Poster Abstracts by Category
Category: Case Presentation

1. ***A Case of Hemolytic Anemia in A Patient With Alcohol Use Disorder attributed to Zieve's Syndrome***

Jesse Olsen, MD, Crozer Family Medicine Residency
Jesse.olsen@crozer.org

Zieve syndrome is a rare disorder diagnosed by the triad of jaundice, hemolytic anemia, and hyperlipidemia in the setting of excessive alcohol use. In this case report, we discuss a 42 year old male patient who presented to the hospital with three months of fatigue, anorexia with a 30 lb weight loss, daily emesis, intermittent melena and hematochezia. While the initial exam was largely unremarkable. He developed an acute drop in hemoglobin as well as physical exam findings consistent with hemolysis including scleral icterus and conjunctival pallor. Laboratory data demonstrated transaminitis, hyperbilirubinemia, hyperlipidemia, macrocytic hypochromic anemia, thrombocytosis, and decreased haptoglobin. MRI of the abdomen showed steatosis and enlargement of the liver without evidence of focal liver lesions or cirrhosis. The patient's clinical course included supportive measures, correction of electrolyte abnormalities, infusion of thiamine and folate, and workup of other contributing conditions including HIV, hepatitis, EBV and CMV. Although the pathophysiology of Zeive's is not entirely understood, it is well known that the triad of symptoms is incited by alcohol-induced liver injury. Therefore the treatment of Zieve syndrome is mainly supportive with blood transfusion and abstinence from alcohol. Given the prevalence of alcohol use and anemia this condition is likely underdiagnosed and should be a consideration for patients presenting with alcohol use and anemia.

2. ***Alphabet Soup of Psychological Trauma***

Rina Girish Bhalodi, PhD
St. Luke's University Health Network Family Medicine Residency Bethlehem Campus
rgbhalodi@gmail.com

Psychological trauma is like an alphabet soup. There is the exposure period (antecedent) which may be so buried in patient's life that cannot not be seen at the surface. Thus, patient's behaviors may be understood as combative or aggressive rather than defensive and protective. However, as patient's history unfolds just like the alphabet soup when the letters rise to the top, the patient's real motive behind their actions also surface during sessions. Consequently, by understanding what prompted patient's behaviors and the results of their actions family physicians are better equipped to help patients navigate the alphabet soup of psychological trauma, and to receive proper care. In this poster presentation, we will explore how family physicians can use the ABC of trauma informed care to treat patients suffering from trauma related disorders and translate insight into action. Moreover, we will cover trauma related disorder through a developmental perspective including three case examples to illustrate how early exposure to psychological stressors can predispose individuals to develop psychiatric disorders later in life placing them at great risk to poor physical and mental health. The cases will highlight patient's perspective including their culture, and social historical context that can explain patient's behaviors through a trauma lens, and address the impact of trauma on individuals, families, and communities.

3. ***Ascending Paresthesia Following Recent COVID-19 Viral illness: Guillain-Barre Syndrome vs Lambert-Eaton Syndrome***

Jessica Canlas, DO
St. Luke's Hospital and Health Network Family Medicine Residency-Bethlehem
jessica.canlas@sluhn.org

This case study offers insight into the rare neuromuscular complications that can develop following COVID-19 infection.

Case: 59 years old male presented with ascending paresthesia with associated muscle weakness two weeks following COVID infection. Patient is unvaccinated for COVID. CTA was negative for a pulmonary embolism and concerns regarding wall thickening of the mid esophagus. At time of COVID infection, patient had numbness and tingling at bilateral feet. Two weeks later, the paresthesia had progressed to his calves and elbows. Initial work up showed no leukocytosis but significant for elevated CSF protein. On exam there was ascending sensory deficits to light touch and pinprick distally up to knees and elbows bilaterally, widely reduced DTR at 1+ in all areas except Achilles which was zero, and the development of facial diplegia starting with the left side of his face and progressing to his right side. Patient was treated with five days of IVIG then five days of IV Solumedrol due to progression of facial diplegia. An autoimmune encephalopathy panel with a paraneoplastic panel were collected to rule out other etiologies. MRI brain showed bilateral facial nerve enhancement involving the apices of both IACs. Given recent COVID infection, clinical presentation, and MRI findings, patient was diagnosed with Miller-Fisher Variant Guillain-Barre Syndrome. Patient also had EGD done for esophageal thickening which showed squamous cell carcinoma. The paraneoplastic panel returned as positive for P/Q-type Calcium Channel binding antibody, concerning for Lambert-Eaton Syndrome.

Post COVID-19 complications include a wide array of conditions that range from cardiovascular and pulmonary sequelae to neuropsychiatric conditions. Although rare, there are several cases that have been reported regarding the development of neuromuscular complications, more specifically Guillain-Barre Syndrome following recent COVID-19 infection.

4. ***No Rash Decisions***

Jeremy Palmer, DO, WellSpan York Hospital Family Medicine Residency
jpalmer7@wellspan.org

Dermatologic complaints are amongst the most common reasons for visits in family medicine. A rash may represent only a piece of the puzzle and requires a broad understanding of even some rare presentations. One illustration of this involves a 40-year-old male who presented to the ED with a disseminated targetoid rash that included his genitals and oral mucosa. The patient had a history of IV drug use in remission, untreated Hepatitis C, and recent COVID-19 infection. In the ED, he was started on IV antibiotics due to concern for a systemic infection. The differential remained broad and included Behcet's syndrome, cryoglobulinemic vasculitis, and erythema multiforme (EM). IV antibiotics were discontinued after a broad infectious workup was negative including HSV PCR, gonorrhea and chlamydia, RPR, VZV, HIV Ag/Ab, TB, blood cultures, and UA. Additional workup included C4 complement, protein electrophoresis, IgG, IgA, and IgM as well as cryoglobulin, which ultimately came back within normal limits. Punch biopsies were collected from three different sites. Steroids were initiated and resulted in symptomatic improvement. After the patient was safely discharged home, biopsy specimens revealed full-thickness epidermal necrosis consistent with a diagnosis of EM. At hospital follow-up, the patient continued to have improvement of his targetoid rash, and a steroid taper was prescribed. The precipitating etiology was thought to be from his untreated hepatitis C in the setting of recent COVID-19 infection leading to an eruption of EM. Although EM is typically caused by HSV,

Hepatitis C and other viruses are also known to trigger eruptions. This case illustrates the complexity behind some dermatologic complaints and the importance of maintaining a broad differential when diagnosing skin conditions.

5. ***Pokeweed - An Accidental Toxic Ingestion***

Hannah Teplitzky, DO, Crozer-Keystone Family Medicine Residency
hteplit@gmail.com

A 53 year old woman presented with her two daughters to the Emergency Department via EMS with violent vomiting after ingestion of a homemade tea from berries from a local plant. Further investigation by EMS and poison control attributed the violent emesis to accidental toxic pokeweed ingestion. Our patient's hospital course was complicated by hypotension, profuse vomiting proceeding to profuse diarrhea, metabolic acidosis, electrolyte abnormalities, acute kidney injury and fever. This case demonstrates how a common locally growing plant can be toxic to humans.

6. ***Scombroid Poisoning***

Iman Haroun, MD, MsC, Tower Health/Reading Hospital Family Medicine Residency
iman.haroun@towerhealth.org

Scombroid poisoning is a foodborne illness from improperly stored fish causing histamine toxicity when consumed, mimicking a type I hypersensitivity reaction. This condition is thought to be underdiagnosed, nevertheless, it is the most commonly reported seafood poisoning in the US. We present a case of suspected Scombroid poisoning. Patient was a 30-year old female with no known medical history presents 30 minutes after ingestion of a meal containing Ahi tuna with acute onset tachycardia, palpitations, dizziness and facial flushing. Palpitations and dizziness resolved after 10 minutes of presentation. On the other hand, facial flushing which started as patches over the face, spread over the entire face, neck, chest, torso, arms and legs. This was followed by acute onset diarrhea.

Patient denied prior history of known allergies. She reports eating tuna about 2-3 times per week and has never had allergic reaction. Patient remarked that her lunch on that day tasted "more peppery" than usual, as she had the same meal purchased from the same vendor multiple times prior.

Review of systems was negative for fever, chest pain, chest tightness, dyspnea, angioedema, swelling, nausea or vomiting.

The patient was immediately treated with Decadron 8 mg IM, Benadryl 50 mg PO, and Famotidine. She was observed for 3 hours. Rash resolved gradually within 3 hours. The PA Health Department and the Department of Agriculture were notified of suspected case of Scombroid poisoning. Histamine level of the tuna were unable to be obtained.

This case demonstrates classic features of Scombroid poisoning.

7. ***Severe Hypertriglyceridemia and the Associated Familial Causes***

DeAnna Harris, MD, Forbes Family Medicine Residency, Allegheny Health Network
deanna.harris@ahn.org

Severe hypertriglyceridemia (HTG) is defined as Fasting triglyceride levels > 1000 mg/dL Most patients with severe HTG have multiple gene influences in addition to environmental factors. Severe HTG is known to be associated with Triglyceride-induced pancreatitis as well as atherosclerotic disease. It can typically be managed by dietary changes but in some cases medication is warranted.

A 50 YO woman with pmhx of chronic pancreatitis, Type II Diabetes and hypothyroidism presented to the hospital with RUQ pain and nausea. About one week prior she had been seen at clinic for recent bee sting and had routine blood work completed at that time. He Lipid Panel came back as unable to be calculated due to gross lipemia. Lab work at the time of admission to the hospital showed Total cholesterol 1,688, triglycerides > 4,424, HDL: 15, LDL 284, Lipase 22. Patient had numerous other false lab abnormalities due to the gross lipemia. She had a CT scan done at the time of admission that showed evidence of hepatic steatosis and a chronic pancreatic cyst but otherwise normal pancreas, gallbladder and biliary system. Nephrology was consulted due to grossly abnormal labs such as Na 110 on admission. Cardiology was consulted due to elevations in lipid panel and concern for cardiovascular risk. Gastroenterology was consulted due to RUQ pain and concern for acute pancreatitis vs gall bladder disease. Patient's labs, vitals and physical exams were closely monitored. She was placed on an insulin drip to decrease the Triglyceride (TRG) levels. Patient was started on Icosapent Ethyl, am omega -3-FA, to both reduce the level of TRG but also the cardiovascular risk associated with severe HTG. Patient had RUQ ultrasound and HIDA scan which showed evidence concerning for cholelithiasis, chronic cholecystitis and/or biliary dyskinesia. Patient's RUQ pain was managed as chronic cholecystitis. Her severe HTG responded well to insulin drip, IV fluid and medication.

8. ***Synovium to Myocardium: A Case Report of a Rare Presentation of Myocardial Infarction Associated with Calcium Pyrophosphate Dihydrate Crystal Arthritis***

Mahanoor Raza, MD, WellSpan Good Samaritan Family Medicine Residency
mraza@wellspan.org

Pseudogout is caused by calcium pyrophosphate dehydrate (CPPD) crystal deposition in the synovium. These crystals irritate the innate immune system and trigger an inflammatory response. Maintenance of this pro-inflammatory state and subsequent dysfunction of vascular smooth muscle endothelium with oxidative stress leads to plaque formation. Ultimately, acute rupture of the plaque causes a Myocardial Infarction (MI). Although there is literature available on the association between gout, monosodium urate crystal deposition, and myocardial infarction, there is little to none discussing pseudogout and its relationship with cardiovascular disease. This is a report of acute CPPD arthritis associated with Type 1 MI.

An 83-year-old female presented to our ED with bilateral lower extremity edema associated with generalized weakness. Her left foot was more inflamed than the right, with cardinal signs of pain, swelling, erythema, and warmth. A presumptive diagnosis of cellulitis was made and antibiotics were initiated. The patient also had elevated troponins with new-onset bundle branch block, ST, and T wave changes on electrocardiogram, indicating a Type 1 MI. After careful review of the previous history, imaging of the extremity, elevated inflammatory markers, and the typical distribution and pattern of inflammation, the diagnosis was changed to pseudogout. Steroids and colchicine were initiated giving the patient instant relief.

This case highlights that there is a possible association between myocardial infarction and acute calcium pyrophosphate dehydrate disease. While it is indeed rare, practicing physicians should be made aware of this relationship especially in a patient with a history of CPPD arthritis who presents with Type 1 MI. Numerous studies have reported gout as an independent risk factor for myocardial infarction and colchicine significantly lowering the risk of ischemic cardiovascular disease.

Category: Community/Public Health

9. ***Depression in Schizophrenia***

Sweta Amirneni, MD
St. Luke's University Health Netwrok Family Medicine Sacred Heart Campus
sweta.amirneni@sluhn.org

Approximately, one percent of the world population suffers from schizophrenia. Individuals with schizophrenia have higher rates of mood disorders, substance abuse, and suicide. The mortality rate in patients with schizophrenia is two to three times higher than in the general population, mostly due to suicide and or injuries. Although primary care providers are well versed in the diagnosis and management of mood disorders, there are fewer resources available for such providers to aid in the treatment of patients suffering from dual diagnosis of schizophrenia and mood disorders or substance abuse. In this poster, we aim to address the needs of this vulnerable population by sharing tips and resources for providers with respect to dual diagnosis.

10. ***Financial Incentives to Recruit Primary Care Physicians to Rural Areas and Small Towns in Pennsylvania Health Systems***

Elizabeth Klingensmith, BS
Sidney Kimmel Medical College, Thomas Jefferson University
exk181@students.jefferson.edu

Given the primary care physician shortage within rural populations in the United States, it is important to examine the factors that influence a physician's decision to practice in a rural area. Offering financial incentives as a means of recruitment to rural areas is a promising tactic, especially with the high amounts of medical education debt most new physicians have.
The purpose of this study was to examine the recruitment strategies that rural health systems employ and to assess types of financial incentives offered by health systems in Pennsylvania to recruit rural primary care physicians. Recruiting coordinators from six rural health systems in Pennsylvania completed a semi-structured interview between June 2021 - November 2021. Data collection included: types of financial incentives, dollar averages of financial incentives offered, other factors related to physician recruitment, and recruitment statistics.
All six systems offered at least one financial incentive in their recruitment packages, with the most common being relocation allowances, loan forgiveness, signing bonuses, and residency stipends. The dollar amount offered varied between types of incentives, with health systems allocating the most toward loan forgiveness and relocation allowances.
Pennsylvania continues to face a rural primary care physician shortage, thus identification of ways to address this issue is important. Learning more about what rural primary care physicians need and want will help to align incentives among prospective employers, physicians, and the communities they service. While financial incentives may play a role in recruitment of rural primary care physicians, more work is needed to characterize these incentives further, as well as to understand their impact on retention of physicians in rural areas of Pennsylvania.

11. ***Virtual Dermoscopy Training for Medical Students and Family Medicine Residents is Effective for Implementation in a Free Clinic and Primary Care Offices***

Noor Kawmi
Penn State College of Medicine
nkawmi@pennstatehealth.psu.edu

Clinical training of medical students and Family Medicine (FM) residents during the pandemic has been negatively impacted by restrictions on learner group gatherings. Diagnosis and

appropriate management of skin lesions is a foundational skill for medical students and FM residents. Dermoscopy is a non-invasive dermatologic diagnostic tool that employs magnification and polarized light to facilitate skin lesion visualization and disposition. It can be effectively taught to healthcare providers that care for skin and so should be part of the skill set for all family physicians. Employing dermoscopy in primary care free clinics can increase access to dermatological screenings for low-income and marginalized populations. A longitudinal Virtual Dermoscopy Workshop for medical students and FM residents was designed and implemented during the COVID-19 pandemic with the goal of offering this service in our free clinic and expanding use among residents. The workshop was facilitated by volunteer dermoscopy-trained Penn State Family Medicine faculty. It included two virtual classes and one remote practicum, requiring participants to complete a 10-item log of personally identified lesions to receive certification. Participant satisfaction in the course was assessed via an anonymous survey, rating interest in content, workshop applicability to future careers, and effect of the virtual setting on learning, each on a 5-point Likert scale. Qualitative feedback was also obtained. Study data were collected and managed using REDCap (Research Electronic Data Capture). A total of 23 students participated in the workshop, 13 of which completed the survey. Our results show that participants were highly satisfied with the course structure, content, and overall experience. Feedback indicated the virtual setting did not hinder learning but may have limited response rates.

Category: Quality Improvement

12. ***3-Step Pneumovax23 Awareness Program for Primary Care Physicians to Improve Pneumovax23 Vaccination Rates***

Stefan Markovic, MD
Tower/Drexel University College of Medicine Family Medicine Residency Program
markovic.ste@gmail.com

At our primary care clinic, the total vaccination rate for the Pneumovax23 vaccine in our asthmatic patient population is poor. The purpose of this project was to improve total Pneumovax23 vaccination rates in asthmatics at our primary care clinic, as well as individual provider Pneumovax 23 vaccination rates by developing a 3-Step Pneumovax23 Awareness Program for PCP's.

This program consisted of three components. The first was a provider performance graded report card that was submitted once to each provider notifying them of their overall vaccination performance. The second component was a weekly reminder email with an educational video. The third component was a biweekly in person reminder about Pneumovax23 vaccination during morning clinic huddle. This program was implemented for two months.

The percentage of asthmatic patients that were vaccinated for Pneumovax23 and were seen at an office visit in the last year was calculated. The overall Pneumovax23 vaccination rate of asthmatic patients seen by a specific individual provider in the last year was also calculated. In each of the two months that the program was implemented, total and individual provider vaccination rate was calculated, as well as percentage of providers whose performance improved.

Total monthly vaccination rate in asthmatics increased to 30.85% (62/201) and 29.13%(60/206) in month 1 and 2 respectively (from baseline of 28.28%). Individual provider vaccination performance and percentage of providers whose performance improved are pending.

Prelminary data shows slight improvement in percentage of vaccinated asthmatic patients. Individual provider performance is pending. This project shows an integrated program approach may be helpful in improving vaccination rates in clinics by increasing provider awareness. Next steps for this project include increasing length of study and the frequency of each of its components (further increase provider awareness) and to involve other medical staff to assist in screening for eligibility.

13. ***A simple way to teach Level of Service Billing Codes to Residents***

Toluwalope Makinde, MD
Bryn Mawr Family Practice Residency Program
makindet@mlhs.org

In 2021 new evaluation and management (E&M) coding guidelines were released. Billing the correct level of service for patient encounters is important for family physicians in their careers. Performing level 4 E&M work but coding it as a level 3 office visit is a common mistake that can cost a physician thousands of dollars. For this reason, it is an important aspect of resident education and learning. The purpose of our study was to determine if a simple 2 item questionnaire could improve the rate of 99214 billing in first year family medicine residents. Methods: A two-item questionnaire to assist residents to choose a correct level of service for their patient encounters was created and distributed. Faculty members had access to this document while precepting with residents. Data of the weekly billing practices of this cohort of residents was collected from March 2021 to August 2021.
Level 4 billing increased by 9% and accounted for 38% of encounters and Level 3 billing decreased by 8% accounting for 57% of encounters. The increase in Level 4 billing for 100 patients would represent over $2000 of saved income. The post participation survey revealed residents had improved confidence in choosing a level of service code and recognizing social determinants of health.
Results demonstrate that residents may be consistently under billing and choosing an incorrect level of service. A simple intervention such as a 2-item questionnaire to assist residents in choosing the correct level of service appears to have a modest effect on their practices.
Future projects could include assessing faculty's level of confidence in choosing a level of service billing code, auditing visits to determine how many are appropriately billed and assessing practice changes that could decrease the time required for Level 4 encounters.

14. ***Addressing COVID-19 vaccination rates in Patients with Opioid Use Disorder***

Monica Gupta, MD
University of Pennsylvania Family & Community Medicine Residency
monica.gupta@pennmedicine.upenn.edu

To increase the treatment given the growing opioid epidemic in Philadelphia, Penn Family Care has four Medication for Opioid Use Disorder (MOUD) sessions per week to provide care for our patients who are experiencing substance use disorder. Patients with opioid use disorder are at an increased risk of medical comorbidities including infection, psychiatric disorders, and trauma as well as increased risk for gaps in care. Substance use disorders are amongst conditions associated with high risk for severe COVID19 illness. People with substance use disorder were more likely to experience severe outcomes of COVID19 compared to those without, including hospitalization (41%vs30%) and death (9.6%vs 6.6%) (Wang et al 2020). During this COVID19 pandemic, we sought to increase the availability of COVID19 vaccinations and boosters for our patients at Penn Family Care.

The Slicer Dicer tool within EPIC was used to assess COVID vaccination rates before and after vaccines were offered in clinic. COVID19 Vaccines (Pfizer, Moderna, and J&J) were offered starting 8/10/21.
Of the patients in MOUD clinic being prescribed suboxone containing medication, 61% of patients received the COVID19 vaccine (Pfizer, Moderna, J&J) prior to 8/10/21. After the intervention of administering COVID19 vaccinations, over 4 months (through 1/10/22), 63.9% of patients in MOUD clinic received any COVID19 vaccine. This showed a statistically significant difference after the intervention took place.
Offering the COVID-19 vaccine in the same clinic that patients received treatment for their OUD statistically significantly increased COVID19 vaccination rate. Although a retrospective analysis showed the risk of COVID19 breakthrough infection among vaccinated patients with substance use disorders was overall low, it was still higher than the risk among vaccinated people without substance use disorder.

15. ***BC/LARC Access***

Hrisi Gueorguieva, MD
Tower Health/Drexel University Family Medicine Residency
hrisi.gueorguieva@gmail.com

Roughly 50% of pregnancies are unintended and as front-line providers in women's health, it is our responsibility to counsel and provide effective birth control methods for our patients. Yet many of our patients are unaware of the broad range of services we as family physicians can offer when it comes to family planning. LARCs are the most effective birth control method that we can offer, however these methods are underused and only 48% of family physicians offer IUDs and 12% offer implants after residency. There is evidence that the more LARCs placed during residency the more likely one is to continue to place them after training. It was noted that there was minimal amount of LARCs placed in our urban family medicine residency. The aim of this project is to decrease some of the patient barriers to BC/LARC access by standardizing our women's health visits and continuing to provide a yearly BC/LARC training to our residents. To standardize our women's health visits a "smartphrase" was created and shared with all residents. It incorporated BC counseling and offered LARC placement if the patient was interested. In addition, patients were asked if they knew we offered BC/LARCs. Currently the project is in the data collection phase. We are anticipating an increase in LARC placements as a primary outcome and low patient awareness of LARC placement as a secondary outcome. Future goals are creating an office workflow to streamline appointments.

16. ***Code Status Reconciliation for Hospitalized Patients***

Amin Almardini, MD
St. Luke's University Hospital
amin.almardini@sluhn.org

"Code Status" is an essential part of every patient's healthcare. Code Status refers to the type of emergent treatment a patient receives if their heart stops or if they are unable to breathe on their own. Sometimes, this decision is made without sufficient knowledge about the different options a patient has for their "Code Level". Therefore, clear communication regarding the patients' options at the time of admission is necessary in order to ensure the patient wishes are carried out correctly.
A quality initiative project was conducted at St. Luke's Hospital; Miners Campus from September 6th until 26th, 2021. Inclusion criteria: males and females age 18-65 years, admitted to the medicine ward, cognitively competent. Exclusion criteria: critically ill, experiencing signs or have

a history of psychiatric illness. Initial review of order entry in the charts for code status was assessed for data gathering. Various interventions were done including a discussion with participants describing code levels and resuscitation techniques, and Pre/post intervention questionnaires. Questionnaires included 2 questions each, with 3 points scoring scale.
A total of 56 patients were in the pre-intervention/post-intervention group. Pre-intervention survey showed that 35% of the participants did not have knowledge about Code status/resuscitation levels, 65% were aware about code status levels. Data as per the chart: 80% full code,10% DNR/DNI, 10%DNR only. Post intervention, a comparison between the documented code level in Epic and the participant's choice was recorded. Remarkable change was noted among participants. 50% remained full code, 30% DNR/DNI, 20% DNR only.
Little has been published regarding advance care planning documentation. Development of a systematic approach to encourage clear communication is critical to providing the best end of life care.

17. ***Improving Health Care Provider and Staff Comfort Using Naloxone in a Community Family Medicine Office***

Molly Kastner, MD
Abington-Jefferson Family Medicine
molly.kastner@jefferson.edu

This project aims to assess and improve family medicine office staff and provider access to, knowledge of, and comfort using intranasal Naloxone in an opioid overdose.
Both providers and staff were administered a pre-intervention survey regarding knowledge of and comfort using Naloxone, and likelihood of acquiring and carrying Naloxone to reverse an overdose. This survey was stratified by respondent office role. Following this survey, we provided education via a short video regarding administration of intranasal Naloxone and resources for acquiring free Naloxone. Study subjects were then reassessed via post-intervention survey.
Prior to educational intervention, interest in acquiring Naloxone was highest among providers at 100% compared to staff at 47%, however comfort using Naloxone in an overdose was low with 28% of all respondents indicating they were "comfortable or very comfortable" using Naloxone to reverse an overdose. Following intervention of a short instructional video, comfort using Naloxone in an overdose had increased, with 73% of all respondents reporting they felt "comfortable or very comfortable" using Naloxone. Post-intervention, 73% of respondents answered that they were "likely or very likely" to carry Naloxone, as opposed to 48% pre-intervention.
The family medicine office surveyed is located in an area facing high morbidity and mortality from opioid use disorder. Although health care providers, nursing, and staff in this office had an overall interest when surveyed in being able to provide Naloxone in an opioid overdose, prior to an educational intervention, very few felt comfortable administering this life-saving medication. After our intervention, interest in acquiring, comfort using, and likelihood of carrying Naloxone increased among all those surveyed. This quality improvement project shows that with a minimal amount of education and instruction, both providers and office staff are better equipped to provide rescue treatment in their medical offices.

18. ***Improving the Quality of Preoperative Assessment in a Family Medicine Residency Outpatient Clinic***

Oliver Ruiz, MD, Geisinger Lewistown Rural FMR
ohruiz@geisinger.edu

Preoperative assessment and optimization is a common task of family medicine physicians and is frequently performed at our residency continuity clinic. We have observed that pre-op assessments are not performed consistently and do not follow a standardized format. This project aims to improve the quality of preop evaluations at our clinic, educate residents on the individual components of a pre-op evaluation and create a standardized template to be utilized by residents. Methods: We performed a literature review to determine current guidelines for optimal pre-op assessments as well as to identify other residency program efforts to optimize these visits. We reviewed 20 preop assessments performed by residents and found them often lacking in the basic requirements of a preoperative evaluation. To address this, we developed a survey to assess resident baseline knowledge of pre-op assessment procedures and we will conduct this survey and present the findings of our literature review to the residency during a didactic session. We will repeat our survey after these interventions to demonstrate educational outcomes. A template was developed for our electronic medical record that standardizes pre-op assessment among the residency. Finally, we will review 20 pre-op evaluations that were performed after our project is complete in order to assess improvement in quality of preop evaluations. Our hope is that through this project, we will standardize and optimize the evaluation of a surgical patient at our residency.

19. ***Improving the Training in Core Outpatient Procedure by the Family Medicine Residents at a Community Hospital with a Multifaceted Intervention***

Feroza Patel, DO, WellSpan Good Samaritan Hospital
fpatel2@wellspan.org

Accreditation Council for Graduate Medical Education (ACGME) requires family medicine residents to be trained in core outpatient procedures. The Society of Teachers of Family Medicine Group on Hospital and Procedural Training group reached a consensus for a core list of procedures that all family medicine residents should perform by the time of graduation. Many academic generalists infrequently performed and rated their confidence performing or precepting them not nearly as high. We implemented a quality improvement project to investigate whether a multifaceted bundled intervention would improve the training of the family medicine residents in performing the core outpatient procedures.
Study design A quasi-experimental interrupted time series (ITS). Multifaceted bundled Intervention by establishing a dedicated outpatient procedure clinic for family medicine residents, informational campaign for patients about this new clinic, educational posters for family medicine residents, and implementing a procedure skill training program for residents by expert speakers once a month. Two baseline cross-sectional surveys will be done to assess patients' awareness about outpatient procedures offered by the family physician and the confidence level of the family medicine resident to perform the common outpatient procedures independently. These would be compared to the post-intervention cross-sectional surveys.
Statistical Analysis: Interrupted time series analysis, comparing slopes and level change four months before and four months after the bundled intervention, analyzed using segmented linear regression in JMP software.
The research is currently in progress. The authors predict that using multifaceted intervention would improve the total number of procedures per resident, training, and overall confidence to perform core outpatient procedures after graduation independently.

20. ***Prenatal Vitamins to Reduce Maternal Morbidity and Mortality: A Unique Family Medicine Approach***

Noora Siddiqui, MD, University of Pennsylvania Family and Community Medicine Residency
noora.siddiqui@pennmedicine.upenn.edu

Preconception care is an underutilized public health intervention that could alter the trajectory of rising perinatal morbidity and mortality. Multivitamins containing folic acid, known as prenatal vitamins (PNVs), taken prior to conception reduce pregnancy complications. Unfortunately, the majority of patients planning a pregnancy do not take adequate folate supplementation prior to pregnancy.

The purpose of my project is to identify barriers in our population and facilitate wider distribution of PNVs to those at greatest risk for subsequent pregnancy to help prevent birth defects and low birth weight infants. Our initiative would be to improve interventions for our high risk patient demographic at Penn Family Care during well child visits with birthing parents present and to increase the rate of prenatal vitamin use at subsequent visits after vitamin distribution.

To implement this initiative, I applied for a medication distribution exemption, performed a root cause analysis and fishbone diagram, and utilized the Minimize Preterm and Low Birth Weight Infants through Continuous Improvement Techniques (IMPLICIT) ICC model used in well child visits to identify patients at risk and extract data on our clinical performance. My hypothesis is that barriers to accessing and obtaining PNVs include inconvenience, transportation, and cost, and I suspect that providing improved interventions, such as presenting patients with a bottle of vitamins at their visit, will increase access to care and continued vitamin use.

21. ***Reducing Short-interval Pregnancies Through Enhanced Contraception Counseling***

Thomas Anderson, MD, University of Pennsylvania Family and Community Medicine Residency
thomas.anderson@pennmedicine.upenn.edu

Short interval pregnancies are an important source of laboring patient and infant morbidity. A significant proportion of patients in the postpartum period at a large urban family medicine obstetrical practice are discharged without indicating any plan or desires surrounding contraception. Realizing that contraception discussions are frequently racist and paternalistic, our goal is to increase the number of patients who have an articulated plan at the time of discharge which may include an informed decision not to prevent a short-interval pregnancy. We aim to implement a standardized approach to postpartum contraception counseling during the prenatal period in an attempt to improve patient self-efficacy postpartum. Over a two-week period, we aim to implement a standard practice regarding contraception counseling in this period. In a four-week period, we aim to collect and analyze data on changes in outcomes regarding articulated contraction plans.

This ongoing research will inform the feasibility and acceptability of this intervention and inform future research on behavior change in this arena.

22. ***Team Integrated Approach to Depression Screening and Improving Follow-up Retention in an Outpatient Setting***

Jonathan Tran, MD, St Luke's University Health Network
jonathan.tran@sluhn.org

This quality improvement project aimed to increase screening rates for clinical depression in adults in our FQHC-LA Family Medicine Residency Clinic.

This is a single-center study approved by the institutional review board. Our clinic had an initial 58% compliance rate for screening for depression, below the network goal of 80%. We sought to

increase screening rates by 20% over a 6-months period. Using our EPIC EMR value-based dashboard we identified patients in need of depression screenings and/or subsequent follow-up assessments on a monthly basis. Clinical staff was tasked to contact patients to schedule appointments and clinicians were notified of patients due for this screening.
At the completion of 6 months, our screening rate increased to 70%. Patients with positive screening tests for depression were subsequently initiated on pharmacotherapy and/or referred to behavioral health services when appropriate.
Rates of depression have been increasing in the United States and depression is the leading cause of disability worldwide. The USPSTF recommends screening for depression in the general adult population when adequate systems are in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up (Grade B), however a survey published in 2017 showed that less than 5% of adults are screened for depression in the primary care setting. Screening is important because if left untreated, depression may lead to suicide. There is also a tremendous economic burden of major depressive disorder. Moving forward it is our hope to continue to focus on this important screening for our patient population and use a multidisciplinary approach to care for our patients.

Caegory: Research Design

23. ***Risk of Postpartum Depression Among Emergency and Elective Cesarian Section: Retrospective Cohort Analysis from A Large Integrated Health System from Central PA***

Zainab Anwar, DO
Wellspan Good Samaritan Hospital Family Medicine
zanwar@wellspan.org

A meta-analysis of original studies suggests that both elective and emergency cesarean section increase the risk of Post-partum Depression (PPD). Prevalence of postpartum depression was found to be significantly higher after emergency caesarian section especially at the eighth and sixteenth postnatal weeks (compared to elective cesarean section and normal vaginal delivery). While many emergency cesarean sections are unavoidable. Factors such as age, race, history of depression, history of anxiety and emergency cesarean section might be associated with the development of PPD after emergency cesarean section. This study aims to explore the relationship between the emergency cesarean section with PPD in a large cohort from central PA. This is a retrospective cohort study. The SlicerDicer tool in Epic slicer is being used to select the population of patients who underwent elective or emergency cesarean section from Jan 2018 to Dec 2020. Demographic information will be collected. They will be followed retrospectively for 12 months to slice and dice for any depression ICD codes or new start of SSRIs or other anti-depression medications. Patients with history of depression with prior to the cesarean section and new start of SSRI or other anti-depression medications will be analyzed as a subset. Logistic regression model using SAS version 9.4 will be used to analyze the data. Results: The data is under the collection phase currently and will be available at the time of presentation. We expect that emergency cesarean section will increase the risk of PPD more than elective cesarean. This study will add to existing body of literature indicating that emergency cesarean section represents a specific form of birth trauma and increases risk of PPD. This study will add to any demographics associated with increased risk of PPD among those undergoing cesarean section.