



2019 Poster Abstracts

July 25-27, 2019 – 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 authors offer valuable information in the categories of clinical inquiry, community projects, educational programs, and research.

Poster Presentations

Increased Burden of Carotid Intima Media Thickness (CIMT) in Patients with Subclinical Hypothyroidism (SCH): A Systematic Review and Meta-analysis (Clinical Inquiry)

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Background: Many research studies show increased burden of clinical and subclinical cardiovascular disease in patients with subclinical hypothyroidism (SCH). The purpose of this meta-analysis is to collect evidence related to increased burden of carotid intima media thickness (CIMT) in subclinical hypothyroidism (SCH) as compared to Euthyroid (EU) subjects. Methods: The literature search was performed by two independent reviewers up to February 2018. The original articles (n=32) were included that reported CIMT values in SCH and EU subjects and discussed demographically, anthropometrically, and metabolically matched SCH and EU subjects. Hypothesis was "SCH subjects have greater CIMT values and CVD risk factors as compared to EU controls". CIMT was measured using Doppler ultrasound. Total population consisted of SCH subjects (n=1608) and EU controls (n=11575). Results: CIMT was significantly higher among SCH group as compared to EU controls at baseline; the pooled weighted mean difference (WMD) of CIMT was 0.49 mm [95% confidence interval (CI) 0.32, 0.66], p=0.0001; with heterogeneity I² 79.6%. Other CVD risk factors, including total cholesterol, triglycerides, low-density lipoprotein, systolic blood pressure, and diastolic blood pressure, were higher in SCH subjects as compared to EU controls. Conclusion: Thyroxin treatment may play a role in slowing down or preventing progression of atherosclerosis.

The Development of a Prediction Model for Vaginal Birth After Cesarean Section (VBAC) (Clinical Inquiry)

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Pregnant women who had a previous cesarean section face the decision to either undergo a repeat elective cesarean section or to attempt vaginal birth (VBAC). The rate of cesarean section continues to rise. The goal of this project was to determine the factors that predict success of vaginal birth after cesarean section in the population of British Columbia, Canada, and to develop a prediction model. The higher-than-recommended cesarean section rate combined with the need to enhance informed decision making among women prompted the development of a British Columbia-based analysis of the factors that predict success of VBAC. Data were drawn from the British Columbia Perinatal Data Registry. We performed a retrospective analysis of 8291 cephalic term singleton planned vaginal births in British Columbia between April 17, 1997, and March 4, 2010, to women with a previous cesarean section. Of the 8291 planned VBAC births, 5960 (71.9%) were successful, while 2331 (28.1%) resulted in cesarean deliveries. We developed a prediction model, incorporating eight variables, that can be used to inform shared decision making and a more individualized approach to counseling-eligible women on their chance of VBAC success.

An Insidious Cough and an Unexpected Diagnosis: Pneumocystis Pneumonia (Clinical Inquiry)

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Pneumocystis pneumonia (PCP) is a potentially life-threatening infection that occurs in immunocompromised individuals. PCP was thought to primarily affect HIV-infected individuals; however, the number of HIV-uninfected patients diagnosed with PCP is increasing due to the increased development and use of immunosuppressive drugs. Approximately 1 to 2% of patients with rheumatologic diseases develop PCP in the setting of immunosuppressive therapy, particularly those treated with multiple agents, including prednisone. We present the case of an immunocompromised patient with a history of granulomatosis with polyangiitis on multiple immunosuppressive drugs, who initially presented with a subacute cough and difficulty breathing, found weeks later to have PCP. The patient subsequently developed respiratory failure secondary to PCP and unfortunately expired. In this case presentation, we discuss the symptoms associated with PCP and the diagnostic tools available for testing. Additionally, we discuss the diagnostic approach and differential diagnosis for immunocompromised patients who present with respiratory distress. We emphasize the importance of empiric treatment for PCP in cases of respiratory distress and PCP prophylaxis in the outpatient setting for HIV-uninfected immunocompromised patients. We believe that improved knowledge and awareness of PCP will improve clinical outcomes.

The Evaluation and Treatment of Hypoglycemia in a Non-Diabetic Patient (Clinical Inquiry)

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Plasma glucose remains adequate in the fasting non-diabetic patient secondary to glycogenolysis and gluconeogenesis. Episodes of hypoglycemia may be due to conditions involving autoimmune, congenital, and neoplastic etiologies. This case involves a 29-year-old male presenting with a rare condition known as an insulinoma. He had intermittent symptoms of hypoglycemia for three months. Laboratory analysis identified elevated proinsulin, c-peptide, and insulin during the fasting state which indicated endogenous insulin production. After failure to detect pancreatic lesions with non-invasive imaging, endoscopic ultrasound identified a 1.5 cm mass in the tail of the pancreas consistent with an islet cell tumor. Fine-needle aspiration identified cells with malignant and neuroendocrine features. Laparoscopic distal pancreatectomy was then performed with resolution of his hypoglycemic episodes. The yearly incidence rate for insulinomas is four for every million people. Patients may have gradual onset of symptoms, and therefore it is important to understand and identify potential differentials of hypoglycemia in the primary care setting. Medical history and laboratory analysis can suggest either an insulin-mediated or non-insulin-mediated etiology. Imaging is then indicated to confirm clinical suspicion and diagram approaches for operative management. Insulinomas may also be linked to MEN type; therefore, follow up with endocrinology is recommended.

The Relationship Between Adverse Childhood Experiences and the Usage of Opioid Medications (Community Project)

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A risk factor for the development and exacerbation of chronic pain during adulthood is adverse childhood experiences (ACE), even after adjusting for adulthood psychosocial stress. Often the treatment for acute and chronic pain is opioid medication. To date, screening tools for the possibility of opioid dependence and addiction do not routinely include assessing adverse childhood experiences as a predictor of chronic opioid use. Thus, our study aimed to explore a potential association between ACE scores, chronic pain, and chronic opioid usage in the outpatient population at Hurley Medical Center in Flint, MI. A total of 155 patients were recruited from the Outpatient Internal Medicine Clinic at Hurley Medical Center to anonymously respond to a survey requesting demographic data (gender, race, education, etc.), type of prescription opioid medications used (defined as three months or longer), presence of chronic pain (defined as pain lasting three months or longer), and number of adverse childhood experiences. Results showed no significant correlation between ACE scores, chronic pain, and opioid use. There was only a positive, significant correlation between ACE scores and chronic pain in females ($p=0.044$).

Prevalence and Susceptibility to Hepatitis B Virus in Milwaukee's Hmong Community (Community Project)

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Hepatitis B (HBV) infection is a major worldwide health issue. Although it is not endemic in the U.S., many foreign-born Asian Pacific Islanders (API) carry the infection from endemic countries. The Hmong ethnic groups are disproportionately affected, carrying one of the highest risks among API with a prevalence of about 17% compared to 8% of Asian Americans and 0.1% of non-Hispanic Caucasians (NHC). Wisconsin has the third largest Hmong population in the country, but there has never been a widespread screening effort to assess HBV burden. The Hepatitis B Project aims to determine the prevalence and susceptibility of HBV infection in the Milwaukee Hmong community through education and screening events. Of the 303 people screened, 192 (63%) were immune, 74 (24%) were susceptible, 30 (10%) were HBV+, and seven (2%) were in the "Grey Zone." The data shows a significantly higher percentage of the Hmong population in Milwaukee are affected by HBV compared to NHC. Additionally, a sizable percentage remains susceptible to HBV who would benefit from vaccination. With only 63% of participants found to be immune, there remains a critical need for culturally appropriate public health measures and outreach efforts to improve HBV surveillance in the Milwaukee Hmong community.

Back To Bedside: Inpatient and Outpatient Efforts to Improve Resident Wellness Through Meaningful Patient Experiences (Community Project)

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While burnout affects many physicians across our nation, it is unfortunate that family physicians experience higher-than-average rates. In hopes of addressing this issue, our project focuses on engaging with patients and their families at their bedside and targeting the issue of burnout by focusing on efficiency and finding further meaning in our medical practice. As part of our initiative, we implemented clinic efficiency workshops, wellness activities, and standardized bedside rounding with an emphasis on patient-centered care. In analyzing our impact, we conducted anonymous surveys, including qualitative and quantitative data, focusing on resident wellbeing and burnout. We concluded that residents in our program are mission-driven, find meaning and satisfaction in their work, and feel a connection with the values of our faculty. We find it very important to continue targeting the issue of burnout through our project efforts. Long term, we hope to sustain this culture within our residency that values connection with the patient. We also recognize that wellness, particularly as family physicians, entails addressing not only the individual's factors, but also those of our practice, organization, health system, and ultimately physician culture.

Harm Reduction Strategies and Naloxone Distribution Reduce Opioid Overdose in Baltimore, MD (Community Project)

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Maryland is among the top five U.S. states with regard to age-adjusted opioid overdose mortality rates. In 2018, Baltimore City had more than double the number of lethal overdoses compared to the next highest jurisdiction in the state. Local, state, and federal health departments have identified naloxone distribution as a key priority in reducing fatalities from the opioid epidemic. The Baltimore Harm Reduction Coalition (BHRC) has been working on overdose education and naloxone distribution (OEND) since 2014. Since the inception of their OEND program, thousands of individuals living in Baltimore have been trained in overdose reversal using naloxone. From 2014-2017, there was no discretion regarding which Baltimore community members got trained, and there were no reminders or reinforcing measures to encourage trained individuals to report back incidents when they reversed an opioid overdose. In 2018, BHRC began prioritizing training individuals at high risk for overdose, as well as their peers. They also increased their efforts to improve reporting of overdose reversals. In combination, these measures contributed to increased numbers of reported overdose reversals from three in 2014 to 122 in 2018.

Thank a Resident Day: Creation of an Online Tool to Facilitate Delivery of Appreciation Notes to Trainees (Educational Program)

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The Gold Humanism Honor Society (GHHS) Thank a Resident Day Program was developed to demonstrate and emphasize how wellness-oriented multidisciplinary collaborations promote resident and fellow wellness and subsequently foster humanistic medical education and training. We created an online tool to facilitate the collection of appreciation notes for residents and fellows submitted voluntarily on behalf of medical students, residents, fellows, staff, faculty, and clinical colleagues. Anonymity was offered. Thematic analysis of over 650 de-identified responses revealed that the most common themes among responses were Positive Personal Traits (335, 50.7% of all comments), Patient Care (272, 41.1%), and Teaching (174, 26.3%). Our Thank a Resident Day initiative is a well-received effort to emphasize the recognition and development of humanistic physicians, as evidenced by the drastic increase in participation after the initiative's inaugural year. It reveals that residents and fellows are recognized by colleagues for their work in serving patients and contributing to the medical community. Offering an opportunity to voice these recognitions serves as an example of how multidisciplinary collaborations to promote resident and fellow wellness foster humanistic medical education and training. Our online tool is an effective method in collecting these recognitions and feedback for trainees regarding their humanistic care qualities.

Impact of the Learner-prompted Clinical Question on Feedback and Self-directed Learning During Outpatient Precepting Encounters (Educational Program)

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The learner-prompted clinical question (LPCQ) is a technique where the learner asks a question regarding their patient during the precepting encounter, allowing the learner to guide their education and allowing the preceptor to frame their teaching around the question. This technique was taught to both residents and attendings in the Family Medicine program at MedStar Franklin Square to assess whether using this technique would affect resident learning and satisfaction with precepting. Audio recordings of 30 precepting encounters were collected and both faculty and residents completed surveys after each encounter to document if a LPCQ had been used, if the learner's questions were answered, and if the learner received relevant feedback. A small but nonsignificant increase was documented in precepting encounters involving a LPCQ when residents were asked to evaluate whether encounters had enhanced their learning and whether their questions were answered. Faculty also reported small increases in their assessment of whether they answered the residents' questions and provided relevant feedback. Additionally, the high participation rate suggests that this intervention is readily adaptable to be used in precepting encounters.

Time-Saving Procedure Templates for Improved Family Medicine Workflow Experiences on Women's Health Rotations (Research)

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Increased spend using the electronic health record (EHR) increases physician dissatisfaction and burnout, so addressing inefficiencies in the EHR could decrease burnout and the bad outcomes associated with it. Learning the EHR is an obstacle for family medicine (FM) residents who rotate through many specialties and clinics in short periods of time. The objective of this project was to generate and test macros with the intent to save time for FM residents and thereby improve resident satisfaction and efficiency. We developed several template macros for common women's health procedures for FM residents to use instead of the time-consuming, multi-step process previously used for documentation. Trials entering data comparing the new and old documentation methods were organized to represent typical use by training residents in a clinical environment. Use of the template procedure macros decreased time to document the procedures by an average of three minutes. The residents' feedback was positive: they appreciated the time saved and the increased ease of documentation.

Lung Cancer Screening by Access to Care and Health Status: Evidence from the Behavioral Risk Factor Surveillance System (Research)

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Background: The U.S. Preventative Services Task Force issued a Grade B recommendation for lung cancer screening via low-dose CT in certain individuals. Screening rates after this recommendation remain low, and there is limited research on factors that influence screening likelihood. Objective: To examine demographic factors, access to care variables, and health status variables influencing lung cancer screening eligibility and likelihood of screening among eligible individuals. Methods: Data on 3,820 individuals eligible for lung cancer screening were analyzed from the Behavioral Risk Factor Surveillance Survey (BRFSS). We evaluated the impact of demographic factors, access to care, and health status on screening eligibility and screening likelihood. Results: Participants were more likely to meet eligibility requirements if they were male, white or of multiple races, did not graduate from college, or had lower income. Overall likelihood of screening among eligible individuals was 18.3%, and individuals reporting limited access to care were less likely to receive screening. Conclusions: Lung cancer screening rates may currently be higher than estimated in previous years. However, overall screening likelihood remains lower for lung cancer screening than other preventative cancer screens, and limited access to healthcare appears to be a large barrier to receiving recommended screening.

Poster Displays

Dysphagia: Looking Beyond Common Etiologies as a Primary Care Provider (Clinical Inquiry)

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IU Methodist Family Medicine Residency

Dysphagia is a common complaint in PCP offices; it affects a large population, across all age groups and demographics, and can involve a wide range of underlying causes. Patient "AL" is a 39-year-old AAF with PMHx of ESRD on HD and HTN, who presented to our inpatient service with persistent dysphagia and a hard, swollen tongue. These symptoms had progressed despite initial management for presumed angioedema. After initial exam and imaging, our concern for systemic amyloidosis was confirmed via tongue biopsy. Amyloidosis, while an unusual cause of dysphagia, is a progressive, invasive condition that can cause serious dysfunction to almost every organ system. AL went undiagnosed for several years because of masking circumstances, and unfortunately suffered major adverse surgical outcomes likely because of her widespread disease. Although her surgical management was clearly indicated, and she was ultimately started on appropriate medical therapy, the question remains whether AL's results could have been better if her amyloidosis had been recognized and treated sooner in her course. Thus, it is imperative for PCPs to maintain a wide differential even when faced with a seemingly routine symptom such as dysphagia, especially when initial or empiric therapy fails.

Valacyclovir-Associated Neurotoxicity (VAN) in a Dialysis Patient (Clinical Inquiry)

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Valacyclovir is the valyl ester of the antiviral drug acyclovir and has three to five-fold greater oral bioavailability than acyclovir. The main route of valacyclovir elimination is renal, and dose modification is recommended for patients with glomerular filtration rate (GFR) below 30 mL/min/1.73 m². Valacyclovir induced neurotoxicity is a life threatening complication, usually starting 24-48 hours after drug-peak serum concentrations. The elderly with chronic kidney disease (CKD) seem to be more susceptible to this toxicity since this drug is mainly eliminated renally.

Depression Screening Among Women with Breast Cancer in Rural Areas and the Family Physician's Role (Clinical Inquiry)

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Many breast cancer survivors face short- and long-term health consequences from cancer and cancer treatment, including physical and psychological consequences such as fatigue, pain, and depression. Few evidence based (EB) breast cancer guidelines exist that are specifically targeted for primary care physicians (PCPs), despite increasing demands for greater involvement of PCPs in care of breast cancer survivors, particularly in rural areas. Additionally, current guidelines mostly include recommendations on clinical topics such as frequency of diagnostic testing after curative breast cancer treatment or physical symptoms after treatment. Psychological problems are not comprehensively addressed despite evidence of the psychosocial impact cancer has on individuals and their loved ones. The corresponding case recounts a 63-year-old Hispanic female with advanced breast cancer who presented with several weeks of symptoms of depression. Due to the concerns expressed by the patient, a depression screening was administered, and her PCP discussed management options for mental health issues. Between improvements in current EB breast cancer guidelines, early identification of predisposing factors for mental illness, and comprehensive understanding of the impact of breast cancer on mental health among women, there is vast opportunity for PCPs to significantly improve the quality of life in cancer survivors in underserved areas.

Early Accreta and Uterine Rupture in the Second Trimester (Clinical Inquiry)

Krystal Castaneda

Ross University School of Medicine

The differential diagnosis of third trimester bleeding can range from placenta abruptia to placenta previa to uterine rupture and the placenta accreta spectrum (PAS). However, patients with risk factors such as multiple cesarean sections, advanced maternal age, grand multiparity, and single-layer uterine closure are at greater risk of developing these complications earlier than we would traditionally expect. This case recounts a 38-year-old G6P3114 at 23 weeks and five days gestational age with past medical history of preterm pregnancy, pre-eclampsia, chronic abruptia, three c-sections, and low-lying placenta, who presented to the ED with vaginal bleeding. Initial workup revealed placenta accreta, and the patient was placed on corticosteroids in anticipation of preterm delivery. She presented to a different hospital the next day with similar complaints. Imaging was consistent with accreta and her presentation with abruptio. During the hospital stay, the patient went into threatened preterm labor. We suspected preterm premature rupture of membranes, but with further workup the diagnosis was consistent with chronic abruptio oligohydramnios sequence. However, hospital course was complicated by acute abruptio and Category III fetal heart rate tracing. The patient underwent an emergency c-section at 26 weeks GA and a planned hysterectomy with postpartum hemorrhage of 4500 mL.

Multifaceted Approaches to Metastatic Cancer: A Case of Metastatic Muscle Invasive Transitional Cell Bladder Cancer (Clinical Inquiry)

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Abrazo Health Network Family Medicine Residency

Bladder cancer is the sixth most prevalent malignancy in the United States and the ninth most common malignancy worldwide. Bladder cancer comprises 5% of all new cancer diagnoses. Urothelial (transitional cell) carcinoma is the most common type, accounting for 90% of cases. This is a case of a 49-year-old woman with transitional cell bladder cancer. Over the last four years, this patient has been evaluated during 60 emergency department visits, 35 admissions, and 139 days of hospitalization. Her admit diagnoses range from urinary tract infections, 24 counts of pyelonephritis, 19 counts of anemia, six bouts of sepsis, six counts of cellulitis, six counts of hyponatremia, and two counts of dehydration. She has been transfused 26 units of packed red blood cells, undergone eight transurethral resections of bladder tumor, and 15 nephrostomy tube exchanges since being diagnosed with cancer. Before her diagnosis of cancer, her hemoglobin A1c (HbA1C) was 16.5%. Since then, she has lost 70 pounds with a current HbA1c is 5.8%. This case report illustrates how cancer treatment requires a multifaceted approach from multiple providers in an inpatient and outpatient setting.

Trends in Telehealth Care Delivery (Clinical Inquiry)

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Telehealth technologies and services are becoming an essential component of the health care system. As clinicians and patients expand their use of telehealth applications across health systems, the lack of telehealth care policy and empirical research creates challenges as health professionals adapt to these innovations and integrate them into clinical practice. Using the Agency of Healthcare Quality and Research (AHRQ) technical brief we identified trends that have the potential to accelerate the implementation of telehealth into the delivery of clinical care and provide key aspects to improve telehealth service delivery. Here, we present relevant policy trends in telehealth care adoption that assist physicians, other health care professionals, and researchers in identifying key priorities for telehealth care research.

Cyclical Fevers and CD4+ Lymphopenia: An Unusual Presentation of Diffuse Large B Cell Lymphoma (Clinical Inquiry)

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Diffuse large B cell lymphoma (DLBCL) is a histologic subtype of non-Hodgkin lymphoma (NHL) that accounts for approximately 25% of NHL cases. DLBCL usually presents as a rapidly enlarging mass on the neck or abdomen. Initial treatment of all patients should include rituximab (an anti-CD20 monoclonal antibody) and chemotherapy. This case recounts a 68-year-old otherwise healthy male who presented with a month of cyclical fevers, weight loss secondary to anorexia, dry cough, headache, and back pain with elevated inflammatory markers, but no clear signs of infection or malignancy. Extensive infectious workup was unremarkable. Malignancy workup included spinal magnetic resonance imaging (MRI), esophagogastroduodenoscopy (EGD) and colonoscopy, prostate-specific antigen (PSA), T cell subtype analysis, and positron emission tomography and computed tomography (PET-CT) scan. T cell subtype analysis revealed CD4 count of 281 in the setting of negative HIV antibody and antigen tests. PET-CT scan revealed PET-avid cervical, supraclavicular, and infraclavicular lymphadenopathy, as well as splenic enlargement, intra-abdominal lymph node involvement, and multiple FDG-avid intramedullary bone foci, compatible with lymphoma. Excisional biopsy showed DLBCL and patient was started on rituximab and chemotherapy as an outpatient.

An Unusual Case of Acute Myocardial Infarction Revealing Underlying Polycythemia Secondary to Exogenous Bioidentical Testosterone Therapy (Clinical Inquiry)

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Many patients seeking testosterone replacement are turning to compound pharmacies for customized bioidentical testosterone therapy. Compound pharmacies are marketing "bioidentical hormone therapy" as a more effective and superior method of hormone replacement as compared to the FDA-approved synthetic therapies. Manufacturers of these compounded bioidenticals are not required to report adverse events, prove safety or efficacy before use, and do not have to provide black box warnings for their products. The corresponding case recounts a 66-year-old male who presented to the emergency department with chest pain. Subsequent workup revealed polycythemia complicated by acute myocardial infarction (MI). Additional history revealed three weeks of bioidentical testosterone use prior to admission. Serum testosterone was well above reference range. JAK2 mutation and EPO level were ordered to rule out underlying polycythemia vera and lymphoproliferative disorder and were negative. Considering polycythemia can arise secondary to exogenous testosterone use and is a known risk factor for cardiovascular events, it is likely this patient's MI was precipitated by bioidentical testosterone use. The lack of regulation and research in the realm of compound pharmacy hormone products calls for reform to protect patients from developing detrimental complications and falling victim to misleading marketing inconsistent with professional organizations' guidelines.

Recurrent Bordetella Bronchiseptica in an Immunosuppressed Host: An Approach to Management of Rare Infections (Clinical Inquiry)

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In this study we describe a rare case of *Bordetella bronchiseptica* recurrence in an immunosuppressed 23-year-old Asian male with concerns for seeding and antibiotic resistance. Our patient presented with sepsis from unknown etiology and was later found to have gram-negative bacteremia with largely zoonotic organism, *B. bronchiseptica*. This pathogen is a rare isolate in humans, however it has been known to cause "kennel cough" in canines. In regard to rare infectious diseases, we highlight the importance of using a literature review paired with appropriate specialists when caring for such patients as the primary service. Upon review, we discovered similar presentation in immunosuppressed hosts with nearly identical lab and imaging findings. Our case highlights the challenges of managing a relatively uncharacterized pathology without clear practice guidelines. By completing a thorough literature review, maintaining a broad etiology, and integrating the opinions of multiple specialists, we were able to provide a holistic approach toward managing this patient's course. This approach led us to accurately anticipate the course of illness for our patient.

Endometriosis: Is it Benign or a Serious THREAT to Women's Health? (Clinical Inquiry)

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Endometriosis affects more than 11% of women of reproductive age in the United States and about 6 to 10% of women worldwide. Endometriosis is defined as the presence of ectopic endometrial stroma in extrauterine locations that causes symptoms ranging from asymptomatic disease to severe pelvic pain, infertility, or even malignant potential. Here, we report a case of a 48-year-old woman with known history of endometriosis managed medically for 17 years and surgically confirmed with multiple biopsies presenting with generalized weakness and unexplained weight loss. Ultrasonography revealed a pelvic mass, whose biopsy confirmed the presence of adenosarcoma with sarcomatous overgrowth in a background of benign endometriosis. This indicated a malignant transformation of endometriosis. The patient underwent a wide resection of the mass that included pelvic structures with no evidence of metastasis. The patient received chemotherapy and was regularly followed thereafter. One year later, the mass recurred with extensive involvement of the peritoneum and with multiple peritoneal implants. The patient underwent wide resection of the pelvic mass and received chemotherapy. Six months later, the patient expired due to wide metastasis to the lung, liver, and bone.

Does Inclusion of Electrocardiogram in Pre-participation Examination of Young Competitive Athletes Improve the Chances of Identifying Risk for Sudden Cardiac Death? (Clinical Inquiry)

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This evidence-based review investigates electrocardiogram (ECG) inclusion in pre-participation examination (PPE) of young competitive athletes and its ability to identify risk for sudden cardiac death (SCD). The American Heart Association recommends screening history using cardiac questionnaire combined with physical exam and excludes ECG due to low specificity and secondary cost. This search utilizes NCBI and Trip databases with inclusion of systematic reviews/meta-analysis, cohort studies, and randomized control trials. Selected studies investigated the accuracy of history, physical exam, and ECG in identifying risk for SCD in young competitive athletes. Studies including subjects < 14 or > 35 years of age were excluded, as well as those published before 2012. ECG was shown to have high sensitivity and specificity in detecting underlying cardiac disorders, with numbers as high as 100% and 96.6%, respectively. Further, the positive predictive value for ECG was 68 times greater compared to positive family history or reported cardiac symptoms and increased the likelihood of detecting potential risks for SCD. Special considerations must be paid to the interpretation used to define "abnormal ECGs" and the cost burden of widespread ECG screening. Ultimately, if the goal is to make athletic participation safer, inclusion of ECG in PPE screening should be considered.

Complications of Chronic Rheumatoid Arthritis (Clinical Inquiry)

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Rheumatoid arthritis (RA) is an inflammatory, intraarticular autoimmune disease that typically leads to joint deformity, pain, and loss of physical function. Rarely, longstanding RA can manifest in extraarticular organs including brain, lungs, and eyes. Rheumatoid meningitis and scleromalacia perforans are rare conditions characterized by central nervous system involvement of RA. Symptoms at presentation can range from weakness and mild visual disturbances, to seizure and coma. Extraarticular symptoms can appear when RA is undertreated or severe. Approximately one percent of patients with RA will develop inflammation of meninges and about 25 percent will have ocular symptoms. Our case report illustrates a patient with rheumatoid meningitis from untreated, long-standing RA who later developed scleromalacia perforans and vision loss. Extraarticular manifestations in RA are rare and for the most part unforeseen; early recognition and diagnosis is important as mainstays as it can lead to devastating results, such as vision loss or severe encephalopathy.

Aripiprazole-Induced Neutropenia in a Geriatric Patient: A Case Report (Clinical Inquiry)

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Aripiprazole is an atypical antipsychotic medication that is commonly used as an augmentation agent for treatment of refractory depression. Although blood dyscrasias are a widely known adverse effect of the second-generation antipsychotics, they are a seemingly rare adverse effect of aripiprazole. To our knowledge, this is the first case report of aripiprazole-induced neutropenia in a geriatric patient. This case report examines the hospitalization of an elderly male who developed neutropenia while being treated with aripiprazole as an adjunct to his SSRI for treatment-resistant depression.

Smoking Cessation Education at Moms2B (Community Project)

*Valerie Burstein, Celia Bangert, Katirina Coppolino, and Shari Duarte
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Moms2B is a community outreach program originally established to address the differences in infant mortality rates between the different neighborhoods of the greater Columbus area. Smoking is implicated in major causes of infant mortality, including prematurity, congenital anomalies, and sudden infant death. Thus, we partnered with Moms2B to develop and implement an interactive smoking cessation session for pregnant women at each of the Moms2B sites. We facilitated an interactive educational session on the health repercussions of smoking while pregnant and the effect of smoke exposure on infants. Pre- and post-surveys were distributed as a quality improvement measure, which demonstrated increased interest in smoking cessation.

Assessing the Multicultural Health Needs of El Bari Community Health Center Patients (Community Project)

*Valerie Davis, MD, and Nayak Reethu, MD
UTHSCSA*

Project Description: This project was conducted at El Bari Community Health Clinic (CHC), in partnership between the Area Health Education Center, UTHealth, and Bexar County Translational Advisory Board. **Objectives:** To identify health priorities, as well as the barriers to achieving these priorities, within our diverse population. **Methods:** Community Health Needs Assessment (CHNA) surveys included basic demographics (age, gender, ethnicity, education, household size, preferred language, and zip code) and two questions about this population: (1) what are the top 3 health priorities in the community?, and (2) what are the top 3 personal barriers to health? **Applicant's Role in Project:** Dr. Davis, second year resident, participated in this project by developing community need assessment surveys and conducting surveys from community members through one-on-one interviews. **Results:** Top three health priorities perceived in the community: (1) nutrition/diet/malnutrition, (2) weight problems, and (3) high blood pressure. Top three personal barriers to health: (1) time, (2) limited access to health food, and (3) no insurance. **Conclusions:** The results from this assessment will help identify the health concerns and barriers that El Bari CHC seeks to address.

Middle School Medical Explorers: A Tool to Increase the Primary Care Workforce (Community Project)

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Middle school students do not have very many opportunities to explore their interest in healthcare. We created an educational curriculum (MedEx) that focuses on hands-on workshops which educate and emphasize the value of family medicine. Throughout the school year, we held 16 different workshops (two per month) at Heritage Middle School which reached over fifty seventh-grade students. Workshops included CPR Basics, Trauma Basics, Sports Medicine, Wilderness Medicine, Medical Mythbusters, Primary Care Jeopardy, and Art in Medicine. MedEx also organized and facilitated a field trip to UMKC's Clinical Training Facility where the students rotated at four different stations including a high-fidelity anaphylaxis case, task trainer competitions, stroke education simulations, and a suture lab. To assess and improve this program, surveys at the beginning and end of the year were completed in addition to short feedback surveys after each workshop. The feedback was so overwhelmingly positive that the Liberty School District decided to expand to all of its middle schools next year, as well as the Desoto School District in Kansas. Medical Explorers allows students to gain excitement for their future in primary care while giving them the motivation to excel in their current classes.

The Rise of Telehealth Communication: Accessibility to Healthcare Services: A Systematic Review (Community Project)

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UMHS*

With much advancement in healthcare and technology, physicians use an electronic medical record (EMR) system to document patient encounters. Telehealth is a growing phenomenon, allowing physicians to either be in a clinic or home setting when it comes to the patient encounter. The main purpose of this type of encounter is to allow wider access to patient care for people not able to see a physician. An example of this is individuals residing in retirement homes, as physical or mental disability can become a struggle for a physician to physically visit them. The main goal of this study is to get a better understanding of telehealthcare with regards to access, patient satisfaction, and everyday usage of this form of technology. More precisely, it is an in-depth look at how various methods, such as telemedicine, can increase an individual's accessibility for seeking healthcare needs while attempting to increase patient satisfaction with healthcare services provided. Keywords: healthcare needs; telehealth; telemedicine; access; quality; satisfaction.

Exploring Maternal Death Rate Patterns in Urban and Rural Areas of Illinois and the United States (Community Project)

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Maternal mortality rates in the United States have increased in the past decade to 17 deaths per 100,000 live births, with rural areas having maternal mortality rates as high as 28.7 deaths per 100,000 live births. This rate is among the highest for developed countries throughout the world. Previous studies have shown rural mothers have an increased risk of death due in part to the care they receive before, during, and after their pregnancy. The purpose of this project was to investigate patterns of maternal death among different populations in the U.S. and Illinois, with particular emphasis on disparities between urban and rural populations. Statistical testing revealed significantly higher maternal death rates in rural areas compared to their urban counterparts ($p < 0.05$). In particular, non-Hispanic White mothers in more rural counties of Illinois showed significantly higher maternal death rates than other races and ethnicities in both rural and urban areas, as well as the U.S. as a whole ($p < 0.05$). Future studies should be aimed at identifying key risk factors in order to advocate for improved resources for mothers residing in rural counties to, in turn, improve maternal mortality rates across the U.S. and Illinois.

Providing Mental Health Education in Medically Underserved Mid-Michigan: Outcomes and Challenges (Community Project)

*Maryssa Lyons and George Matar
Central Michigan University College of Medicine*

1,475,000 adult Michiganders experience any mental illness (AMI), with 57% not receiving treatment (12,13). Studies have shown stigma toward AMI and access to treatment are barriers to care (3). The Great Lakes Bay Region, as a mental health and a health professional shortage area (9), has limited access to mental healthcare from dedicated mental health providers and primary care providers. Project aims include: (1) assess stigma toward AMI in our community, not previously characterized (10), and (2) educate community on mental health to reduce stigma and improve access to care and outcomes (2,7,15). In our study women were overrepresented, which is confounding as women have been shown to report less stigma (14). Participants were aware of stigma within the community and many participants held stigmatizing beliefs. However, participants overwhelmingly agreed with wanting to provide the best care possible for those with AMI. Barriers include: Ability to engage with high-stigma community members, perceived relevance of mental health to community members, and difficulty in establishing meaningful community relationships. Our pilot project has allowed us to identify stigma in the community and provide previously unavailable resources. In the future we hope to use this data to refine our survey to assess pre- and post-presentation beliefs and make our presentation available to community organizations.

Providing Community Educational Intervention on Aortic Valve Stenosis in Medically Underserved Mid Michigan: Outcomes and Challenges (Community Project)

*George Matar, Merna Abdou, and Maryssa Lyons
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Aortic stenosis (AS) is a heart valve problem obstructing the left ventricular outflow tract of the heart primarily in individuals 60 years and older, resulting in death if not treated in a timely fashion. Studies outside the U.S. have shown that awareness of AS among the general public is low, highlighting the need for an intervention aimed to educate at-risk populations. This is a pilot study assessing outcomes and challenges faced with providing AS education in medically underserved communities. In addition, confidence in knowledge (CIK) of AS and other heart valve problems was collected. We surveyed and educated 158 individuals in eight medically underserved counties, 46% rural and 54% urban, in Michigan and found that CIK did not increase with more primary care provider (PCP) visits, was not affected by education level of participants, and was not affected by location of survey completion. Subjects described transportation concerns, co-morbidities, and a lack of a stronger patient-provider relationship given the limited number of PCPs available. Other challenges included non-randomized locations for intervention based on community interest and subjects' frustration with PCP availability extending to our team, limiting community engagement. We are working toward broadening enrollment and bringing this initiative directly to PCP clinics.

Assessing Provider and Clinic Staff Awareness and Utilization of CDC-approved Diabetes Prevention Programs (DPP) at AltaMed Health Services Sites (Community Project)

*Dorjee Norbu
Rush Medical College*

As the largest independent federally qualified health center (FQHC) in the nation, AltaMed aims to eliminate disparities in health care access and outcomes in Latino, multi-ethnic, and underserved communities in Southern California. Led by this mission, AltaMed provides efficacious evidence-based disease prevention programs, such as a diabetes prevention program (DPP). However, the awareness level and utilization of DPPs at AltaMed is unclear. A 10-question online survey was created and administered to AltaMed medical providers and clinic staff. Of the AltaMed medical providers and clinic staff that received the survey, 346 responded. Diabetes prevention strategies currently being recommended by providers (n=55) to pre-diabetic patients include: lifestyle modifications (100%), AltaMed Health Education Classes (83.6%), AltaMed DPP (50.9%), and pharmacotherapy (36.4%). Among providers who referred patients to DPP, 75% utilized the NextGen (EMR) e-referral process, while 14.8% stated they do not know how to refer patients using NextGen. Since medical providers would like more information and/or training on the DPP NextGen e-referral process, a preliminary DPP referral and screening workflow was created to identify pathways from patient identification as at risk for prediabetes, to being screened, diagnosed, and connected to a DPP.

SAMMinistries Health Fair, Screening, and Health Education (Community Project)

*Mitchell Parma and Cameron Holmes
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The SAMM Transitional Living Center provides housing and support to families experiencing homelessness in San Antonio. This community is a vulnerable population that lacks proper medical and social resources. The goal of our project was to identify the health education needs of SAMM residents and to implement a relevant educational curriculum to improve health literacy. To assess health needs and baseline health knowledge, we conducted a health fair at the SAMM Center. An interdisciplinary team of student volunteers conducted some basic health measurements and assessed baseline health knowledge. Forty-one SAMM residents attended the fair. The data from this health fair was used to determine the most prevalent medical problems and health topics of interest. Five topics were chosen for separate health education classes for the residents: smoking cessation, vaccinations, dental health, mental health, and heart health. An interdisciplinary curriculum was created and the residents' improvement in health literacy was measured by pre- and post-surveys for each class. Of the five classes taught, four resulted in improvement in health knowledge. The health fair and the health education classes provided an effective way to assess health needs and improve health literacy in this vulnerable community.

Assessing Women's Health Needs in the Underserved Island Communities of Vanuatu (Community Project)

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Vanuatu is an island nation in the South Pacific with limited resources and remote communities. Healthcare provision is lacking with Ni-Vanuatu women comprising a particularly undervalued, underserved group. The present study partnered with a health clinic in Vanuatu to conduct a needs assessment of local mothers. A convenience sample of sixty parous women between 17 and 66 years old were interviewed in their native language. Each participant provided verbal responses to 29 questions targeting family health needs and pregnancy experiences. Forty-three percent of women knew what an STI was, and 38% knew of a place that offered HIV testing. Thirty percent of women never had a pelvic exam. All but one received prenatal care during their last pregnancy, with a median of five prenatal visits and variability in prenatal literacy. Seventy-eight percent of women did not feel safe walking in their neighborhoods at night. Although levels of previous gynecologic and prenatal care varied, general knowledge and prioritization of women's health was lacking in the community. The present study directly inspired the design of a group prenatal program, which will be piloted later this year. Other interventions targeting gynecologic health, family planning, sexual health, and STI prevention would be beneficial.

Point-of-Care Ultrasound (POCUS) in Family Medicine Training: Implementing Curriculum and Credentialing Pathway into Family Medicine Residency (Educational Program)

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A large body of evidence demonstrates that Point-of-Care Ultrasound (POCUS) improves clinical outcomes, rapidly narrows differential diagnoses, lowers costs, and reduces the use of ionizing radiation. The American Medical Association advocates POCUS be used within the scope of practice of physicians when training in technology and privileging align with each respective specialty association. The American Academy of Family Physicians now encourages every family medicine residency to include POCUS training. Unfortunately, few models exist for POCUS implementation in a family medicine residency. University of Wyoming Family Medicine Residency in Casper, WY, is an American Osteopathic Association and American Board of Family Medicine-accredited residency. Point-of-Care Ultrasound interest reached a critical mass to address the growing demand for training. To address this need, faculty arranged for a two-day POCUS course. This set the stage for implementation of a comprehensive ultrasound curriculum and credentialing process. This project was a collaboration between residents and faculty using a synthesis of emergency medicine and family medicine resources to develop a full spectrum family medicine POCUS training program with a strong emphasis on underserved and global health.

Using a Transgender Standardized Patient Case to Introduce Pre-clinical Medical Students to Lesbian, Gay, Bisexual, Transgender, and Queer (LGBTQ) Health Issues (Educational Program)

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While the Lesbian, Gay, Bisexual, Transgender, and Queer (LGBTQ) community experiences high rates of STIs, substance abuse, and mental illness, it has historically been medically underserved and marginalized. Transgender patients are most likely to report that physicians have denied them access to care, used inconsiderate language, and blamed patients for their medical condition. This contributes to distrust of medical professionals and deters transgender patients from seeking care. A 2011 study found that existing curricula designated an average of only five hours to LGBTQ health care. To address the limited exposure to LGBTQ health in our school's curriculum, we developed a three-hour sexual history session in the second-year clinical skills course. A one-hour didactic on sexual history taking was followed by two 45-minute standardized patient (SP) encounters in a facilitated small group setting. Pairing the didactic on sexual history taking with the SP encounters allowed students to solidify their knowledge regarding LGBTQ health care. However, following the session, nearly half of all students still reported some discomfort in managing non-heterosexually identified patients. In order to address this discomfort, these results highlight the need to longitudinally incorporate LGBTQ history taking skills and management early in the medical school curriculum.

Nutrition in Medicine: Educating Medical Students on the Plant-based Diet as a Way to Combat Preventable Diseases (Educational Program)

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Purpose: Fewer than 14% of physicians believe they are properly trained in nutrition counseling. Nutrition in Medicine (NiM) is an evidence-based, eight-session elective lecture series centered on nutrition. We wanted to understand the impact that nutrition education has on medical students' personal dietary habits, as well as their confidence, willingness, and motivation to counsel others about nutrition. Methods: First- and second-year medical students completed a survey before and after the 2017/2018 NiM lecture series. Surveys included questions about personal dietary habits, confidence and motivation to counsel others on plant-based diets, and nutritional knowledge. Chi-square tables were used to test for statistical significance. Results: 472 students completed the surveys; 264 students had never attended a lecture (Group 1) and 208 attended at least one lecture (Group 2). Statistical significance was found in all categories of the study comparing post-surveys between Group 1 and Group 2. Conclusion: Teaching medical students about nutrition is a unique way to solve the national burden of chronic disease. Nutrition education changes medical students' diets, as well as their confidence and motivation to counsel others in nutrition as medicine.

Is He Still Sick? Trending Procalcitonin: A Case Report (Educational Program)

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Procalcitonin is a blood test used as a biomarker of infection, specifically bacterial infections. The Infectious Diseases Society of America has made an algorithm to help providers utilize Procalcitonin levels as a way to guide antibiotic therapy. This case report reviews a patient that was admitted to the hospital with pneumonia. The IDSA algorithm, along with clinical presentation, was used to guide his antibiotic stewardship. This case is relevant as it may help with future treatment of not only inpatient, but outpatient, patients with bacterial infections.

Prevalence of Depression and Associated Stigmatized Beliefs in University Students: Results of a Survey in the Undergraduate and Graduate Students (Research)

*Jahanzeb Ashraf, Arif Musa, Danny Lee, and Kasim Pendi
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Depression is one of the most prevalent health problems worldwide. Depressive symptoms may be present in as many as 70% of patients who see their primary care practitioner and often goes unrecognized. Among undergraduate and graduate students, depression remains a common illness, with reported prevalence as high as 12 to 33%. Social stigma within this population continues to limit treatment-seeking behavior. Therefore, primary care providers may be the first to screen and treat undiagnosed depression in this age group. This study explored the prevalence of depression in undergraduate and graduate students and the relationship between depression severity and stigmatized beliefs. A questionnaire consisting of a socio-demographic survey, Patient Health Questionnaire-9 (PHQ-9) and Depression Stigma Scale (DSS) was distributed to students in the United States. Of 1,080 undergraduate responses, 36.3% met the criteria for moderate to severe depression. Of 199 graduate student responses, 35.7% of respondents screened positive for moderate to severe depression. These findings suggest a rising prevalence of depression among university students, which has implications for effective screening, diagnosis, and treatment of depression in this population.

Optimizing Health Screening Protocols for Efficacy and Demographic Sensitivity: A Cross-sectional Study of an Urban and a Rural Clinic in Ecuador (Research)

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Short-term medical teams are controversial in their ability to partner with the public sector in a positive role as a primary health care provider of services, source of financing, developer of new technology, manager of supply chains, and advocate for vulnerable populations. Our objective is to develop a standardized health screening protocol for medical teams that provides quantifiable and clinically relevant data for identifying markers of underlying disease processes. A secondary purpose is to gather demographic information that allows a screening protocol to be effectively tailored to the risk factors of a specific population. A group of nine medical students traveled to Quito and Cayambe, Ecuador, in June 2018 to partner with two Ecuadorian organizations for the purpose of providing quality health screening for markers of underlying disease in vulnerable populations. We found abnormal screening findings in 67.1% of our sample population (n=334) and evidence of dental decay in 70.7% of patients (n=321). Additionally, we found that young age and income level were additional demographic factors that placed individuals at risk for low hemoglobin levels indicative of anemia. Medical teams should utilize prevalence and demographic data to develop effective screening protocols for future use.

Social Determinants and Diabetes: Where Can We Effectively Intervene? (Research)

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Social determinants of health (SDOH): conditions in which people are born, grow, live, work, and age; heavily influence health. Despite type 2 diabetes' (T2DM) high prevalence, SDOH research related to T2DM is only beginning to surface, rarely examining several SDOH in large populations. This study investigated associations between reporting SDOH needs and T2DM diagnoses. Data were collected from validated SDOH questionnaires administered by KU Health System. Analysis (n=26,093) revealed the most commonly reported SDOH needs were healthcare cost (5.2%) and prescription cost (4.7%). Patients with T2DM had higher odds to report a need in at least one SDOH domain than those without T2DM (OR=1.663, p< 0,0001). All tested SDOH domains were significantly associated with T2DM. Prescription cost and transportation yielded the highest odds ratios (2.0439 and 1.8739, respectively), while child care demonstrated an unexpected protected effect related to T2DM (OR=0.5414). Future directions will add HbA1c (a common measure of blood sugar control in diabetics) and zip codes to our analysis to create heat maps comparing residential areas with SDOH needs and areas with poorer glycemic control. Researchers hope this information can reinforce SDOH's connection to metabolic health and inform providers where patients with T2DM are experiencing the most social needs.

Is There a Relationship Between the Attendance of Prenatal Visits and Well-child Visits? (Research)

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Is there a relationship between the attendance of prenatal visits and well-child visits? Prenatal and well-child visits play a significant role in the preventive healthcare services provided to pregnant women and infants. In this study we explored the possible correlations to adherence to prenatal visits and well-child visits by performing a retrospective chart review using data from EPIC at Hurley Medical Center OB/GYN and Pediatric outpatient clinics. Patients, mother and baby, were followed from first prenatal visit to birth and pediatric well-child visits up to 14 months. Results showed that only 10% of the population had an adequate number of prenatal visits, while 17.5% had an adequate number of well-child visits. Moderate positive correlation (R=.319) was present between the number of visits the mother made to the ED during the prenatal period and the number of the visits the child made to the ED. There was also a moderate positive correlation (.336) between a child's sick visits and ED visits. The primary outcome was significant for a mildly positive correlation (R=0.141) between the number of prenatal visits and well-child visits. Our findings can help identify areas open for intervention and patient education.

Follow-up Program Improves Specialty Referral Outcomes (Research)

Megan Danzo and Nina Hill

The Ohio State University College of Medicine

Primary care providers serve diverse populations, with certain patients requiring specialty referrals. However, navigating complex healthcare systems is challenging for many patients. Delays in scheduling or follow-up may lead to progression of disease. At the student run clinic, Columbus Free Clinic (CFC), a health literacy assessment and referrals intervention were implemented to address factors contributing to low referrals success rate. This study included 91 patients (50 pre-intervention, 41 post-intervention). Patient demographics and health literacy were assessed in a representative sample. Health literacy was measured using the Short Test of Functional Health Literacy, a tool validated in multiple populations. Demographics and health literacy were hypothesized to influence referral success. The intervention included new forms, patient/provider education, and standardized follow-up calls. The primary variable of interest was referral success (indicated by financial aid approval and attended appointment). Following intervention implementation, the referral success rate improved significantly from 26% to 54% ($p=0.007$). Patients received an average of 3.9 follow-up calls. Low health literacy was not significantly associated with low referrals success rates. Standardized follow-up programs can improve patient-provider communication, identify barriers that prevent patients from receiving care, and lead to improved health outcomes.

Resident and Preceptor Attitudes About Providing Medical-aid-in-dying (MAID) Under the California End of Life Options Act (EOLOA): Implication for Resident Training (Research)

William Guerin, MD

Contra Costa Family Medicine Residency

Given that medical-aid-in-dying is accessible to almost 20% of the U.S. population, and with AAFP in a position of engaged neutrality on the topic, resident curriculum is warranted to create a family physician workforce capable of handling such requests. To understand family doctors' perspectives about this care within the context of their primary care practices, residents and preceptors from a community-based, safety net Family Medicine residency were surveyed on attitudes toward establishing medical-aid-in-dying (MAID) as part of the scope of residency training and practice. Most respondents expressed interest in this curriculum being developed with residents preferring to be able to prescribe MAID and preceptors willing to supervise with appropriate training and guidance. Residency leadership then established a protocol for Contra Costa residents to participate under the California End of Life Options Act through an opt-in basis, which we believe is the first residency in the US to create a structured, supervised, pedagogical model for residents to serve as the primary physician for MAID. We hope this serves as a model for other programs in creating training in MAID.

I Know Me: Using Photovoice to Explore the Lives of Complex Care Patients (Research)

Ben Kaplan

UNC School of Medicine

Nearly half of all Medicaid expenditures can be attributed to only five percent of Medicaid-only enrollees. Referred to as super-utilizers, hot spotters, or complex care patients, these individuals suffer ongoing and frequent hospital readmissions and emergency department (ED) visits. In contrast, they experience inadequate access to and underutilization of preventive and supportive care. Previous research and narrative studies have focused on unpacking and better understanding the factors that shape this costly imbalance in healthcare access and utilization. However, to our knowledge, no research study has engaged complex care patients with a platform to narrate their own day-to-day struggles. The photovoice technique provides complex care patients with a crucial opportunity to share their lived experiences from their own perspectives. Using photovoice, this project asks complex care patients to reflect upon and share their experiences within and outside of the healthcare system through photography. In exploring these narratives, we partner with patients to develop a more comprehensive understanding of the factors that contribute to their relative over-utilization of emergency and hospital care. Preliminary analysis of images and accompanying explanations has identified four major themes: cyclicity, frustration, unseen and unheard, and resilience.

The Effectiveness of a Quality Improvement Project for Advance Care Planning Among Older Adults (Research)

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Background: Although Advance Care Planning (ACP) documentation increases compliance with patient preferences, interventions that integrate ACP into time-pressured clinic workflows are still needed. We sought to determine the ability of a Quality Improvement (QI) project focused on clinic workflow to increase rates of: (1) ACP documentation by $\geq 60\%$ among patients 65+ years, and (2) correct ACP documentation placement in the electronic medical record. Methods: We conducted a cross-sectional chart review with a pre-post analysis of 500 randomly selected charts, with 250 each before and after QI project implementation in a primary care practice from January through March 2016. Results: Overall, any ACP documentation (living will, health care agent/power of attorney, and/or 5 wishes) increased from 11.6% to 27.2% in the post-implementation period, representing a greater than 60% increase. MOLST documentation increased from 3.6% to 44%, representing one of the largest improvements. Although overall the percentage of charts with incorrectly placed documentation or documentation without dates was small, we did not find a decrease in these factors post-implementation. Conclusion: The QI project increased rates of ACP documentation and most documents ($> 90\%$) were entered correctly. This data presents encouraging results supporting implementation of the clinic workflow to other primary care sites.

Perception, Usage, and Distribution of Community Resources in Johnson County, TN: A Community-based Intervention (Research)

*Collette McWilliams, Whitney Pittman, Emmitt Turner, and Will Davies
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In speaking with the Johnson County Health Department, there is a community focus on the prevention of the Tennessee Big Four: smoking, excessive caloric intake, lack of exercise, and opioid addiction. It was initially thought that a lack of awareness of resources caused this disconnect, but survey results conversely demonstrated that, while aware of the resources, community leaders and medical providers were not recommending these resources to those they serve. The objective of this project is to determine if providing printed reference materials referencing the Big Four targets about community resources to medical clinics is an effective method of increasing referrals to these resources, with the goal of better meeting patients' socioeconomic needs. Folders containing reference documents were distributed with a verbal explanation of the project to available medical providers and office staff. Three weeks later, an anonymous post assessment was distributed asking participants to rate the usefulness of the documents and the frequency with which they used them. Results show resource documents were both useful and effective in increasing medical professional referrals to community resources. Ultimately, we believe that distribution of comprehensive resource documents could be an effective method for increasing awareness and utilization of available community resources.

Social Circle of a Medical Student: Influence on Primary Care Career Choice (Research)

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Research suggests there will be a shortage of primary care physicians of 52,000 by 2025. We sought to determine social factors that deter medical students from choosing primary care as a career. Participants were students at Georgetown University School of Medicine and A.T. Still University School of Osteopathic Medicine in Arizona. A sample of 551 responses was collected. The participants completed a 23-question survey, which asked about social factors in their life and the effect they have on their attitudes and likelihood of choosing primary care from prior to medical school until present day. Linear associations were developed between criticism toward primary care from the social influences and students' attitudes and likelihood of choosing primary care as a career. Our results show negative correlations between criticism from a student's peers, family members, primary care doctors in clinical placements, clinical role models ($p < 0.0001$, $p = 0.0028$, $p < 0.0001$, $p < 0.0001$), and their attitude toward primary care. We conclude that medical schools must recruit students interested in primary care prior to the start of medical school and foster an environment among medical school peers of support for primary care to meet the shortage of primary care physicians.

Clinical and Endocrinologic Manifestations of Anorexia Nervosa in Adolescent and Young Adult Males Versus Normal Weight Controls (Research)

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Current literature suggests a female predominance for anorexia nervosa (AN). The reason for this gender bias could be under reporting in males or a true biological bias in females. We aimed to delineate the clinical and endocrinologic features at presentation in males with AN. An retrospective chart review was conducted between 2000 and 2016 among 53 males who were aged 10-23 years. Of the subjects, 36 had AN and 17 were matched normal-weight healthy controls (HC). AN was diagnosed based on the DSM-IV or V. Data were extracted from electronic medical records. The mean age at AN diagnosis was 15.9 ± 3.0 years. Over exercising is the second most prevalent mode of weight loss in males with anorexia nervosa; in this study, this applied to 38.9% of the male AN subjects. Anorexia nervosa should be considered in a post-pubertal male with hypogonadism, as 55% AN males were hypogonadal in this study. Low testosterone levels are common in this condition and may contribute to clinical features such as anemia. With the reported clinical and endocrinologic features in males with the disorder, enhanced provider awareness and higher index of suspicion could prevent the delay in the diagnosis in males.