



2011 Poster Presentation Abstracts

July 28 – 30, 2011 – National Conference of Family Medicine Residents and Medical Students – Kansas City, MO

The purpose of the National Conference poster competition is to stimulate research by medical students and family medicine residents, to provide a venue to share innovative and effective educational programs, and to showcase unique community projects. This year's 16 presenters offer valuable information in the categories of research, clinical inquiry, and community projects.

Research

R-1 **Alcohol Screening in an Urban Family Medicine Residency Clinic**

Janell Hill, MD, PhD

Lancaster General Family Medicine Residency

The American Academy of Family Physicians substance use disorders curriculum states that residents should be able to demonstrate competence in alcohol screening, assessment, intervention, and referral with their own panel of continuity patients and alcohol screening should be done annually. The objective of this project was to determine the alcohol screening rate of family medicine residents in an urban family medicine residency clinic. Patients who presented for any office visit at the family medicine residency clinic were given post-visit surveys that asked, "Did your doctor spend time discussing alcohol use with you?" While the alcohol screening rate was well above 16%, it appeared that residents are not providing the appropriate counseling and intervention or screening patients consistently. Implementation of a clinic-wide standardized screening tool and protocol, as well as education regarding intervention, would prove beneficial in residency program curricula.

R-2 **Correlation of Colon Cancer Knowledge, Attitudes, and Screening Behavior for Low Income Population in an Urban Community Family Health Center**

Adeliza Jimenez, MD, and Tiffany Tran, MD

University of Texas Health Science Center – San Antonio Family Practice Residency

While screening tests for colorectal cancer are widely available, they are underutilized. The purpose of this study is to examine the correlations of knowledge, attitudes and behaviors toward colon cancer screening among Hispanic patients from an urban family medicine clinic. 203 of 402 subjects completed a questionnaire on socio-demographics, health and colonoscopy status, knowledge, attitudes, and behaviors pertaining to CRC screening. Results showed that 58.1% of subjects reported having a colonoscopy. African Americans reported higher colonoscopy rates than Anglos as did Hispanics compared to Anglos. There is a modest correlation between positive CRC attitude score and % correct CRC knowledge. The final logistic regression model of only Hispanic patients showed that the positive odds ratios for each interaction term (age, CRC knowledge, positive attitude) indicate that their combination increases the likelihood of a patient having a colonoscopy. In conclusion, interventions which aim to increase CRC screening rate need to focus not only at increasing knowledge, but also on increasing positive attitude toward CRC screening.

R-3 **Effectiveness of Diabetic Group Visits**

Mehvish Jawaid, MD, and Tiffany Tran, MD

McLaren Family Practice Residency

Enrolling in a diabetic group visit helped improve risk factors associated with diabetes mellitus, especially in patients with increased BMI, the most significant of which was HgA1c, followed by LDL. However, as the BMI's increased from 28-40, GFR and systolic/diastolic blood pressures did not show significant change, possibly due to ethnic/genetic determinants of blood pressure, as race was not accounted for in this analysis. The insignificant changes in GFR in both groups can also be attributed to rather good control of blood pressure across both study groups. A potential confounder arguing in

greater favor for group visit is that the most difficult to control diabetic patients, presumably with more significant psychosocial challenges, were selected to take part in group visit. Another potential issue in interpretation of our data is the significant time commitment involved in regular group visit participation, which would automatically select those patients most committed to lifestyle change. Finally, another important limitation to the extrapolation of the findings in this study is the relatively small number of patients enrolled. To analyze these factors in depth, while working to control the confounding variables, I will focus the next part of my research on examining the effects of ethnicity on blood pressure and GFR and increasing the number of patients in my study.

R-4 **How Medical Student Characteristics and JayDoc Clinic Involvement Relate to Attitudes Toward Care of the Underserved**

*Courtney Huhn, MD; Suzanne Ozburn, MD; and Melissa Rosso, MD
University of Kansas Medical Center Family Medicine Residency*

The association among medical student characteristics and attitudes toward care of the underserved has been evaluated in the literature. Studies have shown that medical students tend to become less idealistic, less benevolent, and less humanitarian during the first two years of medical education. However, early experience has also been shown to help students develop empathetic responses to ill patients. Our purpose was to identify how medical student characteristics and JayDoc Clinic involvement during early medical education related to attitudes toward care of the underserved at matriculation. A cross-sectional study was used to assess 2011 KUSOM graduates who completed the 30-item Modified Medical Student Attitudes Toward the Underserved (MSATU) survey. JayDoc, as an early formative experience, was shown to correlate with more positive attitudes toward care of the underserved. Although further research to examine a potential causative relationship would be ideal, the correlation itself offers useful information. Medical schools could utilize this information to promote the establishment of student-run free clinics, such as JayDoc. This experience fosters the positive attitudes of students entering medical school. It also offers a formative experience which shapes student attitudes toward care of the underserved.

R-5 **Long-term Treatment With Metformin in Patients With Type-2 Diabetes and Risk of Vitamin B-12 Deficiency**

*Viktoria Nurpeisov, MD
Atlanta Medical Center Family Medicine Residency*

The goal of this study was to determine the relationship between diabetic patients on metformin and vitamin B12 levels. Similar to previous studies, the prevalence of vitamin B12 deficiency among patients on metformin in our study was 26%. From a database of subjects who had levels of both serum vitamin B₁₂ and hemoglobin A_{1c} checked in a laboratory, 63 cases of diabetes mellitus (HbA_{1c}>7) treated with metformin and 73 controls with normal vitamin B₁₂ (>200 pg/ml) as the comparison group. For our case-controlled study, after adjusting for potential confounders, such as age, race, gender, hypertension, PPI use, and BMI, a statistically significant association was found between vitamin B₁₂ deficiency and duration of metformin use. Among those using metformin for 1 year or more compared with those receiving metformin for less than 1 year, the adjusted odds ratio (AOR) was 8.91 (CI 4.1-19.4, $p = <0.001$). For those using metformin for 6 months to one year versus less than 6 months, the AOR= 7.41 (CI 2.8 - 19.3, $p = <0.001$). Dose dependent increase of B12 deficiency is magnified in patients who have received longer course of metformin treatment, independent of other clinical variables. Since Vitamin B-12 deficiency is preventable, the risk factors identified have implications for screening and prevention strategies in metformin-treated patients. Regular measurement of vitamin B-12 concentrations during long term metformin treatment should be strongly considered, particularly among at-risk patients receiving metformin.

R-6 **Overcoming a Key Barrier to Effective Colorectal Screening: The Provider**

Matthew Kanaan, DO

Duke Family Medicine Residency

Colorectal cancer is of great concern to primary care physicians. Although rates of new colorectal cancer cases are declining in our country, roughly 50,000 patients continue to die each year from this disease. Much of the time the deaths that occur from colorectal cancer are due to late detection and advanced disease at the time of diagnosis. Although physicians do their best to appropriately screen patients for this disease, numerous studies identify that one of the major barriers to screening is the provider. This study investigated the current practices, knowledge, and perceived barriers among providers in a large university-affiliated community and family medicine department, as they relate to colorectal cancer screening. The results of the survey generally showed three main points: 1) Providers did not seem up to date on current ACG/ AAFP guidelines. 2) Only 30% of providers identified themselves as a possible barrier to adequate screening. 3) Provider's perceptions of potential barriers to screening did not match actual barriers identified in previous patient surveys. Our goal is to organize this information and then educate providers on the potential ways that they might pose a barrier to screening.

R-7 **Prevalence & Impact of Pharmaceutical Industry Detailing in Rural Oregon**

Gabriel Andeen

Oregon Health and Science University School of Medicine

The pharmaceutical industry spends over \$25 billion annually on drug promotion activities, including \$16 billion in free samples and \$7 billion on direct detailing to physicians. Prior studies have shown that 80-95% of physicians meet regularly with sales representatives, and roughly 80% receive free drug samples. Prior research has also clearly demonstrated that pharmaceutical detailing and drug sampling alter physician prescribing patterns. Drug samples may provide an important source of medication for underinsured patients, although a recent national study reported that most sample medications do not reach these vulnerable populations. Our study aimed to assess the prevalence and impact of industry detailing on clinical environments in rural Oregon primary care clinics. We surveyed member clinics of the Oregon Rural Practice-based Research Network (ORPRN) in addition to administering surveys and semi-structured interviews to individual clinicians at a sub-sample of clinics. Among responding clinics, 85% reported visits from at least one pharmaceutical representative in the prior year, and 80% accepted free drug samples. Frequently detailed clinics had larger patient panels and more drug samples in stock. Those clinicians who reported greater frequency of sample dispensation also reported more frequent visits with industry representatives, greater attendance at industry-hosted events, and greater perceived value of industry representatives.

R-8 **Provider Characteristics That Promote Interpersonal Continuity in Clinical Practice: An OHSU Family Medicine Analysis of the Effects of Various Provider Practice Parameters on the Usual Provider Continuity Index (UPC)**

Tyler Mittelstaedt

Oregon Health and Science University School of Medicine

Interpersonal continuity between patient and provider is a foundational tenant of family medicine and an essential element of the patient-centered medical home (PCMH). While the numerous benefits of interpersonal continuity in primary care are well established in the literature, few studies have quantitatively assessed optimal continuity rates or provider characteristics that promote enhanced continuity. We conducted a mixed-methods study to assess the effects of patient load, clinic frequency, clinic absenteeism and duration in practice on the Usual Provider Continuity Index (UPC), utilizing provider focus groups to inform and validate our primary retrospective cohort study. Our data suggest that variability in UPC between providers is most notably a function of (1) how often a provider is in clinic; (2) whether a provider has sufficient clinic frequency to care for an assigned patient panel; and (3) maturity of practice. The results of our study will be useful to independent clinicians and clinic

directors seeking to organize their practices in a manner that optimizes interpersonal continuity. Furthermore, our findings will advance efforts towards establishment of benchmark continuity rates and protocols for measuring and attaining optimal continuity, which may soon be required for certification of clinics as medical homes.

R-9 **Rural Patients Speak Out: Examining Communication Barriers and Experiences With Care in an Outpatient Setting**

Tanna Albin

University of Nebraska Medical Center

Health literacy is the ability “to obtain, process, and understand basic health information and services needed to make appropriate health decisions.” Low patient health literacy affects the quality and cost of healthcare delivered and received in outpatient settings. Healthcare teams are often unaware of or underestimate patients’ health literacy needs, leading to poor outcomes resulting from patient difficulty navigating the healthcare system and understanding provider instructions. Rural communities face multiple barriers to healthcare and those with low health literacy even more barriers. Unfortunately, few studies on health literacy have been conducted in rural populations. Our objective was to examine rural patients’ health literacy and experiences with patient-provider communication and recommend improvements based on findings. We administered the Consumer Assessment of Healthcare Provider and Systems (CAHPS) Clinician and Group Survey (core and supplemental health literacy items) and Rapid Estimate of Adult Literacy in Medicine, short form (REALM-SF) to elicit patients’ experiences. Our study site scored above the national database mean in all four composite domains, including “Provider Communication.” Our results suggest that providers should assess patients’ health literacy levels since they can differ greatly from grade levels completed. Recommended interventions included increasing use of “Teach Back” and graphics in patient-provider communication.

R-10 **Self-Management Peer Support for Low-Income Patients With Diabetes: A Qualitative Study of Peer Health Coaches' Perspectives**

Matthew Goldman

University of California – Berkeley/University of California – San Francisco Joint Medical Program

Although self-management support (SMS) improves diabetes outcomes, it is not consistently provided in health care settings due to insufficient time and resources. One solution is the use of peer coaches (PCs), patients trained to provide diabetes education and support to other patients. PCs meet with fellow patients in the community to discuss shared experiences of living with diabetes and to give advice about diet, exercise, stress reduction, and medication compliance. Seventeen qualitative semi-structured interviews were conducted with PCs working in safety net health centers in San Francisco. Transcripts were coded using content analysis to identify important themes. PCs say that they successfully established trust with patients; they experienced challenges with logistics, patient denial, retention and compliance; they faced obstacles with regard to the clinic team; and they were empowered as community health resources. PCs express that they can provide SMS for low-income patients with poorly controlled diabetes. Improvements are needed in helping PCs handle situations that go beyond their training, as well as how to better integrate PCs into the clinic setting.

Clinical Inquiry

CI-1 **A "Needling" Problem - Shoulder Injury Related to Vaccine Administration**

Matthew Barnes, MD; Karen Hogan; and Christopher Ledford, MD

Fort Belvoir Community Hospital

A 22-year-old female with no significant past medical history developed acute left shoulder pain and severe restrictions in range of motion after a seasonal influenza intra-muscular vaccination. Imaging by MRI and ultrasound demonstrated contusions on the humerus, injury of the supraspinatus, and effusion in the subacromial bursa. Her reaction was reported to Vaccine Adverse Event Reporting System

(VAERS) as a case of SIRVA, likely due to injection of the influenza vaccine into the subacromial bursa. This case serves as a catalyst for discussion regarding vaccination technique and the potential to prevent complications arising from vaccine over-penetration.

Community Project

CP-1 A Transition Into Long-Term Care (LTC) Geriatrics Rehabilitation Quality Improvement Project: A "Pre-See Admissions" Program

Loren Fisher

University of Texas School of Medicine at San Antonio

Ineffective transitions between an acute care hospital and a long-term care facility can lead to inappropriate treatments, delays in diagnosis, patient dissatisfaction, and increases in healthcare costs and lengths of stay. In this inter-professional project, we revised, implemented, and evaluated an informal nurse-to-nurse tool to improve the efficiency and safety of a patient's transition between healthcare facilities. Working with the nursing staff to improve and use the revised tool lead to considerable increases in pertinent data collection. To minimize future errors, we identified, classified, and evaluated inconsistencies in transcription between acute care hospital discharge orders and long-term care facility admission orders. Potential complications in patient care were avoided by the identification and reporting of errors. We are planning future projects to continue this collaboration and produce inter-professional strategies that enhance patient safety and satisfaction.

CP-2 Healthy West 7th: A Resident-Neighborhood Partnership for Health Improvement

Ramsey Peterson, MD, and Amy Schneider, MD

United Family Medicine Residency

The United Family Medicine Residency class of 2011 collaborated with neighborhood leaders to complete an asset map/needs assessment of health in Saint Paul's West Seventh neighborhood. Utilizing Community-Based Participatory Research (CBPR) methods, residents and neighborhood partners designed and collected quantitative demographic surveys and qualitative interviews and focus groups asking participants how they stayed healthy and what they needed to be healthier. Subject recruitment involved purposive sampling of leaders from different segments of the neighborhood. Fourteen focus groups, 36 key informant interviews, and 48 surveys were completed. Demographic data demonstrated age and race distribution paralleling 2000 census data. Detailed notes and transcribed audio files were collected and analyzed according to immersion/crystallization methods by a resident physician in partnership with a community member skilled in qualitative analysis. Themes emerged including: (1) Critical basic needs, as influenced by larger systems, must be in place for a community to be healthy. (2) Neighborhood environmental factors can support or hinder healthy lifestyle. (3) Access to information and education about available services, health/wellbeing is crucial. The Healthy West 7th project demonstrates the potential for resident projects to bolster existing neighborhood health improvement initiatives as well as the feasibility of CBPR in a residency setting.

CP-3 Improving Substance Abuse Treatment Referrals in Rural Appalachia

Jessica Cornett

Vanderbilt University School of Medicine

High levels of variability between substance abuse treatment programs lead to inappropriate referrals, frustration, and reduced resolve to enter treatment. While SAMHSA publishes a national treatment directory, it does not include local, grant-funded programs, intake procedures, admission criteria, program structure, nor restrictions to subpopulations. The goal was to create a *Substance Abuse Treatment Resource Guide for Eastern Tennessee and Eastern Kentucky (Resource Guide)* that fills in those information gaps. Data was collected by interviewing program managers from local substance abuse treatment programs relevant to the Appalachian population served by Dayspring Family Health Center in Jellico, TN. The *Resource Guide* includes quick reference lists, detailed program reports, a referral algorithm, and an introduction to substance abuse treatment. A significant incidental finding was that many substance abuse treatment programs are unclear about services offered by other local

programs, indicating that the need for this *Resource Guide* is not isolated to the primary care setting. Another finding demonstrates that, contrary to prior impressions, pregnant patients have greater access to treatment than their non-pregnant peers. Finally, this project highlights the importance of knowing the local resources and how medical students without clinical training can contribute to a clinical setting.

CP-4 **Making BabySteps Toward Healthier Families**

Jane Davis, MD; *Stephanie Long, MD; Amy McIntyre, MD, MPH; Erin Swenson, MD; and Jeanette Walker, MD*
Family Medicine Residency of Idaho

Childhood obesity is a growing epidemic. Treatment and prevention requires establishment of healthy behaviors within an entire family. Annually, the second year class at the Family Medicine Residency of Idaho designs a community project in partnership with a local organization. In 2011, the class chose to focus on childhood obesity. The residents designed an educational series in partnership with BabySteps, a Boise community ministry helping low-income pregnant and parenting mothers to better care for their pregnancy, children, and families through education and incentive programs. The residents created five educational modules including nutrition, exercise, healthy homes, self esteem, and food myths and behaviors. A healthy lifestyles cookbook, including low-cost recipes and information from each module, served as an adjunct to the series. The modules are based on a group education model emphasizing self-efficacy and peer-teaching rather than lecture format. The residents presented a module at BabySteps in January 2011, and the coordinators plan to incorporate the educational series into their program. In addition, the Idaho Primary Care Association plans to distribute the modules to the community health centers of Idaho as well as the Idaho SEARCH program (Student Experiences and Research in Community Health), sponsored by the National Health Service Corps.

CP-5 **Service Learning Through Fitness and Fun: MCW's Modified Ready, Set, Fit Program**

Megan Bright and Jane Soung
Medical College of Wisconsin

MCW's Family Medicine Student Association (FMSA) embraced the Ready Set Fit (RSF) program as an excellent opportunity for medical students to get involved with third- and fourth-grade students in the Milwaukee Public Schools (MPS) while addressing public health needs. MCW's FMSA modified the RSF program to make it presenter-friendly for medical students. We also added more interactive components, such as a fitness routine and small group games. We surveyed the classroom teachers about program effectiveness, favorite activities, and ways to improve. Medical students completed an anonymous online survey reflecting on the value of participation, their own learning about child development and the community, and ways to improve the experience. Our survey results demonstrated that teachers and medical students were very satisfied with our modified RSF program. All results are based on a scale with 1 being poor and 10 being excellent. The average teacher satisfaction was 9.2 and the average medical student experience was an 8.4. Teachers felt that having medical student presenters offered a different perspective and more positive role models to the program.