect administrative use (log-ins, payments, etc.). The remaining activity was grouped into passive (view only) and active use (send message/medical advice request, appointment activity-schedule/request cancel). Roughly 1% of eligible hits, in both health systems, were classified as active activity. Further analysis will compare use patterns to demographic characteristics in each PBRN.

**CONCLUSION:** Characterizing current portal utilization in two geographically diverse populations will inform a subsequent intervention.

**RELEVANCE STATEMENT:** Patient portals provide an opportunity to increase communication between patients and health care teams. Understanding use patterns in diverse populations will inform a future study designed to increase portal use for patients with limited portal use.

## **OP23: The Design Hub: Extending research support to aspiring primary care providers**

*William Lewis, MD; Jennifer Boyd, PA-C; Thomas Hulseley, ScD, MSPH, BS*

**BACKGROUND:** Clinical research study design and analysis services are an important component to the success of practice-based research. The West Virginia Practice-Based Research Network (WVPBRN) began in 2013 to conduct clinically-relevant research in an effort to improve primary care in West Virginia. As research capacity of the WVPBRN has grown since its inception, clinicians' interest in leading projects has also increased. The WVPBRN is fortunate to be affiliated with the West Virginia Clinical and Translational Science Institute (WVCTSI), which offers numerous services to clinical research projects from many institutions and sectors across West Virginia. These services are readily available to clinical researchers located at an academic institution, however the majority of our Network membership practices in rural community health centers around the state. Study design methods and statistical analysis are the most common service requests to the WVPBRN staff, and it is often challenging to connect these services and resources to our membership due to busy patient schedules and limited time to devote to research. The WVPBRN responded to this need by partnering with the WVCTSI's Clinical Research Design, Epidemiology, and Biostatistics (CRDEB) Core to offer a quarterly opportunity for direct project design support in a group-learning format. We call this quarterly meeting the Design Hub.

**SETTING/PARTICIPANTS:** WVPBRN providers and/or practice administrators join a quarterly teleconference meeting (utilizing the Zoom platform) held over the lunch hour to discuss clinical research project ideas with the CRDEB director.

**METHODS:** Working alongside the CRDEB director, the Design Hub offers WVPBRN members the guidance and support to move their clinical research ideas into actionable projects and initiatives. The CRDEB director offers expert feedback, in-person or via video conference, to clinician researchers who pose new project ideas, inquire about ways to further current research projects, or seek input on how to get project ideas off the ground. Researchers submit ideas in writing prior to the Design Hub meeting and are provided with initial feedback that helps tailor the discussion. During the meeting, the project is presented and discussed among the CRDEB director and participating Network members. Following the meeting, members who submitted project ideas are provided a summary of the discussion points and services to continue their project idea forward.

**RESULTS:** Participating Network providers have felt their time spent on the Design Hub meeting discussion was valuable in moving their projects forward while increasing their research confidence and capacity. Members that were observers to the Design Hub meeting also felt that they have increased knowledge of accessing and utilizing the CRDEB resources for their own project development.

**CONCLUSION:** This newly established quarterly learning model has provided non-academic based, clinical providers with an opportunity to generate and refine project ideas and discuss them with respect to study design and feasibility. The first project discussed and refined during the Design Hub meeting went on to be accepted to be included in the WVPBRN's competitive yearly survey, the WV Collaborative Outreach Research Engagement (CORE) Survey, to drive further research.

**RELEVANCE STATEMENT:** Primary care research is a valuable contributor to enhance the capacity of community health centers, but the resources to carry out research is limited. Many primary care clinicians with an interest in research may have limited or no experience in actual study design. This Design Hub model serves as a venue for clinical providers to share ideas in a group learning format and solicit study design expertise and clinical feedback from peers.

**OP24: Patient interest in video integration into after-hours triage calls.**

*Janani Sankaran, MD; Sherin M. Menachery; Robert D. Bradshaw, MD, MPH*

**BACKGROUND:** Lack of efficient after-hour primary care services contributes to unnecessary emergency department (ED) visits. We sought to understand patient attitudes and access to video calling in order to enhance efficiency of after-hours triage calls and reduce ED visits.

**SETTING/PARTICIPANTS:** Patients aged 18-89 visiting an academic Family Medicine Clinic in Norfolk, Virginia.

**METHODS:** We surveyed patients aged 18-89 visiting an academic Family Medicine Clinic in Norfolk, Virginia. Questions included age, race, level of education, income and access to video calling devices. We also asked about perceived advantages and disadvantages related to video calling with healthcare providers and if it is preferred to telephone communication. Answers were entered into Qualtrics database and analyzed using JMP version 11.

**RESULTS:** Results 300 patients were offered the survey and 298 agreed to participate. 71.6% were females and the mean age was 47.9 years. 90.3% had an education level of high school or above and 75.1% had access to a device allowing video. Device proficiency was inversely related to age, greatest between 18-32 years ( $X^2 = 71.18, p < 0.0001$ ). 71% of patients surveyed enjoy video communication; people with higher levels of education tended to enjoy video more (trend test  $Z = 2.78, p < 0.005$ ). Adjusted for both age and education, respondents with college level education or above were 3 times more likely to self-identify as "good" with video (OR 3.11, 95% CI 1.48-6.64); those under age 48 had significantly better odds of expertise compared to older respondents (OR 13.9, 95% CI 4.79-59.33). Patients with prior video experience were 3 times more likely to prefer video calling with doctors in place of the phone (RR = 3.46, 95% CI 1.95-6.11). Patients who called their doctor 5 or more times annually preferred video significantly more than those who called less (RR 1.61 95% CI 1.31-1.97) Faster contact with the primary care provider rather than waiting for an appointment (19.8%) was the most perceived advantage of video calling, followed by ability to stay at home when feeling ill (18.2%). Patients considered loss of face to face in-person interaction with a doctor (37.1%) the greatest disadvantage, followed by concerns for improper diagnosis (20.4%).

**CONCLUSION:** Our results suggest patients appear to have both access and interest in video communication for medical purposes especially in younger age groups. Addition of video calling to after-hours triage calls may help reduce unnecessary ED visits by providing patients with more efficient advice compared to phone calls.

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**RELEVANCE STATEMENT:** Incorporating video calling into after hours communication may be preferred and beneficial.

## **OP25: Development of a Hub and Spoke Model of Medication Assisted Therapy (MAT) in rural communities of western Colorado for patients with opiate use disorder (OUD)**

*Ann Marie Cox, DNP, RN, FNP-BC, PMHNP-BC; Sarah Kooienga, PhD, FNP-BC;*

**BACKGROUND:** Opioid Use Disorder (OUD) impacts approximately 2 million Americans; those abusing prescription opioids, and 600,000 heroin users. In 2017, in Colorado there were more than 1,000 opioid -overdose deaths as a result of prescription opioids and illegal opioids. In 2017, Center for Disease Control identified 70,237 drug overdose deaths nationally; a dramatic increase. The gold standard treatment of individuals with OUD is medication-assisted treatment (MAT). The Hub and Spoke is a model for MAT therapy where a health care facility serves as the service "hub" and community-based providers serves as "spokes". The purpose of this presentation is to describe the organizational structure of Hub and Spoke model of MAT in rural western Colorado, and quality/program evaluation projects planned.

**SETTING/PARTICIPANTS:** In 2018, Mind Springs Health (MSH), a community mental health center, met with the local public health and primary care community, to develop strategies for treating individuals with OUD and decrease overdose deaths. The Hub and Spoke model of MAT was felt to be the best approach to address OUD in the local community. A Psychiatric Mental Health Nurse Practitioner obtained a suboxone waiver, and developed a care coordination team which also included a therapist, a medical office assistant, physician addiction specialist for consultation, and peer support staff. Patients were initially seen at MSH (the hub) and stabilized on Suboxone therapy. Once stable for one month, patients were referred back to waiver trained PCPs (spokes) in the community. If patients require more support after they have been transferred to a PCP, they return to the hub until stable.

**METHODS:** Western Colorado is marked by largely rural areas scattered with small communities on the western slope of the Rockies. The largest city is Grand Junction located in Mesa County with a population of 61,881. Western Colorado is a health manpower shortage area for both primary care and psychiatric/behavioral health. Local primary care providers (PCPs) reach out to MSH for help managing patients with OUD. MSH, the largest provider of behavioral health services in western Colorado, accepted this primary care/behavioral health partnership.

**RESULTS:** In 2019-20, program evaluation and quality improvement activities projects are being planned in conjunction with the practice-transformation team and the public health in Grand Junction. The MAT program at MSH has been successful with expansion to 100 patients and an additional PMHNP being hired. Two PCP practices in the community are currently "spokes" and accept patients from the "hub". Another "spoke infrastructure" is planned using tele-medicine to expand OUD treatment to other rural western Colorado communities.

**CONCLUSION:** The Hub and Spoke model has the potential to be an effective mechanism for providing MAT in western Colorado's rural-underserved communities. Clearly practice based, program evaluation and quality improvement methodologies are needed to evaluate this model.

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**RELEVANCE STATEMENT:** The Opioid use crisis has severely impacted western Colorado and other rural regions of the United States. The Hub and Spoke model is one approach to expand access to MAT in order to reduce opioid overdoses deaths.

## **OP26: Insights from Onboarding Sites to participate in a Large Multisite Study Using SmartIRB with a Centralized IRB Process**

*Lindsay Woodcock, MS, RDN, LDN; Courtney Bliss, MS, RDN, CNSC; Julie Long, MS, MPH, RDN*

**BACKGROUND:** The use of a single IRB-of-record (sIRB) helps to avoid duplicate review of a study protocol and prevents conflicting IRB oversight in multisite research. In response to the National Institutes of Health (NIH) mandated use of a sIRB process for NIH-funded multisite studies, SmartIRB was formed in 2016 as a centralized platform to facilitate the reliance agreement process. SmartIRB allows the sIRB to manage communication with relying sites, track the status of reliance requests, and provide a Master Common Reciprocal IRB Authorization Agreement (IAA). The Academy of Nutrition and Dietetics is pioneering the use of a sIRB and the SmartIRB system within the Malnutrition Clinical Characteristics Validation (MCC) and Staffing Optimization Study; a large, multisite study managed by its Nutrition Research Network (NRN), a global practice-based research network (PBRN). The NRN seeks to evaluate the use of SmartIRB and the ability to streamline the sIRB process by reducing the administrative burden for PBRNs coordinating a non-federally funded multisite study.

**SETTING/PARTICIPANTS:** Recruitment for the NRN's MCC Study began in late 2018. The University of New Mexico Health Sciences Center (UNM HSC) is affiliated with the SmartIRB platform and is serving as the sIRB for this study. As of March 2019, 110 sites are in the process of onboarding to the study with a recruitment goal of 120 sites.

**METHODS:** The MCC study is a foundation-funded study and site IRBs can choose whether to defer oversight to the UNM HSC or perform a full local review. Sites affiliated with SmartIRB may choose to sign a cede letter, agreeing to the terms of the SmartIRB Master IAA. Sites that are not affiliated with SmartIRB document reliance on a separate IAA template. Sites with no local IRB can participate with a letter of support stating the site agrees to UNM HSC IRB oversight. Once the IAA is executed and site documents are approved by the sIRB, the site can initiate study procedures.

**RESULTS:** As of March 2019, 77 sites have made an official decision regarding their IRB process; forty-two sites (55%) are ceding to the UNM HSC with SmartIRB, 8 sites (10%) are ceding without SmartIRB, 23 (30%) are undertaking local review, and 4 sites (5%) have no local IRB and are ceding by default.

Of the 77 sites, 51 (66%) of these sites are affiliated with SmartIRB, but of those, only 42 (82%) are choosing to use the platform to facilitate the reliance agreement process. Sites affiliated with SmartIRB tend to be part of large hospital systems with significant research programs.

**CONCLUSION:** While SmartIRB streamlines the execution of reliance agreements, only two-thirds of sites in our study are affiliated with the platform and not all of those affiliated chose to use it. The SmartIRB system and procedures are relatively new and many sites are still developing their reliance process. In addition, sites may only rely on a sIRB if it is mandated due to federal funding. Separate procedures are still required for non-affiliated ceding sites and for sites that choose to undergo local IRB review. In addition, institution-specific IRB applications, including submission of customized consent documents and protocol addenda, are also required to review reliance requests. The need to track and complete a different set of procedures for each site adds to the logistical complexity of executing a large multi-site study. While SmartIRB has the potential to streamline IRB reliance for multi-site studies, affiliation and acceptance of the platform is not universal and the combination of local IRB oversight, varying reliance procedures, and site-specific documentation has failed to reduce the complexity of IRB review in this study.

**RELEVANCE STATEMENT:** SmartIRB needs to be more widely accepted and readily used to make a significant impact on reducing the IRB review burden for PBRNs coordinating large multi-site studies.

## **OP27: Evaluation of a Team-Based, Comprehensive Curriculum in Medication Assisted Treatment for Opioid Use Disorder for Rural Primary Care Practices**

*Linda Zittleman, MSPH; Kristen Curcija, MPH; Christin Sutter*

**BACKGROUND:** Opioid use disorder (OUD) is a top health priority identified by the practices and communities in rural Colorado. However, only three providers were eligible to provide MAT in the study region at the onset of this study. Access to treatment services and resources is scarce. The High Plains Research Network and Colorado Research Network engaged the American Society of Addiction Medicine and practice facilitator/research liaisons to create and implement a curriculum in MAT for OUD for primary care practice teams.

**SETTING/PARTICIPANTS:** Primary care practice providers and staff in 24 rural counties in eastern Colorado and San Luis Valley.

**METHODS:** Implementing Technology and Medication Assisted Treatment Team Training in Rural Colorado (IT MATTRs Colorado) provides training for full practice teams to deliver evidence-based, guideline-concordant MAT for OUD. The curriculum covers epidemiology, pharmacology of opioids, buprenorphine effectiveness and safety, identifying patients for MAT, detailed steps of MAT, and care for special populations. Screening tools, agreements, coding templates, and other resources are provided. Practices were randomized to receive team training in-person by a Practice Facilitator Trainer through the Shared Onsite kNowledge Dissemination (SOuND) Team Training model over four one-hour sessions or through the ECHO model, a virtual telementoring approach offered by ECHO Colorado, over eight 30-60 minute sessions. Attendance logs were maintained. Trainees completed a curriculum evaluation within a month of training.

**RESULTS:** A total of 42 primary care practices participated - 24 via SOuND; 18 via the ECHO model. Of these, two practices had a waived provider prior to this study. A total of 430 practice team members were trained, including 99 providers (23%), 196 clinical support staff (e.g., nurses, medical assistants) (46%), 105 administrative support staff (e.g., front desk, medical records) (24%). The curriculum evaluation was completed by 45% of trainees. Trainees reported improved ability to conduct MAT-related activities and to describe MAT-related concepts after training, including ability to determine appropriate patients for treatment with MAT ( $p < .0001$ ), manage patients receiving MAT for their OUD ( $p < .0001$ ), and describe their role in treating patients with OUD ( $p < .0001$ ). Eighty-seven percent agreed or strongly agreed that the training contributed to their professional work. Anticipated changes include change in best practice in my work and change in policy or procedure. Differences across practice roles and study arms will be presented.

**CONCLUSION:** Responses to the IT MATTRs Primary Care Team Training in MAT for OUD were positive overall. Elements of the training are relevant to practices with and without an MAT waived provider.

**RELEVANCE STATEMENT:** Increasing the capacity of primary care practice teams, especially in rural regions, is needed to expand access to treatment for OUD, reduce death due to drug overdose, and improve quality of life. The IT MATTRs Practice Team Training uses a team-based approach to MAT and is effective in engaging a wide range of practice staff who can and need to contribute to the delivery of MAT in primary care, improving perceived ability to provide MAT, and promoting intentions to implement MAT procedures.

**OP29: Patient-centered Outcomes Research Program training for primary care providers in the WWAMI region Practice and Research Network**

*Allison Cole, MD, MPH; Larry Kessler, PhD; Laura-Mae Baldwin, MD, MPH*

**BACKGROUND:** Patient-centered outcomes research (PCOR) assesses the benefits and harms of interventions to inform decision-making, highlighting comparisons and outcomes that matter to people. Practice-based research networks (PBRNs) serve as an important environment in which to conduct PCOR. PBRN representatives may occupy unique positions that can help identify important PCOR questions and serve as collaborators on PCOR conducted in PBRNs. Training for PBRN champions in the principles of PCOR may increase PBRN capacities to participate in PCOR studies.

**SETTING/PARTICIPANTS:** WWAMI region Practice and Research Network (WPRN) - a network of 70 primary care practices across the five-state WWAMI region (Washington, Wyoming, Alaska, Montana and Idaho) that collaborate on research to improve primary care.

**METHODS:** The Patient-Centered Outcomes Research Partnership (PCORP) program prepares individuals for conducting and collaborating in PCOR and has a focus on partners representing community-based health care.. Trainees are mentored by University of Washington faculty and individuals within their individual practice sites. Each trainee completes a combination of online and in-person didactic training and then designs and conducts a research project that develops or answers PCOR questions, committing 4 hours per week over two years. We describe the participant reported results of training primary care providers from the WPRN to collaborate on PCOR studies. PCORP program evaluation assessed participants' satisfaction and change in confidence (1-low to 10-high).

**RESULTS:** 16 clinicians from the WPRN participated in the PCORP training. Following completion of the program, participants reported increased confidence in ability to collaborate with others (baseline confidence 6.8, post program confidence 9.4), collect, record and analyze data (baseline 6.0, post program 8.4) and comparative effectiveness/PCOR skills (baseline 5.7, post program 9.1). The program elements most important in improving PCOR skills were the summer institute training program, the University of Washington mentor and completing the individual project. PCORP scholars have reported 22 peer-reviewed manuscripts and 39 presentations related to their PCORP work.

**CONCLUSION:** Through partnership with the PCORP training program, WPRN clinicians gained increased skills and knowledge in PCOR. This may lead to increased capacity of WPRN practices to collaborate on PCOR studies and advance the field of PCOR in primary care settings.

**RELEVANCE STATEMENT:** Formal training in patient-centered outcomes research can successfully increase PBRN's clinicians capacity to collaborate on future research projects.

## **OP30: Treating Substance Use Disorders in Primary Care: Assessing Clinicians' Questions for Specialists**

*Anna Steeves-Reece, M.P.H., Doctoral Student; Nancy Elder, M.D., MSPH; Jessica Gregg, M.D., PhD*

**BACKGROUND:** In response to the opioid use disorder (OUD) epidemic in the U.S., a variety of initiatives have sought to address chronic pain and substance use disorders (SUDs) in primary care. Project ECHO (Extension for Community Healthcare Outcomes) links interdisciplinary specialist teams with primary care clinicians in different communities using videoconferencing. The Oregon Rural Practice-based Research Network (ORPRN) houses the Oregon ECHO Network (OEN), which offers several 10-12 session, cohort-based ECHO courses related to SUDs in primary care. Clinicians volunteer to present patient cases to receive feedback and recommendations from the specialist faculty and their peers. Our research aims to better understand the kinds of patient cases primary care clinicians seek support for during SUD ECHO courses in Oregon.

**SETTING/PARTICIPANTS:** By winter 2019 Oregon ECHO Network had completed five ECHO courses on SUDs in primary care. 182 participants representing 39 communities and 27 counties have engaged in the courses, including MDs, DOs, NPs, PAs, behavioral health specialists, social workers, and clinic administrators.

**METHODS:** We qualitatively analyzed patient case forms submitted by primary care clinicians prior to the ECHO session. The case form template, while modified for each course by ECHO faculty, includes the main question(s) that the clinician has about their patient, and information about the patient's SUDs, medications, physical conditions, mental health, and social circumstances. The case forms were uploaded into Dedoose and researchers inductively identified codes based on emerging themes.

**RESULTS:** There were 51 cases available for analysis. We found three themes related to patient characteristics: 1) co-morbid conditions; 2) different forms of patient trauma; 3) and the role of positive and negative relationships in patients' substance use. Most patients had complex medical histories, with 67% having both physical and mental health co-morbidities in addition to SUD; 47% of patients also had a history of trauma. Clinicians interpreted the trauma question both as physical or psychosocial trauma. Clinicians also reported that 28% of these patients had family members with SUDs. Broad themes in the specific questions clinicians asked included prescribing uncertainty, competing goals of the health care team and patient engagement.

**CONCLUSION:** Our findings affirm that treating SUDs in primary care settings is necessarily entangled with the treatment of other complex physical, mental, and socioeconomic conditions. Project ECHO-as well as other strategies meant to build capacity for this work in primary care-must be dynamic in order to acknowledge the complex health needs of patients and providers around this topic. Regular evaluation of ECHO patient cases can facilitate the adaptability of these courses.

**RELEVANCE STATEMENT:** Primary care clinicians are often at the front-lines of health crises when they emerge. Project ECHO uses an innovative educational strategy so primary care clinicians can treat patients with SUDs where they live. Our study has found that primary care patients with SUD usually have other health problems, and often have suffered trauma. To sustain and improve upon the efficacy of Project ECHO, it is vital to understand the learning needs of clinicians based on the patients they serve.

**OP31: Promoting Diversity in Leadership: how a forum for diverse constituencies results in increased diversity in professional society leadership**

*Lavadie-Gomez, E. Lisa, MD; ;*

**BACKGROUND:** The National Conference of Constituency Leaders (NCCL) has undergone much transformation since its initiation in August of 1990, initially known as the National Conference of Women, Minority and New Physicians (NCWMNP). In 1993 it was known as the National Conference of Special Constituencies and the name underwent its final transformation in 2015. Despite the evolution of its name, the purpose of this meeting is unchanged: "to more effectively integrate the perspectives and concerns of AAFP members from underrepresented constituencies, to the benefit of an increasingly diverse membership and patient population." The core objectives have also remained the same: "To provide an opportunity for Board-approved member constituencies ... to become more familiar with AAFP programs, exchange information, share experiences, develop basic leadership skills, and to encourage participation in the AAFP governance structure at both the local and national levels."

In 2009, 28% of AAFP commission members had participated in NCCL. As of 2015, 16% of the AAFP Board Members since 1999 have participated in the NCCL. This is a 3 percent rise since 2012. The purpose of the study is to determine if attendance at the AAFP National Conference for Constituency Leaders (NCCL) has met the core objectives of the meeting.

**SETTING/PARTICIPANTS:** Survey of 392 NCCL attendees from 3 years of NCCL meetings.

**METHODS:** A link to a Qualtrics survey with 48 questions was sent by email to the 392 persons. Nine questions were demographic, one question was on practice type, four questions regarding hours spent on workload and type of workload, seven questions on NCCL meeting their core objectives, four questions on leadership positions, three questions on authorship of NCCL resolutions, and 20 questions on NCCL participation.

**RESULTS:** 15% of those surveyed completed the questionnaire. 42% of respondents are in full time direct patient care and 48% are active in the NCCL governance. 60% have pursued additional leadership training. Only 36% are employed in academia. 61% agree that they improve health care access for their patients.

**CONCLUSION:** NCCL participation has increased the engagement in national and local governance of the AAFP. This engagement is important as we are able to show that the use of a directed, top-down advocacy structure can result in organizational change.

**RELEVANCE STATEMENT:** Directed engagement of previously poorly represented constituencies can result in visible change in organizational governance structure.

## **OP32: Iterative Design of an Evaluation Survey Tool for Implementation of an Asthma Shared Decision Making Intervention in Pediatric Emergency Departments**

*Kelly W. Reeves, BSN, RN, UXC; Katherine O'Hare; Hazel Tapp, PhD*

### **BACKGROUND:**

Asthma is a prevalent chronic disease that is difficult to manage and associated with marked disparities in outcomes. Among the most visible of these disparities is the higher rate of visits to the Emergency Department (ED) for uncontrolled asthma involving the most at-risk patients. One promising approach to addressing disparities is Shared Decision Making (SDM)-a process by which the patient and provider jointly make a healthcare choice. SDM is associated with improved outcomes for patients; however, time constraints and availability of staff to perform health coaching are noted implementation barriers. Health information technology (IT) solutions could help address such barriers and increase adoption of SDM. This study aims to implement an SDM IT solution in two large healthcare system pediatric EDs and evaluate the implementation. Pre-implementation objective is to: (1) convene an advisory board of patients, researchers, and ED stakeholders to review and provide feedback on protocol and study materials prior to implementation.

### **SETTING/PARTICIPANTS:**

Patients, providers, national asthma advocacy partners, implementation experts, health literacy advisors, and researchers across the US.

**METHODS:** The Consolidated Framework for Implementation Research (CFIR) is a flexible comprehensive model used to identify barriers and facilitators influencing implementation. To evaluate all five CFIR domains, the research team created survey tools using validated measures of contextual factors. Stakeholder advisory board members then participated in two sessions to iteratively develop two CFIR surveys (one for patients and one for providers) focused on implementation barriers and facilitators. During each session, board members voted on CFIR-guided evaluation questions most likely to identify factors influencing implementation. A health literacy expert evaluated acceptability of patient-facing evaluation questions.

### **RESULTS:**

Stakeholder advisory group (n=23) were invited to participate in survey tool design. Stakeholder (n=17) feedback allowed the research team to target relevant constructs in all five CFIR domains to evaluate implementation at different time points during the study for patients and providers. Selected CFIR domains and constructs include: Intervention Characteristics (complexity, relative advantage), Outer Setting (patient needs & resources), Inner Setting (available resources, implementation climate, leadership engagement, compatibility, learning climate), Characteristics of Individuals (personal attributes, knowledge and beliefs), and Process (Engaging).

### **CONCLUSION:**

Early engagement with our stakeholder advisory board enabled the iterative design of a thoughtful, relevant survey tool that is based on the CFIR framework to identify barriers and facilitators that are appropriate to our implementation plan.

### **RELEVANCE STATEMENT:**

Shared Decision Making (SDM) is associated with improved patient outcomes; however, real-world care settings may experience barriers in implementation. Here we describe the iterative design process of developing a survey tool that will be used to identify barriers and facilitators in implementation of SDM within a pediatric ED setting.

### **OP33: HPV Vaccination in Virginia**

*Paulette Lail Kashiri, MPH; Joan R. Cates, PhD MPH; Alex Krist MD, MPH*

**BACKGROUND:** Vaccinating for human papillomavirus vaccine (HPV) prevents cervical cancer and saves lives. The Centers for Disease Control and Prevention recommends starting the vaccine as early as age 9 years. While Virginia had fewer adolescents in 2016 who were up-to-date with the vaccine (35%) than the national average (49%), Virginia had the greatest vaccination increase of any state in 2017 with 59% of adolescents being up-to-date. The Virginia Ambulatory Care Outcomes Research Network (ACORN) was approached about potential interest in an HPV vaccination study. The intervention consisted of an online gaming platform for preteens, online educational resources for parents, and online training materials for clinicians to increase HPV rates. As part of its stakeholder engagement approach, ACORN systematically assessed the interest and need for this study.

**SETTING/PARTICIPANTS:** 8 family medicine and 6 pediatric practices throughout Virginia with diverse locations, ownership models, and patient populations. 13 primary care physicians, 1 advanced practice providers, and 1 nurse.

**METHODS:** 30-minute qualitative interviews of key ACORN practice stakeholders. The interview guide assessed the practice's perception on how well they were vaccinating preteens and adolescents, barriers to vaccination, strategies to promote vaccination, supports needed to increase vaccination rates, and interest in participating in this intervention.

**RESULTS:** Interview findings revealed that practices thought they were doing well with HPV vaccination. One clinician queried their electronic medical record and reported a greater than 70% up-to-date rate. Most practices routinely provided patients the Centers for Disease Control and Prevention vaccine information sheet and felt it was more than adequate for engaging patients. Many clinicians described patients as falling into three categories: those that easily accepted HPV vaccination (the largest group), those that did not want the vaccine now but would in the future, and those who refused the vaccine (either any vaccine or specifically the HPV vaccine). Practices did not feel like they needed any additional interventions to help. Clinicians felt most patients wanted the vaccine, a change from prior sentiments, and patients who were vaccine- and HPV-hesitant would not likely be swayed by additional information.

**CONCLUSION:** After reviewing findings, the ACORN Review Board decided not to pursue the proposed study. While the topic was considered important, big improvements had been made in HPV vaccination in Virginia. It was unclear if any intervention would improve vaccination rates for vaccine-hesitant patients. However, it was recognized that vaccine delaying created a missed opportunity to vaccinate. Frequently the vaccine would not be re-discussed until the next wellness a year or more later and there was a possible opportunity to study an intervention that targeted vaccine delayers.

**RELEVANCE STATEMENT:** This PBRN engagement approach to systematically consider practice interest and need for HPV vaccination interventions meaningfully changed the intent to participate in a study.

### **OP34: Growing PEACHnet-a new community-engaged research network for Colorado's western slope**

*Andrea Nederveld, MD, MPH; Elena Broaddus, PhD; Don Nease, MD*

**BACKGROUND:** PBRN Research is strong in Colorado, but has until recently not included many communities in western Colorado. A new PBRN is forming to address this gap, with the support of a Eugene Washington Engagement Award from PCORI. For the past year, the investigators have conducted a process for outreach to several western Colorado communities and have built a fledging network. In the upcoming year, efforts will include using boot camp translation to develop the first network specific project and to develop rules of governance through the Regional Advisory Board.

**SETTING/PARTICIPANTS:** 12 Communities across western Colorado (11 in each meeting series); 65 people participated in the first round of meetings, 70 in the second and 10 people will serve on the regional advisory board. Participants represented several health care professions and community members, ranging in age from 18 - 67. They were primarily female, 80% white, 8% Latino, 5% Native America, 3% Asian, 3% "mixed race" and 2% African American.

**METHODS:** Several methods to engage stakeholders across western Colorado were used. Regional Health Connectors (a SIM supported project) in the 8 regions across western Colorado connected investigators with people interested in collaborating in research. Rocky Mountain Health Plans (a regional insurance provider) identified practices that had participated in practice transformation efforts and were interested in quality improvement. After initial contacts were made, in the fall of 2019 meetings were held in 11 communities to introduce the topic of practice-based research/community-engaged research. In the spring of 2019, a second series of 11 meetings was held to generate a list of topics that were important to local communities. This was followed by a ranking survey to identify topics of highest priority by zip code/county. In addition, individuals who expressed significant interest were invited to join the Regional Advisory Board, which will meet once monthly starting in July, 2019.

**RESULTS:** Stakeholders across western Colorado showed considerable interest in community engaged research and support for the formation of this PBRN. Topics most commonly mentioned and voted highest in the survey were associated with social determinants of health. Barriers of limited practice time and participation in a number of initiatives leaving little room for something seen as an "extra" were encountered in project activities.

**CONCLUSION:** Developing a geographically based PBRN in western Colorado will allow for increased community engagement in research and the potential to address health and social issues in a more effective and relevant manner.

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**RELEVANCE STATEMENT:** PBRNs hold promise for improving primary care and community health but many areas do not have active PBRNs. Methods for engagement and development of PBRNs can vary. This is one example of a strategy to engage communities with little previous PBRN participation.

## **OP35: Dashboard of Advancement and Success for Health Services Research (DASH)**

*Nicole M Burgess, BS; Melanie B Johnson, MPA; Beth A Careyva, MD*

**BACKGROUND:** Recent research studies have shown that dashboards are most commonly used by health care systems to deliver patient and health system results in an analytical data form, however little is known about its utility in the infrastructure of health services research. The Dashboard of Advancement and Success for Health Services Research, or DASH, was developed to provide organization of the research and quality efforts of one practice-based research network. Its primary goal was to implement a standardized mechanism to convey a vast amount of research study information in an easy to understand format. Prior to creation of the DASH, the Lehigh Valley - Practice and Community Based Research Network (LV-PCBRN) did not have a formal meeting infrastructure and utilized weekly round-table discussions to review project updates. Today, the LV-PCBRN is using DASH in an innovative way to provide a vast amount of information surrounding the operational tasks, milestones, project status and team goals of the LV-PCBRN.

**SETTING/PARTICIPANTS:** The survey was administered online via REDCap to five administrative members of the LV-PCBRN with coded individual links per participant.

**METHODS:** A dashboard was created to enhance the LV-PCBRN meetings by providing a structured template for individual studies for discussion. To best understand the effectiveness of the DASH, a 31-question survey was administered to five administrative members of the LV-PCBRN. The survey contained pre and post-DASH experiential questions with open-ended and Likert Scale answer choices. Survey participants were not compensated for their participation and the anonymous surveys were administered via REDCap.

**RESULTS:** Four out of five eligible participants completed the survey. The survey concluded that participants all agreed that the LV-PCBRN meetings lacked infrastructure prior to the DASH. Post-DASH, participants believed that the LV-PCBRN goals were met and that the DASH assisted with the success of their individual research projects. When asked what has improved most, participants stated accountability, thorough review of projects and task reminders.

**CONCLUSION:** The DASH has become the foundation for LV-PCBRN meetings and has provided the capability of maintaining new and relevant project information in a simplified presentation. To further enhance the DASH, incorporation of project financial and budget information may be added to convey all components of the research arc.

**RELEVANCE STATEMENT:** The DASH offers researchers the ability to maintain organization of numerous projects, uphold accountability of project tasks, manage milestones and deliverables, and provide qualitative and quantitative data in a simplified visual structure.

## **OP36: "How do you take a picture of disparity?": Using Photovoice to understand community health priorities while establishing a new PBRN for Colorado's western slope**

*Andrea Nederveld, MD, MPH; Elena Broaddus, PhD; Don Nease, MD*

**BACKGROUND:** Photovoice, a participatory research methodology, allows people to document and narrate their own stories, essentially putting data collection in the hands of community members. Moreover, because it requires no special training or expertise, it encourages more equitable participation in knowledge creation and idea-sharing in situations where power-levels differ among participants-for example during discussions that include both health professionals and non-health-experts. Photovoice was used as one of several strategies to understand local health priorities on Colorado's western slope. This was part of a year-long community engagement process aiming to develop the Partners Engagement in Achieving Change in Health network (PEACHnet)-a new western Colorado specific PBRN.

**SETTING/PARTICIPANTS:** Meetings were held in 11 communities across western Colorado with a total of 70 participants. Participants included primary care practice clinicians and staff, public health and social service organization staff, the patients of local primary care practices, students from local colleges, and others.

**METHODS:** In 11 communities across western Colorado, a range of community members (including health and social services professionals, patients of local primary care practices, colleges students, and others) were invited to one-to-two-hour meetings to discuss local health priorities. They were asked to take pictures ahead of the meeting in response to two prompts: What are the things in your community that are problems for health? What are the things in your community that help to improve health? A few days before each meeting, participants sent these photos to the investigators, which were then combined into a PowerPoint slideshow. Each meeting started with this display of the photos while participants explained why they took them and the health issues or assets represented. This served as the starting point for a facilitated group discussion that resulted in a ranked list of local health priorities specific to each community.

**RESULTS:** About half of the people who attended meetings shared photos. Health professionals shared photos less frequently than other types of meeting attendees. Many of those who did not share photos noted lack of time, but also reported that the health challenges they recognized in their communities felt far too complex to capture in a photo-as one attendee noted, "how do you take a picture of disparity?" Yet, interestingly, many of the meeting attendees who shared photos did indeed capture disparities, and the majority of discussion in most communities centered on social and structural determinants of health. Examples of topics that emerged in multiple locations include lack of adequate low-income housing, lack of access to mental health services for communities of color and non-English speakers, food insecurity, and disparities in access to physical activity opportunities due to cost and lack of transportation infrastructure.

**CONCLUSION:** In the context of community meetings where attendees had varying levels of health expertise, using Photovoice gave non-health-experts a unique opportunity to prepare and share their thoughts regarding priority health issues. Even though not all meeting attendees shared photographs, beginning meetings with photo-sharing resulted in dynamic and nuanced discussions about social and structural factors that generate inequities and impact health in western Colorado communities.

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**RELEVANCE STATEMENT:** Photovoice is a valuable methodology for conducting community-engaged research to develop and inform the focus of PBRNs. An example of how Photovoice can be used is shared here, including the findings that resulted and lessons learned.

## **OP37: Clinical Management of Atopic Dermatitis in Children <2 years old by Primary Care Providers**

*Adolfo J. Ariza, MD; Anna Fishbein, MD; Jonathan Necheles*

**BACKGROUND:** Atopic dermatitis (AD) afflicts at least 10% of US children, and most commonly develops early in life. Management guidelines for children <2 years old do not exist. Treatment practices by primary care providers for these children are not known.

**SETTING/PARTICIPANTS:** Pediatric providers from Pediatric Practice Research Group (PPRG) practices.

**METHODS:** Pediatric providers from 12 Pediatric Practice Research Group (PPRG) practices completed an online survey assessing AD care for young children. One year of data from a common electronic health record was used to evaluate AD treatment practice documentation in children <2 years. A subset of these patients seen by a dermatologist/allergist within 3 months of the pediatric visit were analyzed to compare management. Data reviewed included demographics, AD-related visit and problem list diagnoses, prescriptions, and referrals. Frequencies and chi-square test were applied.

**RESULTS:** 52/135 providers (39%) completed the survey. Providers had a median of 19 (3-41) years in practice, cared mostly for privately insured patients (79%), and most (73%) belong to practices with 4-14 providers. All providers were comfortable treating mild and moderate AD, and 30 (58%) were uncomfortable treating severe disease. 41 (79%) reported under use of topical steroids, and 19 (37%) reported parents do not always follow topical steroid recommendations. Providers expressed a need for stepwise management guidelines and quicker access to specialists. There was no difference in AD management practices by provider type, experience or practice size. Among the 69,893 total patient encounters from the past year, topical anti-inflammatories for AD were prescribed in 2% of encounters. Of topical steroids prescribed, 3% were high potency, 20% were medium potency and 77% were low potency.

**CONCLUSION:** Primary care providers are comfortable managing mild to moderate AD in children <2 years. Further guidance is needed to improve provider ability to manage severe AD. This includes addressing under-treatment of AD with topical steroids, improving education on dry skin care, increasing access to specialists and helping families adhere to provider recommendations.

**RELEVANCE STATEMENT:** Through this partnership effort we are trying to get an understanding of current primary care provider management practices for eczema in very young children to enable us develop strategies aimed at ensuring appropriate care for this condition

**OP38: Strengthen the self-care of patients with type 2 diabetes through primary care network-based care management. An intervention study from Germany.**

*Dominik Ose, PhD; Martina Kamradt, MPH; Joachim Szecsenyi*

**BACKGROUND:** Based on concepts for the re-organization of chronic care, care management interventions have been developed that focus on patients with multiple chronic conditions. This study aimed to assess the effectiveness of a care management intervention in improving self-management behavior in multimorbid patients with type 2 diabetes; care was delivered by medical assistants in the context of a primary care network (PCN) in Germany.

**SETTING/PARTICIPANTS:** The PCN where this study took place, is one of three in Mannheim (Germany), a city with approximately 305,000 inhabitants in the southwestern part of Germany. For participation in this study and to serve as a study center, PCN physicians had to meet the following criteria: (1) Specialized in general practice, internal medicine, or practical physician (2) working as a primary care physician according to German regulations and (3) being part of the PCP network.

**METHODS:** This study is an 18-month, multi-center, two-armed, open-label, patient-randomized parallel-group superiority trial (ISRCTN 83908315). The intervention group received the care management intervention in addition to the usual care. The control group received usual care only. The primary outcome was the change in self-care behavior at month 9 compared to baseline. The self-care behavior was measured with the German version of the Summary of Diabetes Self-Care Activities Measure (SDSCA-G). A multilevel regression analysis was applied.

**RESULTS:** We assigned 495 patients to intervention (n = 252) and control (n = 243). At baseline, the mean age was 68 ±11 years, 47.8% of the patients were female and the mean HbA1c was 7.1±1.2%. The primary analysis showed no statistically significant effect, but a positive trend was observed (p=0.206; 95%-CI= -0.084; 0.384). The descriptive analysis revealed a significantly increased sum score of the SDSCA-G in the intervention group over time (P=0.012) but not in the control group (p=0.1973).

**CONCLUSION:** The sum score for self-care behavior markedly improved in the intervention group over time. However, the results of our primary analysis showed no statistically significant effect. Possible reasons are the high baseline performance in our sample and the low intervention fidelity. The implementation of this care management intervention in PCNs has the potential to improve self-care behavior of multimorbid patients with type 2 diabetes.

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**RELEVANCE STATEMENT:** Care management has been defined as a set of interventions designed to assist patients in managing medical conditions and related psychosocial problems more effectively. In Germany, the implementation of these concepts in office-based primary care practices (PCP) has been evaluated with promising results. Nevertheless, in small primary care settings (solo practices or 2-person partnerships) resources are often limited and extensive collaborative models, like care management, may be difficult to implement. Primary care network (PCN) based approaches might ameliorate these challenges.

## **OP39: Preventing Tipping Points in High Comorbidity Patients: A Lifeline from Health Coaches**

*Shelly Sital, MPH; Jonathan N. Tobin, PhD; Mary E. Charlson, MD*

**BACKGROUND:** This pragmatic cluster randomized clinical trial (cRCT) focuses on patients with multiple chronic diseases (MCDs), as operationally defined by a Charlson Comorbidity Index score of (CCI) $\geq 4$ , who are at highest risk for destabilization, increased hospitalization, often repeated hospitalizations, increased emergency department (ED) visits, and increased disability. Patients with MCDs have increased mortality and morbidity, worse physical and mental health, worse quality of life and greater disability. Patients with MCDs are either excluded or ignored in clinical trials because they are heterogeneous and have worse outcomes, confounding results, with few evidenced-based strategies for managing these patients.

**SETTING/PARTICIPANTS:** 1920 predominantly low income, black and Latino adult patients who have MCDs (defined as having a CCI of  $\geq 4$ ) and receive their medical care in 16 Federally Qualified Health Centers (FQHCs) in NYC (8 FQHCs) and Chicago (8 FQHCs) that are part of Clinical Directors Network (CDN) Network of practice-based research networks (PBRNs) and AllianceChicago.

**METHODS:** FQHC sites and their patients will be randomized (1:1) to either a: 1) Patient Centered Medical Home (PCMH) as implemented by FQHCs (Usual Care); or 2) the FQHC PCMH plus a Health Coach (PCMH + HC) intervention that employs a positive affect/self-affirmation strategy to motivate patients to set life goals (Experimental). Participants will be assessed at baseline, 6, 12, and 24-months to evaluate changes in quality of life and disability. Outcome data on unplanned hospitalizations and emergency room visits will be aggregated by PCORnet Clinical Data Research Networks (CDRNs) and Health Information Exchanges (HIEs) in NY and IL.

**RESULTS:** We anticipate that patients in the intervention arm (PCMH + HC) will have a 33% relative reduction in the percent hospitalized (a 5% absolute reduction) as compared to usual care (PCMH) only patients. Additionally, reducing hospitalization will result in reduced disability and destabilization or 'tipping points' leading to hospitalization or emergency department visits will be more often triggered by psychosocial issues -- family, community and environmental -- than by medical issues.

**CONCLUSION:** We believe this program will prevent the build-up of stress that often leads to "tipping points" or overwhelming situations, often outside of the clinical domain, that lead to unplanned hospitalizations, increased emergency department visits, and increased disability. As PCMH sites, FQHCs are incentivized to focus on care coordination; however, patients have indicated they need help beyond what is available in this model. They need assistance doing things that will keep them healthier by being able to better deal with the many social determinants of health-related challenges they face. They also need help talking with their clinicians and finding their way around the complicated health care system. As such, the PCMH + HC intervention will allow us to understand if adding health coaches will help patients to better manage their sources of stress, and if this improves how they can take better care of themselves, and avoid having to go to the hospital frequently.

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**RELEVANCE STATEMENT:** Interventions such as this novel approach of implementing in the clinical domain PCMH Usual care with the addition of a health coach have the potential to significantly impact the health of patients with multiple co-morbidity by reducing unplanned hospitalizations and emergency department visits.

**OP40: Bridging research and practice cultures: Lessons from and for "participatory organizational ethnography" in a multi-site primary care network**

*Peter Nugus, MA(Hons), MEd, PhD; Nadjib Mokraoui, MD, MSc; Jeannie Haggerty, MSc, PhD*

**BACKGROUND:** Foundational methodological contributions to participatory research (PR) have advanced the way researchers engage with practice communities, with ever more incisive insights and strategies for reconciling competing visions of reality, futures and self-determination. However, innovation in PR research is limited by relative inattention by researchers to complex organizational dynamics that shape such engagement. The aim of this study was to understand the institutional dynamics that shape the way researchers can and do engage with practice communities.

**SETTING/PARTICIPANTS:**

**METHODS:** The setting is a Primary Care Practice-based Research Network (PBRN) of a large department of Family Medicine, including its nine primary care clinics in a metropolitan Canadian city. A participatory organizational ethnographic strategy involved: field observations by two PBRN officers; and interviews with 28 site and PBRN committee representatives. Typed field-notes and interview transcripts were analyzed using thematic analysis.

**RESULTS:** The primary determinants of engagement were: previous experience of the attempted engagement of the research network in relation to the culture and work priorities of the sites; and interpretations of the notion of "research", and its perceived role in frontline clinical work. A broad implication is that research engagement must start with and persuade gate-keepers and practitioners of their sensitive, careful, "minimalist" interpretation of the phenomenon being investigated (in this case, the phenomenon of research itself). Second, multi-level interventions, aimed at organizational culture, are required to role model and persuade practitioners of the applicability of qualitative studies, and of the transferability of purposively-sampled and adequately-theorized qualitative studies.

**CONCLUSION:** A re-invigorated "participatory organizational ethnography" can help researchers understand the interplay between institutional-structural influences and behavioural incentives, in the service of practice communities.

**RELEVANCE STATEMENT:** Observing the culture of research and clinical practice can help foster mutual understanding of research priorities.

## **OP41: Digital Testimony: A colorectal-cancer screening promotion tool made by and for church-attending Latinos**

*Nazineen Kandahari, BA; Vicky Gomez, MPH, DrPH; Amani Allen, PhD, MPH*

**BACKGROUND:** Cancer is the leading cause of morbidity and mortality among Latinos. Up to 50% of colorectal cancer-related deaths could be prevented if patients received routine colorectal cancer-screening (CRCS). Despite being the largest and fastest-growing ethnic group in the United States, Latinos have the lowest CRCS rates.

Community-based interventions could help to overcome barriers to chronic disease prevention among Latinos. Specifically, the church is a major social, educational, and spiritual resource for Latinos and more than 80% of Latinos identify with a religion, the majority as Christian and Catholic. We explored the feasibility of a digital storytelling intervention, created with and for a Latino church community, as a health promotion tool.

**SETTING/PARTICIPANTS:** We partnered with a predominantly Latino church in the Bay Area, California and used a community-based participatory research (CBPR) approach. We facilitated fellowship by participating in church activities, initiating health ministries, and building strong connections with congregants. We incorporated community input on the research agenda by collaborating with leadership and assembling a Community Advisory Board.

**METHODS:** We recruited 12 members of the church who were adherent with CRCS recommendations. We worked closely with participants to translate their testimonies about CRCS into scripts intended to transport the receiving audience. We integrated the scripts with other media they produced into digital stories and evaluated the digital storytelling process with in-depth interviews.

We then measured the potential of the digital stories to promote CRCS to congregants who were non-adherent with CRCS recommendations. We recruited non-adherent congregants to view the digital stories and participate in pre and post-surveys and focus groups.

**RESULTS:** All Storytellers reported feeling successful in producing a satisfactory digital story because of their comfort working with the researchers, who they felt familiar with. We also found that church members were interested in creating digital stories to promote preventive health behaviors, increase awareness about colorectal cancer, and resolve misinformation and fear among their community. Most participants had a family member affected by cancer. For many participants, the process of developing a digital story initiated self-reflection and strengthened their motivation to obtain CRCS regularly. All participants promoted preventive health as foundational to spiritual health.

After viewing the digital stories, 30% of congregants who were non-adherent with CRCS recommendations then expressed new intention to obtain CRCS. Additionally, 13% of Storyviewers expressed new knowledge about CRCS and colorectal cancer. We also found that most Storyviewers felt that they could relate to the Storytellers. Though the digital stories all spoke of CRCS to some extent, they more broadly motivated non-adherent church members to reevaluate their understanding of faith and medicine.

**CONCLUSION:** The CBPR nature of the study was essential to the successful production of digital stories. Both the production and dissemination of digital stories within the Latino church community had a positive health impact.

**RELEVANCE STATEMENT:** Digital storytelling has significant potential to influence members of the Latino church community to seek preventative healthcare.

## **OP42: Teen Speak-Out: Engaging Rural teenagers to develop interventions to address stress**

*Maureen B. Boardman, MSN, FNP-C, FAANP, Deborah J. Johnson, MHA, Sarah Lord, PhD, Ardis Olson, MD; Maureen B. Boardman, MSN, FNP-C, FAANP; Deborah J. Johnson, MHA*

**BACKGROUND:** The strong negative association of stress with substance misuse, mental health difficulties, academic problems, poor decision making and diminished physical well being in adolescents has been well established. Stress can increase during the middle adolescent years starting at roughly age 14, due to developing cognitive capacities that increase; comparisons with others and related self-consciousness and self-criticism; increasing academic performance expectations, changing peer dynamics and romantic relationships. The adolescent age also involves increasing opportunities for participation in activities outside of the family; more responsibilities (school, sports, work, relationships); concerns about the future (i.e., getting into college, getting a job after high school, having enough money to live). Communities can offer much in the way of social capital, resources, services and opportunities. Technology can facilitate access to education; skills to enhance self-management of health and connections to resources to support positive life trajectories and stress.

**SETTING/PARTICIPANTS:** Community partners from local middle and high schools representing a catchment area of 20 rural towns in Vermont and New Hampshire. The community catchment areas have among the highest rates of per capita for poor health indicators, use of alcohol, marijuana, heroin and prescription opioid dependence in the United States. Target population was teenagers 13-19 years of age with teen-selected community stakeholders.

**METHODS:** The Teen Advisory Board and its members; developed in the Teen Speak-Out phase 1 expressed interest in being involved in the Phase 2 part of the study. These Teen Advisory Board Members came together and reviewed three mobile applications rated for "Teens" categorized as "Stress, Mindfulness, Anxiety Apps". These mobile applications were presented to the teens under the guidance of the investigative team and mentors. Each TAB member had an opportunity to ask questions and share their thoughts about each app. The TAB then voted on which of the three apps they would recommend for use in the Phase 2 intervention. Seven out of eight TAB participants voted for the app "Pacifica" The TAB members then recommended additional students from the catchment area to pilot the mindfulness app with the goal to recruit at least 15-20 teens to participate. Teens were then asked to use the Pacifica app on a daily basis for a 4-6 weeks. The teens participating in the pilot project were given well-being pre/post intervention questionnaires as well as a questionnaire to measure acceptance of the invention, perceived relevance and usefulness, intention to use in the future and ideas for strategies for broad dissemination were all measured and evaluated.

**RESULTS:** There is a low risk technological solution using a mobile app to assist and support teens in managing stressors, anxiety and life challenges in a rural setting. We believe this intervention can be reproduced in multiple rural communities.

**CONCLUSION:** The use of an mobile application, such as Pacifica as a cognitive-behavioral therapy and mindfulness intervention; is a low risk technology solution to support teens addressing teen-identified stress and anxiety risk factors.

**RELEVANCE STATEMENT:** The recent well-documented and significant increase in rates of adolescent anxiety and depression, it is important for primary care clinicians to find a way to address and manage adolescent stressors before they become critical. This is especially important among rural adolescents given the additional factor of isolation secondary to their rural demographics.

### **OP43: Patient, Physician, and Environmental Predictors of Influenza Vaccination during Primary Care Visits**

*Sujatha Changolkar, BA; Charles A. L. Rareshide, MS; Mitesh S. Patel, MD, MBA, MS*

**BACKGROUND:** Although the influenza vaccine has shown to be an effective preventative measure for reducing economic and disease burdens, rates of vaccination remain low at under 50% nationally. Predictors of influenza vaccination at primary care visits have not been well-examined. This study aimed to leverage publicly available and electronic health record data to assess patient, provider, and environmental predictors of flu vaccination.

**SETTING/PARTICIPANTS:** This retrospective study included 30 primary care clinics at Penn Medicine during the influenza seasons (September 1st to March 31st) of 2014-15 and 2015-16. Clinic sites with at least 100 visits per season were included. Patients were eligible if they visited their primary care physician for a new or return visit and were due for influenza vaccination.

**METHODS:** Data on patients with a primary care provider at the University of Pennsylvania was obtained from the electronic health record. Clinician and weather information was obtained from publicly available sources. Multivariate logistic regression models with patient, clinician, visit, temporal, and weather characteristics were fit to the binary outcome of flu vaccination at the time of the patient's first visit with their primary care clinician during the study period.

**RESULTS:** Among 127,021 eligible patient encounters, the influenza vaccination rate was 33.8%. In adjusted models, significant patient predictors of higher odds of receiving vaccination included male sex (Odds Ratio [OR], 1.13; CI, 1.10-1.16;  $P < 0.001$ ), and either Medicaid (OR, 1.12; CI, 1.04-1.19;  $P = 0.001$ ) or Medicare (OR, 1.29; CI, 1.25-1.35;  $P < 0.001$ ) insurance. Patients who were black (OR, 0.83; CI, 0.80-0.86;  $P < 0.001$ ) or other non-Hispanic minorities (OR, 0.91; CI, 0.87-0.95;  $P < 0.001$ ) were associated with lower odds of vaccination relative to those who were white. Clinician characteristics with higher odds of vaccination included internal medicine specialty (OR, 1.38; CI, 1.30-1.47;  $P < 0.001$ ), doctor of osteopathy (DO) degree (OR, 1.33; CI, 1.26-1.41;  $P < 0.001$ ), and less than 5 years of clinical experience (OR, 1.27; CI, 1.18-1.36;  $P < 0.001$ ) or more than 10 years of experience (OR, 1.12; CI, 1.07-1.17;  $P < 0.001$ ). Return visits had higher odds of vaccination (OR, 1.18; CI, 1.13, 1.23;  $P < 0.001$ ) than new patient visits. Time played a significant role with higher odds of vaccination for appointments earlier in the day, week, and influenza season. Weather also played an important role with odds of vaccination- higher on days with lower average temperature (OR, 0.997; CI, 0.995-0.999;  $P = 0.003$ ) and days with precipitation (OR 1.05; CI, 1.02-1.08;  $P = 0.003$ ).

**CONCLUSION:** Patient, clinician, and various environmental factors significantly predicted influenza vaccination.

**RELEVANCE STATEMENT:** Future research should consider patient, clinician, and various environmental factors when designing interventions to improve suboptimal influenza vaccination rates.

**OP44: Addressing adverse childhood experiences and health risk behaviors among low-income, Black primary care patients: Testing feasibility of a motivation-based intervention**

*Ellen Goldstein, MFT, PhD; James Topitzes, PhD; Richard L. Brown*

**BACKGROUND:** African Americans are disproportionately exposed to stressful and traumatic events and are at greater risk for PTSD than the general population. This pilot study tests the feasibility of implementing a two-session intervention that addresses adverse childhood experiences (ACEs), post-traumatic stress symptoms, and health risk behaviors (HRBs) among Black primary care patients.

**SETTING/PARTICIPANTS:** The study site, a Federally Qualified Health Clinic, serves low-income minority patients in Milwaukee, Wisconsin. Of their patients, 76% are Black, 76% have Medicaid, 60% are female, 44% are between 18 and 49 years old, 25% are aged 50 or older, and 27% have a mental health or substance disorder. Eligible patients for the study were adult men and women, who were English-speaking, clinic patients, and able to provide informed consent. Being black was explicitly stated in the eligibility consent form and was self-reported as a characteristic at baseline. This inclusion criterion was intended to target the majority clinic population to make the data more useful to clinicians who serve Black primary care patients with ACEs. Patients with one or more ACEs were eligible to participate in the study intervention.

**METHODS:** A prospective cohort, experimental (pre-post) design with 2 post-intervention assessments were used to evaluate the feasibility of a motivation-based intervention for Black primary care patients with one or more ACEs. Indicators of feasibility implementation outcomes were assessed by participant adherence to treatment; suitability, satisfaction, and acceptability of the intervention; in addition to clinical outcomes of stress, HRBs, and behavioral health referral acceptance.

**RESULTS:** Out of 40 intervention participants, 36 completed the intervention. Of the patients with one or more ACEs who participated in the intervention, 65% reported 4 or more ACEs and 58% had positive PTSD screens, and nearly two-thirds of those had at least one HRB. Satisfaction with the program was high, with 94% of participants endorsing "moderately" or "extremely" satisfied. The sample showed significant post-intervention improvements in stress, alcohol use, risky sex, and nutrition habits. Although stress reduction continued through 2-month follow-up, unhealthy behaviors rebounded. Almost one-third of participants were connected to behavioral health services.

**CONCLUSION:** Brief motivational treatment for ACEs is feasible in underserved primary care patients and could help individuals develop healthier ways of coping with stress and improve health.

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**RELEVANCE STATEMENT:** The intervention could help patients develop better ways of coping with stress and consequently could help primary care clinics address the impact of trauma on health among their patients.

**OP45: Prevalence of depression among diabetics at the family medicine unit of Saint-Nicolas Hospital of Saint-Marc, Haiti, May-July 2018**

*Emmanuel Fabrice Julcéus, MD; Eddie Charles, MD; Emile Longor, MD*

**BACKGROUND:** Diabetes and depression are two main diagnosis seen in primary care clinics. Patients with type 2 diabetes have an additional 24% risk to develop depression compare to non-diabetics. Without systematic screening it is estimated that only 50% of patients with depression will be identified. This study aimed to determine the prevalence of depression and its associated factors in diabetics regularly followed at the outpatient family medicine unit of Saint-Nicolas Hospital (HSN).

**SETTING/PARTICIPANTS:** This study took place at the outpatient family medicine unit of HSN, a training center for family medicine residents, from May to July 2018. This unit has a special program giving comprehensive care and group education for diabetics. Diabetics aged 18 years old or more, regularly seen in this program were included in this study.

**METHODS:** In this cross-sectional analytical study the Zanmi Lasante Depression Symptom Inventory (a Haitian validated instrument) was used to screen and classify the depression in mild, moderate and severe, with or without suicidal ideation. Calculation showed that a minimum of 109 patients were needed to detect a 10% difference on the prevalence of depression with a power of 80% and a margin of error of 5%. Epi info was used for the analysis using proportion, chi square and student t test.

**RESULTS:** Among the 133 diabetics screened 90.98% were women, 63.16% aged between 40 and 64 years old, 51.3% were living alone and 66.17% were working. Regarding clinical characteristics 50.38% had more than 5 years of diabetes, 45.11% had complication linked to diabetes, 78.2% had a comorbidity of which 77.4% had hypertension. The prevalence of depression was 18.8% divided in 36% mild, 32% moderate and 32% severe. Within the depressive patients 60% had suicidal ideation. No sociodemographic or clinical characteristic was associated with depression.

**CONCLUSION:** The prevalence of depression in this population was substantial and the majority of the depressive patients had suicidal ideation. These findings, knowing that depression is often hidden, contribute to highlight the need for systematic screening of depression among Haitian diabetics without discrimination.

**RELEVANCE STATEMENT:** This study shows the presence of depression among a large proportion of diabetics in a training hospital in Haiti. It helps to advocate the need of systematic depression screening in the Haitian diabetic population.

## **OP46: The ABCs of VMBs**

*Jennifer Aiello, MS; Nicole Hostetler, BA; Lyndee Knox, PhD*

**BACKGROUND:** While the model for quality improvement and PDSA processes are useful for helping practices engage in transformation work it can be difficult for practices to sustain these QI processes long term with fidelity. PDSA cycles can get dropped due to competing demands and difficulty convening the team. It can also be difficult for busy practices to systematically surface and review recommendations for new QI efforts. Visual Management Boards (VMBs) are a QI tool used widely within the Lean Six Sigma community and they routinize/standardize weekly QI meetings that can help address this. VMBs combine visual public display of QI goals, progress and activities with structured, efficient, weekly QI "huddles" analogous to clinical huddles. VMBs facilitate engagement of all level staff/clinicians, assure regular review of ongoing PDSA cycles, surfacing of new QI ideas and troubleshooting and also celebrate progress towards transformation goals. They can also be used to engage patients in the QI process in an efficient and non-threatening way via display in a public area and provision of spaces for patients to contribute feedback and ideas to the board.

**SETTING/PARTICIPANTS:** Olive View Medical Center, a safety net hospital within the LA County Department of Health Services (DHS), implemented VMBs within its two largest primary care clinics with the intention to spread the VMBs throughout all ambulatory clinics and in-patient facilities within the hospital.

**METHODS:** An improvement advisor experienced with VMBs, the Primary Care Director and the Practice Facilitator created a VMB implementation plan that occurred in several developmental stages. The plan was to train and coach staff both within the clinics and the QI department in four areas: 1) VMB introduction, 2) QI fundamentals, 3) VMB board meeting processes and 4) clinical standardized work processes. A small group of frontline staff were chosen to champion these concepts within each clinic with coaching from the improvement advisor and the practice facilitator.

**RESULTS:** Clinics A and P have embraced VMBs. They have a standing schedule for their bi-weekly meetings and have maintained approximately 80% fidelity to the model. Standardized work has begun, consistently reaching and exceeding their targets on key performance indicators (KPIs), and spread has begun to the Peds Primary Care clinic. Hospital champions have been identified and tasked specifically with spread throughout all departments.

**CONCLUSION:** Visual Management Boards are a relatively simple QI tool that can have a large impact in primary care clinics. They effectively involve all staff members in the quality processes and remove hierarchical barriers that are often present in healthcare settings. They are useful for tracking data, projects, workflows, etc., using a short, 20 minute bi-weekly all staff meeting.

**RELEVANCE STATEMENT:** Implementing VMBs can be an impactful tool to creating more cohesion within, and amongst, primary care clinics. They are an excellent way to build QI capacity in a practice through adoption of a low to moderate complexity sustainable QI planning and monitoring process. They can help a practice focus on value and not volume.

## **OP47: Coaching Practices to Enhance Patient Access Through Patient Portal Use**

*Michael Dark, MPH, MA; Elena Klyushnenkova, PhD, MSPH; Niharika Khanna, MD, MBBS, DGO*

**BACKGROUND:** The Transforming Clinical Practice Initiative (TCPI) at the Centers for Medicare and Medicaid Services funded the Garden Practice Transformation Network in Maryland to engage practitioners in practice transformation. One of TCPI's patient and family engagement aims is to adopt the use of electronic tools to enhance medical record access and communication for patients. Electronic health record (EHR) patient portals allow both patients and clinicians to share information and correspondence. However, some practices are challenged with limited resources and EHRs with limited patient portal capabilities. Practice facilitation was utilized to increase the use of patient portals to encourage patient and family engagement.

**SETTING/PARTICIPANTS:** Practice facilitation to initiate or optimize patient portal use was conducted with 839 primary and specialty care practitioners representing 44 practices and 4 Federally Qualified Health Centers (FQHC) with 25 sites.

**METHODS:** Practice transformation coaches provided one-on-one coaching about patient and family engagement to the TCPI-enrolled practices. Coaching was designed to effectively implement the use of patient portals to integrate patient and family feedback into patient-centered care delivery and quality improvement. Coaching was provided in-person monthly for one hour and by e-mail or telephone as needed. Coaching included increasing awareness of functional capabilities of patient portals and the value to patient care, communicating with EHR vendors to ensure patient portals were active and technical assistance needs were being met, and developing new workflows to integrate patient portal use into existing processes. Practices were able to utilize patient portals for outreach, responding to patients, scheduling appointments, refilling medications, immunization and preventive care reminders, and management of chronic disease.

**RESULTS:** With tailored coaching, the number of practices utilizing patient portals increased from 12% (n = 6) to 79% (n = 38) over a period of 12 months (October 2017 - October 2018). Practices were successful in providing 24/7 access to care providers electronically and incorporating alternative methods of patient-practitioner communication.

**CONCLUSION:** Practices benefit from one-on-one coaching including return on investment conversations with practices to utilize patient portals in patient engagement. Coaching practices in optimal patient portal use provides a unique opportunity to engage patients as partners in their health care. In the future, patient engagement may lead to self-management and improved health outcomes, and greater practice satisfaction with care delivery.

**RELEVANCE STATEMENT:** There are many benefits to patient portal use, including better patient communication, streamlined patient registration and administrative tasks, a greater focus on patient care, better patient-practitioner relationships, improved clinical outcomes, and optimized medical office workflow.

## **OP48: SPIDER: A QI-Research Collaboration Facilitating Medication Appropriateness in Primary Care for Complex Older Patients - Preliminary Findings of the Feasibility Phase**

*Michelle Greiver, MD, MSc, CCFP, FCFP; Patricia O'Brien, RN, MScCH; Christina Southey, MSc*

**BACKGROUND:** Research shows that about one quarter of older Canadians were prescribed ten or more unique medications each year; taking more medications than needed is termed "polypharmacy". There is a direct association between an increasing number of unique medications and persistent high care needs and elevated care costs in this population. In addition, polypharmacy increases the risks of poor patient health, reduced quality of life and hospitalizations. Safer prescribing for this vulnerable population in primary care is needed. A Structured Process Informed by Data, Evidence and Research, the SPIDER approach, may have a potential to address the issue. Leveraging the alliance between QI and PBRNs for the support of QI coaching and provision of practice level EMR data for feedback, the SPIDER approach engages interprofessional practice teams in learning and working together to achieve the goals of reducing potentially inappropriate prescriptions (PIPs) and improving medication appropriateness in primary care for patients 65 years and older taking ten or more unique medications.

**SETTING/PARTICIPANTS:** The study opens to primary care practices, both academic- and community-based, from seven PBRNs across Canada. Practice teams led by a family physician and including a nurse, a clinical pharmacist and ideally an administrative staff are asked to participate. Ten percent of the patients of participating physicians who are identified as meeting the eligibility criteria are also invited for a post-intervention assessment including a survey and/or an interview.

**METHODS:** A single-arm prospective mixed method feasibility study in three PBRNs (currently ongoing) followed by a 2-arm (SPIDER intervention vs. Usual Care) pragmatic cluster RCT in five PBRNs. Participants are invited to attend four Learning Collaborative sessions including a full-day launch meeting, two 1-hour follow-up webinars and a half-day Summative Congress over a period of 12 months, along with regular contacts with a QI coach. Reduction of PIPs, the main outcome, is measured using the Canadian Primary Care Sentinel Surveillance Network (CPCSSN) EMR data. Participant experience and the SPIDER process are assessed using surveys and qualitative methods.

**RESULTS:** Thirty three physicians from ten family health teams/practices and one nurse practitioner and three family physicians from a community health centre were recruited for the feasibility phase in the Toronto site. All teams have accessed coaching support, reflecting high engagement. Teams were given flexibility in developing deprescription strategies and action plans that fit their context. Review and validation of patient cohort identified by the EMR were time-consuming for some, depending on the size of the cohort and the patterns practices have been using to capture medication information in their EMR. Having an existing internal support team including data specialists and QI experts enabled teams to proceed more quickly. Engaging pharmacists in the medication review and deprescription process allowed for the sharing of their specific expertise thereby alleviating workload for physicians.

**CONCLUSION:** The SPIDER approach appears to be feasible. Having access to embedded QI and data support and working with collaborating pharmacists may enhance the sustainability of the approach.

**RELEVANCE STATEMENT:** Older adults living with multiple chronic conditions may take a large number of prescription drugs. Research shows that more than one quarter of older Canadians were prescribed ten or more drugs (polypharmacy) each year. Some of these drugs may be harmful and could be stopped. Our approach helps practices review medications with their older patients taking many drugs; we provide reports, practice coaches and a learning collaborative for family physicians and their teams. We will compare this to usual care.