

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 24 presenters offer valuable information in the categories of clinical inquiry, community projects, educational programs, and research.

Clinical Inquiry

CI-1 Giant Atrial Myxoma: Unusual Cause of Shortness of Breath

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Atrial myxoma is the most common primary benign cardiac neoplasm. We report a 57 year old female who presented with shortness of breath for one month after failing several antibiotic therapies for suspected respiratory tract infections and was found to have an unusual presentation of giant atrial myxoma causing mitral valve obstruction. We present the value of multi-modality imaging in guiding toward the diagnosis.

CI-2 Umbilical Cord Prolapse: An Obstetric Emergency with Dire Consequences. Ways to Improve Maternal and Fetal Outcomes

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Umbilical Cord Prolapse is a rare emergency in obstetrics. It occurs in less than one percent of all live births. The umbilical cord presents outside of the uterus and it is often accompanied by fetal bradycardia and/or variable decelerations. When cord compression occurs for a long period of time, it can cause asphyxiation, the leading cause of the fetal mortality in this condition. Several maneuvers can be implemented in order to improve outcomes. The following case presentation depicts the prolapse of the umbilical cord in a patient who presented to the Obstetrics Emergency Department complaining of vaginal bleeding and contractions. The fetal head was manually elevated to prevent compression of the umbilical cord and the patient gave birth to a live baby boy with APGAR scores of nine and nine. This case is particularly interesting because the fetal heart tones were reassuring throughout the initial evaluation of the patient. Pre-conception counseling, adequate pre-natal care and patients being educated on when to go to the hospital for evaluation can reduce the risk of pregnancy complications. For family physicians that also perform obstetrics, it is important to recognize this condition and how to manage it effectively.

CI-3 Novel Case Report of an Adverse Reaction of Angioedema and Hyponatremia Due to Combination HCTZ-Lisinopril Antihypertensive

Kelsey Motanic

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Hypertension is the most common chronic condition treated by family physicians. Combination antihypertensive medications have allowed dual therapy of difficult to treat hypertension, but they are currently not first line therapy. Although recognized separately, there have been no published case reports investigating combination thiazide and angiotensin-converting-enzyme inhibitors (ACEI) resulting in both angioedema and hyponatremia. The incidence of ACEI angioedema is small, ranging from 0.1%-0.2%, but approximately one third of angioedema cases that present to the emergency room are attributed to ACEI. A recent study states that approximately 30% of patients started on a thiazide develop hyponatremia. This case describes a 53 year old male who had a complex adverse reaction to a combination Thiazide diuretic and ACEI (hydrochlorothiazide-lisinopril (Zestoretic)). His adverse reaction included both acute angioedema of the face and severe hyponatremia ($\text{Na} < 125 \text{mmol/L}$). His angioedema was treated with two units of Fresh Frozen Plasma (FFP) and his hyponatremia was corrected during his admission with fluid restriction and desmopressin. The most recent studies focus on use of expensive therapies like Icatibant or Plasma-derived C1-inhibitor to treat ACEI induced angioedema, but FFP may be a more cost effective therapy more available to family physicians in rural or smaller hospitals.

CI-4 New Indication for Novel Anti-coagulant Drugs: Patient Preference for Treatment with Non-Animal Derived Medications

Sumera Pervaiz, MBBS and Ding Xie, MD, PhD

Augusta University

Venous insufficiency resulting from superficial reflux due to varicose veins is a serious problem that progresses inexorably if left untreated. Endovenous techniques have become the standard therapy for primary lower-extremity varicose veins replacing stripping and ligation techniques. Pulmonary embolism is a rare complication of radio frequency ablation (endovenous techniques), but may happen. The corresponding case recounts a 42-year-old female who presented two weeks after undergoing radiofrequency ablation for chronic venous insufficiency with three-days history of chest pain and shortness of breath. CT angiography showed bilateral lobar pulmonary emboli (right inter lobar artery and left lower lobe artery extensive thrombus with a dilated and serpiginous left great saphenous vein). Initial plan was to begin heparin therapy which was declined by the patient due to porcine origin of heparin and patient's religious belief. Instead, the patient was treated with apixaban, one of the novel synthetic anticoagulants.

CI-5 A Sore Throat Blind Spot: Bilateral Peritonsillar Abscess

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Virginia Tech Carilion School of Medicine

Sore throat is a common ambulatory medicine presenting complaint, and the differential diagnosis often narrows to viral versus streptococcal pharyngitis. Peritonsillar abscess is a less common but more serious cause and often only considered in the presence of alarm symptoms like muffled voice, drooling or trismus or with physical exam findings including unilateral tonsillar swelling or uvular deviation. Less frequently, and more diagnostically challenging, a patient may be diagnosed with bilateral peritonsillar abscess. This pathology may present without some of the classic physical exam findings and in the setting of steroid use may more closely mimic a diagnosis of acute pharyngitis. In the corresponding case, an 18 year-old female was seen in an emergency department for a sore throat and diagnosed with viral pharyngitis. She was subsequently seen by her primary care doctor and diagnosed with streptococcal pharyngitis before eventually being admitted to the ICU with a CT confirmed case of bilateral peritonsillar abscess that required incision and drainage.

CI-6 Abdominal Distention in a 20-day-old Infant With Undiagnosed Hirschsprung's Disease

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Well child visits are an important component of infant's health as they help track growth and development and detect undiagnosed medical conditions, such as Hirschsprung's Disease (HD). HD is a functional intestinal obstruction caused by congenital absence of ganglion cells, usually in the distal colon, that can be detected with a detailed history and physical exam. It's a rare disease that mainly presents in infancy, and requires early diagnosis and treatment to result in a good prognosis. Undiagnosed HD is associated with a high mortality rate. The corresponding case recounts a 20-day-old male who was brought to the Emergency Department (ED) because of vomiting. Significant history included delayed passage of meconium at 36 hours of life and watery stools. On physical exam, he was noted to have a firm and distended abdomen, and a positive Squirt Sign. He became febrile in the hospital. An abdominal film revealed a transverse megacolon, and infant was emergently transferred to higher level of care due to concern of toxic megacolon, where he eventually passed.

CI-7 Component Protein Testing Addresses Challenges in Diagnosing Peanut Allergy

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In patients with a positive history, peanut allergy (PA) is diagnosed by skin prick testing (SPT) and Radioallergosorbent testing (RAST). False positive (46-70%) and false negative (0.50-10%) results are common. Peanut component protein (PCP) testing for Ara h 1, 2, 3, 8 and 9 by ImmunoCAP (developed by Thermo Fisher Scientific, Portage MI, and available commercially through QUEST Diagnostics) allows quantification of relevant proteins on a scale of class 0 to class 6 (reference range <0.10 to 100 ku/L). Sensitization to Ara h 8 (low risk) can be due to cross reactivity to Birch tree pollens. Sensitization to Ara h 9 (variable risk) can be due to cross reactivity to peaches, but Ara h 1, 2, and 3 (high risk) invariably result in severe PA. PCP is a tool to assist in deciding if a patient is a candidate for Office Oral Food Challenge (OOFC). We successfully completed OOFC in four life-long peanut allergic patients. We conclude that PCP paired with OOFC is a useful way to accurately diagnose and manage peanut allergic patients.

CI-8 Improving Prevention and Recognition of Adverse Effects of Systemic Steroids

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Systemic steroids are an effective therapy because of their anti-inflammatory nature. With increasing indications for the use of systemic steroids, there are higher occurrences of side effects. We describe a case of avascular necrosis of the bilateral femoral heads secondary to cumulative systemic steroid use. This discussion will provide family physicians the opportunity to review clinical guidelines of steroid potencies, tapering regimen, adverse effects, steroid metabolism, and steroid withdrawal effects. To reduce adverse effects we developed a prevention informatics tool: "A.I.D." which stands for 'Assess, Inform, and Document'. This tool is meant to assess patient's history of steroid use, inform patient of adverse effects, and document cumulative dosing. Soon we will begin a project to quantify how "A.I.D" is effectively implemented in our outpatient and inpatient settings. The focus will be on how the incidence of adverse effects secondary to steroid use has changed.

Community Project

CP-1 Identifying Upstream Risks Affecting Patients in KU's Interprofessional Teaching Clinic

Anna Cleland-Leighton

University of Kansas School of Medicine

Many factors that contribute to health are outside the influence of the physician's traditional role. To identify some of these factors that affect patients at KU's Interprofessional Teaching Clinic (IPTC), I investigated the non-medical health needs of those patients through a survey modified from Dr. Rishi Manchanda's Upstream Risks Screening Tool and Guide. The survey asked whether patients were affected by and would like help with 10 upstream risk categories. Adult patients seen in IPTC during a three week period were asked to complete the survey. 94 surveys were collected with at least one question answered. The categories the highest percentage of respondents indicated they would or might want assistance with were stress with 47%, finances with 42%, and education with 41%. The categories the lowest percentage of respondents indicated they would or might want assistance with were domestic abuse with 3% and immigration with 5%. 75% of respondents indicated they would or might want assistance in at least one category. To assist healthcare providers in IPTC in serving these patients, a database of resources available in the Kansas City area is being developed to cover needs identified by this project.

CP-2 Hepatitis C Education Program at a Philadelphia Methadone Maintenance Treatment Center: HEPCURE – Counsel, Uncover, Refer, Empower

Caroline Komanecky and Hannah-Claire Purkey

Sidney Kimmel Medical College at Thomas Jefferson University

In methadone clinics across Philadelphia, an average of 70-85% of patients are HCV positive, but few seek treatment due to severe barriers to care for those with a history of intravenous drug use. In order to bridge the great disparity between those who have access to the new, highly-effective, oral HCV antiviral medication options and those who need them the most, an educational program was designed and implemented at Jefferson's Narcotic Addiction Rehabilitation Program (NARP) for anyone who wished to participate. This program was offered in either group or individual education sessions, with the additional option of follow-up support services. The information provided to each patient was standardized by utilizing PowerPoints and handouts that were designed based on CDC recommendations and local insurance and medical provider regulations. Each patient filled out a survey before starting to determine the baseline knowledge of HCV and past attempts to seek treatment. Over 40 patients at NARP elected to participate in either group or individual education, with 7 choosing to pursue treatment to varying degrees of success. On the basis of this experience, training videos were created that will allow others to offer the same education and advocacy support.

CP-3 Targeted Rural Health Education (TRHE): Branching Into Rural Communities to Promote Health

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Family Medicine Residency of Idaho Magic Valley Rural Training Track

Rural communities have distinctive characteristics that affect population and individual health. With the use of Community Health Needs Assessments, The Targeted Rural Health Education (TRHE) project delivers geographically targeted, needs-based education to rural communities. The Family Medicine Residency of Idaho Rural Training Track residents have developed a library of "rural proofed" articles on Idaho's public health priority areas. While on rural rotations, residents review the Community Health Needs Assessments for the community and region in which they are practicing. After discussing the information with their rural family physician preceptor and choosing a health topic of high importance to the community, they select or write an informational health article based on the topic and distribute it to local media for dissemination. The project encourages physicians to learn about aspects of population health in the communities they serve through the use of Community Health Needs Assessments, fosters relationships between physicians and community members, and supports physician development of writing evidence-based information for patients. Through the TRHE project, meaningful efforts are being made to empower residents of rural communities to improve health disparities.

CP-4 Assessing Basic Skin Protection and Skin Cancer Knowledge Amongst Sojourner Health Clinic Patients

Jeena Sandhu

University of Missouri-Kansas City School of Medicine

This is a pilot study to assess skin protection and skin cancer knowledge and behaviors among homeless and underserved populations. Participants are patients at the Sojourners Health Clinic, a student run free clinic in Kansas City, MO. A survey was administered electronically to patients seen in clinic for 4 weeks to assess baseline knowledge and skin cancer prevention behaviors of the patient population. An educational session was provided to the patients. A survey administered after the educational session reassessed knowledge and the acceptability of education. A total of 54 patients participated (43 completed the pre-intervention survey, 11 participated in the education session and completed the post-intervention survey). Most (69%) of our patients never checked their skin for skin cancer. 59% never wore sunscreen, and 63% of this group did not think it was necessary, while 25% of this group stated it was because of cost. Of the pre-test population, 9% correctly identified the hours of maximal sun exposure versus 64% of the post-test population. In general, there was an increase between 20-30% in correct responses to the survey after the intervention. Education was widely accepted by these patients and most were interested in further education on skin health.

CP-5 Starting a Student-Run Free Clinic from Scratch: The Still Caring Health Connection Project

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A.T. Still University-Kirksville College of Osteopathic Medicine

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Student-run free clinics are becoming more prevalent at medical schools across the United States. These clinics help bridge gaps in the healthcare system by offering critical services and support to individuals who cannot afford and/or do not have access to basic healthcare. Student clinics improve community health, provide valuable clinical experience for students, encourage teamwork and leadership, and instill a passion to serve underprivileged populations. However, starting a free student-run clinic is a complicated process. This article is an in-depth look into the startup of the Still Caring Health Connection (SCHC) at A.T. Still University in Kirksville, Missouri. This university-based program is led by both medical and dental students. The core components essential for the approval and launch of the SCHC were: creating a business plan and mission statement, identifying the target population, conducting a needs assessment, determining the services offered, identifying a core group of student leaders, establishing an official university-recognized student organization, developing community partnerships and interprofessional collaboration, conducting fundraising and outreach, and gathering university-wide approval and support. After more than 20 months of planning focused on these core components, the SCHC began serving uninsured patients on March 21st, 2015.

CP-6 Application of an Interdisciplinary Student Educator Model in Increasing Health Insurance Enrollment

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Starting with 7 million uninsured Californians, over the last three open enrollment periods Covered California has enrolled over 4 million new individuals in Covered CA and Medi-Cal plans. However, there are approximately 2.5 million people still uninsured. In order to increase enrollment, University of Southern California Connecting Californians to Care (USC CCTC) was developed in October 2013 to train interdisciplinary healthcare students from graduate and undergraduate programs to provide Covered CA, Medi-Cal and My Health LA insurance consultations to consumers at community health fairs. To date, the organization has held five 1.5 hour Covered CA training workshops with 56 trained student educators. One workshop attendee remarked, "this is the most meaning organization I've seen on campus." Student educators represent medical, MPH, pharmacy, MSW, occupational therapy, and undergraduate programs. The student educators have scored an average of 92 +/- 7.9% on a competency assessment exam after each workshop (N=38). Eight students have been trained as Covered CA Certified Enrollment Counselor status. The community impact consists of 7 community health fairs where 77 total consultations were provided to consumers (66 = Covered CA, 1 = Medi-Cal, 10 = My Health LA).

Educational Program

EP-1 Development of a Fair for New Medical Students to Increase Awareness of the Importance of Self-Care and Introduce Practical Tools

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With the demands of medical training, students often neglect self care. However, maintaining personal self care habits and educating patients on self care is crucial for physicians. We developed a Self Care Fair for the incoming class of medical students at the Cleveland Clinic Lerner College of Medicine to emphasize the importance of self care and provide practical tools and resources in the areas of nutrition, exercise, relaxation, and self-tracking. A brief didactic session was followed by four interactive breakout groups: 1) Exercise, including fitness tests and activity ideas, 2) Nutrition, including tips from a nutritionist, body composition testing, and recipes, 3) Relaxation, including a yoga session, and 4) Fitbit Setup. Students reported increased awareness of the importance of maintaining personal self care habits and using knowledge of self care to help patients using a 5-point Likert scale (4.1/5). They also reported increased knowledge of self-tracking (4.3/5) and practical understanding of tools to improve nutrition (4/5), exercise (4.1/5), and relaxation (3.9/5) habits. Students felt actively engaged (4.8/5) and provided positive qualitative feedback with suggestions for improvement. A Self Care Fair during orientation helps to emphasize the importance of self care during medical school and provide practical tools for students.

EP-2 "Adopt-a-Disease" Empathy Training for Medical Students

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University of Colorado

Many argue that empathy is the crux of the patient-physician relationship. This study aims to add to the literature about empathy training in medical school and pose a useful, effective exercise to improve students' empathy and prepare them for clinical encounters. It is suggested that by simulating the perspective of a patient, participants gain insight into the challenges and daily occurrences that often are absent from textbooks. Students were assigned to 1 of 3 groups corresponding to a disease (diabetes, asthma, or aging) and instructed to adopt the disease for 4-7 days. Students also received disease-specific information and participated in a debriefing discussion. Pre-activity Toronto Empathy Questionnaire (TEQ) scores were compared to post-activity TEQ scores. In debriefing, many students described an increased understanding of the difficulties in complying with treatments and adjustments to daily living activities required to manage their disease. The goals of increasing students' insight, knowledge, and appreciation of what patients with a disease experience were achieved, as evidenced by student responses during the debriefing session.

Research

R-1 Risk Factors to Cervical Cancer in Tegucigalpa, Honduras

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Cervical cancer is the leading cause of cancer death among Honduran women. This study investigated risk factors associated with abnormal PAP smears and assessed the level of knowledge regarding cervical cancer, HPV, and HPV vaccine that exists among the studied population. During a month long medical rotation, a mixed methods study was conducted including a sample of 100 women from the city of Tegucigalpa Honduras and surrounding villages who completed a validated survey and six interviews that assessed the level of knowledge regarding cervical cancer. Overall, 82% of participants reported previously having had a PAP smear, with 12% having had an abnormal result. Of the women who reported having had a normal PAP smear, 84% had only 1-2 sexual partners ($p < 0.05$) and no previous diagnosis of a vaginal infection (60%, $p < 0.05$) compared to those with abnormal PAP smears. Qualitative data from the interviews revealed a lack of knowledge of risk factors associated with cervical cancer including HPV transmission pathways and HPV vaccination status. Additional studies are needed to determine the extent and type of educational programs on cervical cancer, HPV, hygiene, and vaccination that would create more awareness and lower incidence of cervical cancer.

R-2 Outpatient Antibiotic Stewardship in Treatment of Pharyngitis: a Retrospective Cohort Study

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Pomona Valley Family Medicine Residency

Antibiotic resistance is increasingly affecting healthcare and costing our society as a whole billions. Family medicine physicians can combat this effect by prescribing antibiotics only when warranted. One example of how this can be done is shown when acute pharyngitis is properly managed in adults using the Centor Criteria algorithm. I did a retrospective cohort study and reviewed 101 charts for patients seen in my residency's outpatient family medicine clinic aged 17 or above with the diagnosis of pharyngitis, tonsillitis, or sore throat. It was discovered that 7% of 2nd year residents and 19% of 3rd year residents are doing a throat culture when the patient's symptoms and physical exam do not meet Centor criteria for throat culture. More importantly, there are some patients with a low Centor criteria score seen by residents who are inappropriately receiving antibiotics. I believe that the Centor criteria can be easily implemented into our clinic to effectively diagnose and treat pharyngitis while also preventing antibiotic resistance.

R-3 Family Medicine Resident Wellness Beyond Self-Care Behaviors: Exploring the Role of Supportive Faculty and Team Lead Relationships

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Mayo Clinic*

Lack of wellness among physicians is associated with increased risk for physical and mental illness, interpersonal discord, and occupational liability. Self-care behaviors among physicians are cited as being directly associated with physician wellbeing and professional accomplishment and satisfaction. With the increase in team-based care structures in medical practices and residencies there may be opportunities to facilitate wellness among medical providers. The aim of this study was to explore whether family medicine residents' perception of support from residency faculty and team leaders would predict wellbeing. The study's design was a non-experimental, cross-sectional (prospective) study that utilized purposive sampling to administer a survey that assessed family residents' demographics; self-care behaviors; perceived support from faculty and team leads; and resident wellness. Our study assessed whether family medicine residents' perceived support from faculty and team leaders was predictive of resident wellbeing scores. Our study provides evidence between residents' perception of support from team leaders on influencing resident wellness, even while controlling for gender and frequency of self-care behaviors. Our findings provide initial support for the development of specific interventions aimed at promoting supportive relationships between team leaders and family medicine resident physicians.

R-4 Does the Implementation of the One Key Question Increase the Use of Tier 1 and Tier 2 Methods of Birth Control?

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Across the United States, 45% of pregnancies have been reported as unintended³. The One Key Question (OKQ) initiative was started to improve preconception care and better address women's needs specific to their intended conception goals in a primary care setting. OKQ was implemented in the Samaritan Family Medicine Residents Clinic (SFMRC) in July 2015 with the same goals. Residents participated in a two-hour training to explain the OKQ approach. Patients were surveyed before (N=74) and after (N=86) the training about their reproductive healthcare. A subgroup analysis was performed to evaluate the change in birth control methods among patients who did not plan to become pregnant. We found no statistically significant changes in birth control use before and after the training, but observed trends towards increased use of Tier 1 and Tier 2 methods and decreased use of Tier 3 methods. These results support the idea that OKQ may increase effective birth control use and ultimately lead to fewer unintended pregnancies.

R-5 Gender differences in Family Planning Attitudes Amongst Male and Female Medical Students

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Medical training undoubtedly places stress on trainees' family planning decision-making. As such, the effects of training on family planning attitudes are regularly assessed among medical residents and fellows. However, there is sparse literature from the past few decades regarding how medical school training affects medical students' family planning attitudes and career decision-making. Our objective was to assess how male and female medical students differ in their family planning attitudes. We employed an online survey, which was e-mailed to all current medical students at Keck SOM. Of 742 medical students surveyed, 313 completed the survey. Compared to males, female medical students were more likely to report having delayed parenthood due to medical school ($p=0.04$), that their desire to start or have a family had impacted their anticipated specialty choice ($p < 0.001$), and were more likely to report role strain ($p=0.013$). These gender differences highlight the need for support and resources to help medical students navigate the complexities and challenges of balancing a family and their medical careers. Inadequate resources and support for healthy pregnancy planning and childrearing may impact physician trainees' role strain, well being and level of burn-out.

R-6 Electronic Consultations in Dermatology for the Medically Underserved

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Electronic consultations (eConsults) allow primary care and specialty providers to exchange secure patient information. Community Health Center, Inc is an FQHC that has established eConsults with the goal of improving access to care and decreasing the need for in-person consultations. We conducted a retrospective cohort study of the 2860 patients receiving a dermatology consult May - November 2014 (prior to eConsults) and May - November 2015 (after eConsults). Time to referral (TTR) was over 2 months greater in the traditional consult group than in the eConsult group [TTR = 76.5 days (44) vs 2.85 days (4) $P < .001$]. 100% of all eConsults generated a consult report for the PCP compared to 14% of traditional consults ($P < .001$). For those patients with a face-to-face visit, there was no significant difference in whether or not a patient received treatment [TC = 79% vs 91% $P = .34$] or type of treatment [$P = .27$]. Treatment plans were implemented at a similar rate for both groups (TC = 58% vs EC = 55%, $p = .83$). The implementation of eConsults shortens the time to treatment for dermatologic conditions and facilitates care coordination.

R-7 Promoting Patient Engagement Among Super-Utilizers at Penn Family Care

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Promoting Patient Engagement among Super-Utilizers at Penn Family Care: Super utilizers disproportionately account for high emergency department utilization, leading to increased cost burden and poor health outcome for patients. We postulate that unnecessary utilization stems from unmet needs that are difficult to address or go unrecognized. At Penn Family Care, we developed an easily accessible platform utilizing telephone encounters to uncover these unmet needs. We studied patient engagement in the intervention and enrolled interested patients in a Priority Access Program (PAP) to be followed up weekly. Of the 72 eligible participants meeting criteria of ≥ 5 University of Pennsylvania Health System-based ED visits in last 12 months and a mental health disorder documented on any encounter, we engaged 51/72 (70.8%) in a full care management discussion. Of these 51 patients, 5 patients were already been enrolled in the PAP, and an additional 24 of the remaining 46 patients (52.2%) agreed to be enrolled. Furthermore, 31/51 (60.8%) patients described at least one unmet need during their telephone encounter. The favorable response rate to PAP enrollment and frequent identification of unmet goals support utilization of this low resource dependent platform that can be implemented into routine practice.

R-8 Teratogenic Prescription Drugs in Reproductive-Aged Women Without Contraception

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St. Mark's Family Medicine Residency

Background Despite the known teratogenic effects of Food and Drug Administration (FDA) class D and X medications, there is limited data in the prevalence of prescriptions in women of reproductive age. This study is evaluating known teratogens in a family medicine residency clinic and implementing an intervention of contraceptive counseling, medication safety, and documentation to prevent birth defects.

Methods A retrospective chart review of selected FDA class D and X medications in women aged 15-45 was conducted. Medication classes included in the study were Angiotensin converting enzyme inhibitors/Angiotensin II Receptor Blockers (ACEI/ARB), Statins, Lithium, Warfarin and Paroxetine. Inclusion criteria were women with an office visit in the last two years and new prescription or refill for one of the selected medications in the past twelve months. We then examined documentation of contraception including oral, transdermal, intramuscular, or vaginal contraceptive, intrauterine or implantable device, or history of hysterectomy or bilateral tubal ligation.

Results A total of 278 women were initially included in the study. 62 women who met criteria (56%) were prescribed one of the teratogenic drugs and had no documentation of contraception or history of sterilization, versus 47 women (43%) who had appropriate contraception.

Conclusions Our initial study reveals an alarming prevalence of women of child bearing age using teratogenic medications without documentation of contraception. Phase two of this study is an intervention to notify and educate providers and patients in order to prevent potential birth defects and adverse outcomes. This crucial topic will be an ongoing analysis of safety and effectiveness.