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POSTER: 1

"Lyme Carditis: A Rare Presentation Of Sinus Bradycardia Without Any Conduction Defects"

CATEGORY: Research

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Learning objectives 1. To add to the knowledge gap between the suspicion of Lyme carditis and sinus bradycardia as the only presenting symptom. Case summary A 56-year-old male with a history of hypothyroidism presented to the emergency room with lightheadedness and chest pain. Vital signs were significant for a heart rate of 33 beats per minute (60-100 beats per minute). Physical examination was unremarkable. He had no jugular venous distension (JVD), or carotid bruits, normal S1 and S2 heart sounds, no murmurs, and bradycardia with a normal rhythm. His electrocardiogram (ECG) revealed sinus bradycardia with a heart rate of 49 beats per minute, without ST segment elevation, T wave inversions, or signs of heart block. An enzyme-linked immunosorbent assay (ELISA) Lyme titer was elevated at 2.89 (0-0.9), and a confirmatory western blot was positive for IgG and negative for IgM. He was treated with IV Rocephin; however he continued to have persistent bradycardia with his heart rate dropping to 20 to 30 beats per minute throughout the night. Additionally, he had several sinus pauses while sleeping, with the longest lasting for 6.1 seconds. A pacemaker and an additional 3-week course of IV Rocephin was determine to be the best route of treatment for his resistant bradycardia secondary to Lyme carditis. No symptoms were present at his 1-month follow up appointment, as an outpatient, after completing Rocephin therapy. The patient follows with cardiology regularly to check his pacemaker. Conclusion Lyme carditis is a rare cardiac manifestation of Lyme disease, which occurs when bacterial spirochetes infect the pericardium or myocardium triggering an inflammatory response. The most common ECG findings in these patients include atrioventricular (AV) conduction abnormalities (first, second, and third degree heart block). There have been no reported cases of Lyme carditis presenting without conduction abnormalities. A high clinical suspicion of Lyme carditis is required when someone from a Lyme endemic region presents with unexplained cardiac symptoms and ECG abnormalities.

POSTER: 2

"A Case Report of a rare association between Chronic Lymphocytic Leukemia (CLL) and Minimal Change Disease (MCD)"

CATEGORY: Research

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Learning Objectives 1. To review the rare association between CLL and MCD. 2. To discuss the role of B-lymphocytes in the pathophysiology of MCD. Case Summary A 65 year-old Caucasian female with a history of chronic lymphocytic leukemia (CLL), hypertension, and hypothyroidism presented to the emergency department with lower extremity swelling and a 32 pound weight gain over 4 weeks. Physical examination revealed moderate abdominal distension and 2+ bilateral pitting edema. Significant laboratory studies included: White blood cell (WBC) count 34.5 K/ul (4.5-11.0 K/ul), lymphocyte percentage of 74.4% (25-43%), total protein 5.2 g/dl (6-8 g/dl), albumin 1.0 g/dl (3.5-5 g/dl). Lipid panel was significant for total cholesterol of 374 mg/dl (<200 mg/dl), an LDL of 280 mg/dl (<130 mg/dl) and triglycerides of 177 mg/dl (<150 mg/dl). Urinalysis was significant for urine protein greater than 500 mg/dl (negative mg/dl). The patient's urine protein to creatinine ratio was 6500.69 mg/g (0-200 mg/g) and her 24-hr urine total protein was 16880 mg (50-100 mg). A renal biopsy was obtained from the left kidney. Light microscopy revealed glomeruli of normal size and cellularity with normal thickness of the glomerular basement membrane. Electron microscopy showed complete effacement of the foot processes and no electron dense deposits. Immunofluorescence revealed intracapillary, ill-defined positivity of 1-2+

intensity for IgM which was reflective of circulating monoclonal IgM-lambda in the setting of marginal zone B-cell lymphoma. The patient was initially diuresed with lasix and metolazone. The renal biopsy findings were consistent with a diagnosis of minimal change disease (MCD) associated with marginal zone B-cell lymphoma, and the patient was prescribed high dose prednisone and given rituximab as an outpatient. After six weeks on rituximab therapy, the patient's urine protein dipstick was negative. Conclusion Nephrotic syndrome with underlying malignancy is not unusual, but its association with CLL is very rare. Medical literature shows an ample amount of evidence mentioning the role of T- Cells in the disease process. Recently, there is an increasing amount of research citing the role of B-cells in the pathophysiology. Since CLL is a B-cell disorder, its association with minimal change disease and significant improvement after treating with rituximab (monoclonal antibody that depletes CD 20+ B-cell population) validates the role of B-lymphocytes along with T-lymphocytes in the disease process.

POSTER: 3

"Parainfluenza Type-I Perimyocarditis Masquerading as an Acute ST Segment Elevation Myocardial Infarction"

CATEGORY: Research

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Learning objectives 1. To discuss a unique case, which aims to educate clinicians on perimyocarditis and parainfluenza virus. 2. To recognize parainfluenza virus as a potential causative organism of perimyocarditis. Case summary A 21-year-old male with a past medical history of ADHD, anxiety, and depression presented to the emergency department with chest pain rated 7 out of 10 in intensity, which was localized to the middle of the chest. Vital signs were significant for a heart rate of 101 beats per minute (60-100 beats per minute). Physical examination was unremarkable. No jugular venous distension or carotid bruits were appreciated. He did not have any tenderness on palpation of the chest wall. The patient had normal S1 and S2 heart sounds and no murmurs were heard on auscultation. He was tachycardic with a regular rhythm. There was no precipitation of the chest pain with movement. Laboratory results were significant for a first troponin of 2.04 ng/ml (<0.04 ng/ml), a second troponin of 12.05 ng/ml, and a third troponin of 10.87 ng/ml. The patient's EKG showed ST segment elevation in anterolateral leads. He was taken for immediate coronary catherization, which revealed no significant obstructive coronary artery disease, spasm, or dissection and an ejection fraction (EF) of 55-60% (55-70%). The next morning another EKG was completed due to the persistence of chest pain. Repeat EKG revealed diffuse ST segment elevation. An echocardiogram was completed and showed a normal EF of 60-65% and evidence of regional wall motion abnormalities, specifically hypokinesis of the basal inferior segment. The patient was treated with Ibuprofen, Pantoprazole, and Metoprolol tartrate. Upon follow up with his primary care physician, he was found to have an elevated parainfluenza Type 1 antibody. Conclusion The etiologic agents of perimyocarditis include both viral and bacterial pathogens. These organisms have cytotoxic or cytolytic effects on myocytes triggering inflammation of the pericardium and myocardium. Patients may be asymptomatic or experience chest pain, flu-like symptoms, or even symptoms of heart failure. Parainfluenza is a respiratory virus, which is a common cause of Croup in pediatric patients. Few cases of perimyocarditis secondary to parainfluenza virus have been described. Since the etiology of perimyocarditis is typically a viral illness and parainfluenza has been a concerning cause of a variety of illnesses in the region, it is important to recognize this as a causative agent of this potentially deadly disease.

POSTER: 4

"A Rare Presentation Of Systemic Sclerosis With Vasculitic Features"

CATEGORY: Research

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Learning objectives 1. To discuss a rare case of Granulomatosis with Polyangiitis associated with Systemic Scleroderma Case summary A 69-year-old female with a past medical history of scleroderma, pulmonary fibrosis, immune thrombocytopenia purpura (ITP), and atrial fibrillation presented to the emergency department with hemoptysis, which began 3 weeks prior to admission. She also reported malaise, recent shortness of breath, sores in her mouth, diffuse body aches, and a diffuse rash most prominent on her abdomen, trunk, upper and lower extremities. The patient was admitted to the hospital one-month prior and significant laboratory results included a creatinine of 0.9 mg/dl (0.44-1.00 mg/dl). A CT scan of the chest without contrast completed which showed bilateral pulmonary nodules. A lung biopsy was postponed because she went into atrial fibrillation with rapid ventricular response. The patient was started on Cardizem and Xarelto; however, her Xarelto was discontinued as an outpatient once she began having hemoptysis. Vital signs were within normal limits. Physical examination was significant for a non-blanching erythematous rash present diffusely on the upper and lower extremities as well as the trunk and abdomen. On auscultation of the lungs, there were diffuse rhonchi heard throughout all lung fields. Additionally, she had bilateral pitting edema (1+) of the lower extremities. Laboratory studies were significant for creatinine 3.62 mg/dl (0.44-1.00 mg/dl), BUN 59 mg/dl (5-25 mg/dl), ferritin 480.9 ng/ml (11-307 ng/ml), C3 complement 74.2 mg/dl (85-170 mg/dl), C4 complement 11.9 mg/dl (85-170 mg/dl), serline protease3 972 AU/ml (0-19 AU/ml), myeloperoxidase antibody IgG 26 AU/ml (0-19 AU/ml), neutrophilic cytoplasm antibody IgG 1:2560 (<1:20), ANA 5.12 (0-0.90), rheumatoid factor 95 iU/ml (<20 iU/ml), CRP 6.13 mg/dl (0-0.744 mg/dl). Renal biopsy showed focal segmental necrotizing and crescentic glomerulonephritis with mild mesangial proliferative features predominantly pauci-immune type (anti-PR3 and anti-MPO ANCA). The patient was given 500 mg of Solumedrol followed by 2 doses of 1000 mg over 3 days. She was then converted to oral prednisone 60 mg PO daily. She underwent plasmapheresis with fresh frozen plasma (FPP) every other day for 7 treatments and was given IV Cytoxan monthly. The patient's acute kidney injury improved and she did not experience any more episodes of hemoptysis while hospitalized. Conclusion There are very few reported cases of systemic sclerosis with positive ANCA antibodies. Granulomatosis with polyangiitis (Wegner's granulomatosis) involves small and medium-sized blood vessels that involve respiratory tract and the kidneys most commonly but it can affect many other organs. As there is an overlap of organ systems involved in both systemic sclerosis and granulomatosis with polyangiitis, clinicians must be forethoughtful about the disease presentation. Some investigators reported that ANCA positivity in Systemic sclerosis is a red flag and draws attention. So, it is very important not to overlook the characteristic clinical manifestations of vasculitis during the clinical course of Systemic sclerosis.

POSTER: 5

"Chronic COPD with acute exacerbation and incidental hyponatremia"

CATEGORY: Clinical Inquiry

AUTHOR(S):

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Introduction: Hyponatremia is one of the most common electrolyte disturbances seen in hospitalized patients. Patients with history of chronic COPD and associated hospitalizations for exacerbations can have different outcomes if associated with severe hyponatremia. In an observational review of 424 patients, R. Chalela et. Al reported 67% prevalence of hyponatremia on admission, 15.8% frequency of hyponatremia and 6% persisted with low sodium levels either at their death or time of discharge. The increase in mortality is evident in those with severe hyponatremia. The pathophysiology of hyponatremia in hospitalized patients can vary with different clinical conditions, however paraneoplastic etiologies is highly suspicious in COPD patients who have no clear etiology of hyponatremia. Mental status changes can be seen with severe hyponatremia, however moderate hyponatremia (Na < 130 meq) should be monitored judiciously as it exhibits better discriminatory power of death prediction. Case presentation: We present a case of 58-year-old Caucasian female with no significant past medical history who presents with several weeks of worsening cough and shortness of breath. It was associated with hemoptysis, decrease appetite and weight loss with history of 40 PPY cigarette smoking. On primary survey, her airway was patent, respiratory rate was 18 breaths per minute with an oxygen saturation of 96% on 2 liters' oxygen via nasal cannula. Decreased breath sounds as well as bilateral diffuse wheezing and rhonchi were auscultated. Heart rate was 106 beats per minute with a blood pressure of 132/74 mm Hg. Clinically, the patient appeared calm and hemodynamically stable; neurologically, she was non-focal without any deficits. Secondary survey was grossly unremarkable aside from mild mucosal cyanosis and clubbing of fingers. Chest X-ray demonstrated retro-cardiac airspace opacity, possibly related to pneumonia versus atelectasis (Fig. 1). CT Chest without IV contrast demonstrated new lobular mass like opacity in the medial infrahilar left lower lobe with adjacent smaller nodular opacities worrisome for primary bronchogenic carcinoma and

possible post-obstructive pneumonia (Fig. 2). She was started on Vancomycin and Zosyn to treat her pneumonia and her lung biopsy read small cell carcinoma of lung. Her hyponatremia was moderate to severe and fluctuant through out her hospital course (Fig. 3). Patient was seen by oncologist who recommended outpatient chemotherapy treatment. Pulmonologist reported poor prognosis and upon further discussion with patients' family, she was made DNR/DNI. Discussion: This case illustrates the prompt evaluation of hyponatremia in hospitalized patients and judicious monitoring of sodium levels. In a case control study of 166 patients, Abouem et. Al reported that hyponatremia was present in 2.4% of patients with a blood analysis and was associated independently with solid tumors and hospital death. Our patient in this case did not have PMD due to insurance issues, but it reflects the importance of smoking cessation, diagnosing the disease (COPD) in early stages, and initiating early treatment. Many cases of hyponatremia have been reported in different clinical conditions, however the importance of paraneoplastic syndrome producing ADH in realm of small cell carcinoma of the lung, reflects the importance of hyponatremia in COPD patients.

POSTER: 6

"Understanding the experience of IUD self-removal through online forums: a qualitative analysis"

CATEGORY: Research

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Objective: Some IUD users self-remove their IUDs, and these experiences with self-removal are not well understood. This study examines what IUD users post in online forums about their experience with IUD self-removal, as well as advice and questions shared among users about self-removal. Methods: This study uses qualitative analysis of online forum postings about IUD self-removal. We analyzed the data using inductive and deductive content analyses. Results: IUD users report a variety of experiences with self-removal. Some users report successfully removing the IUD on the first attempt, describing the process in terms such as "quick," "easy," and "painless". Other users report multiple unsuccessful attempts, often citing difficulty pulling the IUD strings. We did not encounter IUD users describing complications of their own self-removal attempts. Many IUD users described their successful removal techniques. Many users utilized the forum to ask questions about IUD self-removal methods and timing in relationship to their menses, pain, when to seek medical intervention, and the effects on their future fertility. Conclusions: The online forum setting is a unique community outside of the medical setting where IUD users can share their experiences, concerns and questions about self-removal with other IUD users. Understanding IUD users' experiences and questions about self-removal may improve access to IUD self-removal when desired.

POSTER: 7

"Contraception initiation and continuation after early abortion in a family medicine setting"

CATEGORY: Research

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INSTITUTION: Rutgers Robert Wood Johnson

DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Purpose: The aim of this study is to describe the types of contraceptives chosen by patients and subsequent pregnancy rates among patients who have an abortion in a Family Medicine center. Methods: Study Design: 5-year retrospective chart review. Setting/Intervention: One family medicine office: Participants: 350 patients who have a documented elective abortion (medication or aspiration). Excluding patients diagnosed with a miscarriage, those who have received referrals for an abortion at another facility and present for follow up, and those subsequently diagnosed with a molar or ectopic pregnancy. Measures/Main Outcomes: abortion follow-up care, contraception initiation or change, and subsequent pregnancy within 1 year of the abortion. Analyses: Identify the proportions of patients who accessed

contraception within 1 month of their abortion and those who had subsequent pregnancy within 1 year of their abortion using Chi-Square and Fisher's exact analysis RESULTS: Approximately 70% of patients are provided with a contraceptive method within 30 days of completion of their abortion. Of those 70% who received a contraceptive method, approximate 30% chose a LARC method (IUD or Nexplanon), 30% chose OCPs, 30% chose OTC methods, such as condoms or withdrawal, and last 10% pursue permanent methods, such as Tubal ligations and vasectomies). There is no difference in contraceptive methods based on abortion location. Approximately 40% of patients lost to follow post-abortions due to population and the office as a referral site. This limitation also affected the portion of women who continue their primary care in our office and subsequent pregnancy outcomes 1-year following an abortion. CONCLUSION: The primary care setting is uniquely equipped for providing abortions and post-abortion contraception with close primary care follow up. The majority of patients received their desired contraception following the abortion in a family medicine setting with few documented pregnancies within 1-year post-abortion procedure. There was a high expectation of patients lost to follow post-abortions due to population and referrals, which affected the portion of women who continue their primary care in our office and subsequent pregnancy outcomes 1-year following an abortion. More research is needed to evaluate whether patients who do not follow-up in the office, received contraceptive provisions at other desired locations.

POSTER: 8

"Rapid progression of necrotizing fasciitis in the setting of an undiagnosed hematologic malignancy"

CATEGORY: Clinical Inquiry

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ABSTRACT: A 65-year-old female presented with pain and swelling on the right lower extremity. She originally noticed a small area of redness near the lateral malleolus, but stated that it was rapidly expanding. She denied any trauma to the area, or recent insect bites. Just prior to admission, her temperature at home was 104 F. On admission to the emergency room her vitals were as follows: blood pressure of 80/50 mmHg, heart rate of 120 bpm, and temperature of 97.1 F. Physical exam was significant for inguinal lymphadenopathy and a 15 x 10 cm area of expanding ecchymosis with bullae formation on the right medial thigh, as well as increasing cellulitis of the lower leg with areas of ecchymosis and blistering of the skin. LABS: BUN 37 mg/dL (5-25), creatinine 1.32 mg/dL (0.44-1.00), lactic acid 6.1 mmol/L (0.5-2), and white blood cell (WBC) count 6.9 K/uL (4.5-11). IMAGING: CT of right lower extremity showed moderate cellulitis and edema, however no subcutaneous emphysema was seen to suggest the presence of a necrotizing fasciitis. Even though there was no subcutaneous emphysema, the rapid expansion of the cellulitis and ecchymosis was worrisome for necrotizing fasciitis. Patient was started on Imipenem and Linezolid and was emergently taken to the operating room. She underwent debridement of the skin, muscle, and fascia of the right leg, fasciotomy of right medial thigh, and fasciotomy of right medial and lateral lower leg. Deep wound cultures grew Group A streptococcus, so patient was started on Clindamycin and intravenous immunoglobulin for toxic shock syndrome prophylaxis. Throughout the course of her treatment, she underwent four debridements. On her second day of admission, the patient's WBC count increased to 46.9 K/uL (from 6.9). Her WBC count continued to increase, with the highest being 100.6 K/uL. It was also noted that her lymphocyte percentage increased to 84% (25-43%). At this point, hematology/oncology was consulted. The patient was worked up for and diagnosed with chronic lymphocytic leukemia (CLL). Workup included flow cytometry, which showed DC5+/CD23+ monoclonal B cell population (consistent with CLL) and Beta 2 microglobulin, which was 5.4 mg/L (1.1-2.4).

POSTER: 9

"Identifying Sexual and Gender Minorities at the NHC, HUMC"

CATEGORY: QI

AUTHOR(S):

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: BACKGROUND: Sexual and gender minorities make up approximately 3% of the population. LGBTQ+ individuals face health disparities, societal stigma, discrimination, and denial of civil and human rights. Healthcare disparities include higher rates psychiatric disorders, substance abuse and suicide. Healthcare disparities among the LGBTQ+ populations have been established and it is now part of Healthy People 2020 goals. There are many benefits of addressing these health concerns and reducing disparities which include reductions in disease transmission and progression, increased physical well-being. Efforts of Healthy People to improve LGBTQ+ health include increasing the identification of LGBTQ+ patients in order to identify disparities. OBJECTIVE: The goal of this project is to improve the identification of LGBTQ+ patients at the Neighborhood Health Center (NHC). DESIGN/METHODS: A lecture was given to the Family Medicine residents about the healthcare disparities that affect sexual and gender minorities. Self-reported pen and paper, waiting room social history intake form was used to obtain sexual history, orientation and gender identity. Random chart audit was conducted after implementation of patient intake form. RESULTS: Random chart audit was done on 170 charts. A self-reported social history intake form was completed on 30% of patients. Of these, 3% of the patients identified as sexual and/or gender minorities. Forty percent of these minorities had history of STIs and 60% are not practicing safer sex. No significant differences were noted in tobacco or alcohol abuse. CONCLUSION: Identifying LGBTQ+ patients is the first step in closing the health care disparities gap and increasing access to preventive care. The self-reported patient intake forms assisted in identifying LGBTQ+ patients at the NHC. The prevalence at the NHC is consistent with the general population. Of those identifying as sexual minorities, 40% had history of STIs, and 60% are not practicing safer sex, highlighting a disproportionately high rate and risk of STIs. Forty-six percent of patients did not have a sexual history documented. The social history intake form has the potential to improve identification and risk stratification of all of the patients at the NHC. All patients identified as LGBTQ+ should be offered safer sex education and STI screening. Limitations of the study include small sample size, short time interval for implementation of intake form. Barriers to the study include inconsistent distribution of form to patients and improper scanning of the forms.

POSTER: 10

"Are We Properly Assessing and Advising Obsese Patients on Dietary and Exercise Inverventions at the NHC?"

CATEGORY: QI

AUTHOR(S):

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: BACKGROUND: The primary care center is an important setting for obesity management, yet many primary care providers feel ill equipped to address obesity. According to the CDC, the prevalence of obesity in the US is approximately 39.8% and effects roughly 93.3 million adults. Obesity related conditions include Type 2 diabetes mellitus, heart disease, stroke, and certain types of cancer. Using a modified 5A model (Ask, Assess, Advise, Agree, Assist) physicians can use an evidence-based behavioral intervention strategies that have the potential to improve the success of obesity management in the primary care setting.1 OBJECTIVE: To determine if physicians at the NHC are properly counseling Obese patients on lifestyle modification and exercise intervention to maximize control and results. DESIGN/METHODS: Phase 1: A randomized retrospective chart review of patients seen between September 1, 2018 and December 31, 2018 who had a diagnosis of Obesity (BMI>30.0) was done. Physician documentation of what was discussed during the encounter was evaluated. Phase 2: Education about a modified 5A assessment tool was provided to residents and faculty to be implemented for all those patients who had a diagnosis of Obesity. Phase 3: A subsequent randomized chart review of patients seen between March 1st and April 15th to assess for implementation of the 5A approach and review goals, plan and follow-up. RESULTS: 100 charts were selected at random from Sept 1, 2018 to Dec 31, 2018 for patients whom had a diagnosis of Obesity with BMI 30.0 or greater. 77 patients were found at have been counseled on their obesity. Of the 77, zero were counseled using a "5A model". A handout was generated to be given to patients prior to the encounter with the physician. The handout included questions based on the 5As. During March 1st to April 15th 2019, a physician champion was in place to monitor and supervise this counseling. In that time period, a total number of 41 patients were counseled based on how they answered the "5A" Questionnaire compared to 50 other patients who were counseled with other methods. The interval period was too short to measure any changes in weight when compared to other methods. Limitations included that not each patient with a BMI of 30.0 or greater presented for well visits, language barriers, support staff feeling overwhelmed, and several patients also refused counseling. CONCLUSIONS: The primary care setting remains the forefront

for managing chronic conditions in patients especially those who are obese and at risk for other comorbities. Our QI improvement focused on standardizing obesity counseling as well as tailoring strategies and plans specifically for our patients. Our clinic was found to be offering adequate obesity counseling, however using a 5A model, it could be possible to standardize our approach to counseling in an underserved family medicine residency setting.

POSTER: 11

"Is there an effect on BMI S/P Concussion?"

CATEGORY: QI

AUTHOR(S):

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INSTITUTION: New York Medical College at Hackensack University Medical Center
DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: BACKGROUND: A concussion is any injury to the brain that disrupts normal brain function on a temporary or permanent basis. Concussions are typically caused by a blow or jolt to the head. Concussions can happen in any sport but more often occur in collision sports, such as football, rugby, or ice hockey. Concussion has both acute and chronic consequences on the brain. After concussion, there is a cascade of molecular changes in the brain that affect performance acutely and increase vulnerability for repeat injury. Repeat brain injury causes a multitude of cerebral deficits that are studied clinically, histo-pathologically, and by neuroimaging. These effects can be long-lasting and potentially debilitating1. Concussion affects several cortical and subcortical regions and systems. The extent and chronicity of disability is yet to be elucidated in children. Using new imaging techniques, subclinical changes are found in the concussed brain2. A possible consequence is hypothalamic obesity. Hypothalamic obesity is a complex neuroendocrine disorder caused by damage to the hypothalamus, which results in disruption of energy regulation3. Treatment of the pediatric population involves a number of unique concerns with respect to the developing brain. The youth athlete appears to be more susceptible to concussion and requires more time to recover, thus putting him or her at higher risk for both acute catastrophic events and long-term sequelae. To ensure optimal outcomes it is important to tailor an individualized, multifaceted approach to the athletic, school, family, and social environments to which each child is returning4.
OBJECTIVE: Determine changes in BMI s/p concussion in adolescents 12-18 years old.
DESIGN/METHODS: This study is a retrospective chart review of 100 randomly selected patients between the ages of 12-18 years of age with a diagnosis of concussion from Saint Joseph's Pediatric Concussion Clinic. Exclusion criteria are patients below the age of 12 and above the age of 18. Data collection consists collecting BMI's at baseline, 1 month, 3 months, and 6 months. The primary endpoint of the study is to observe changes in BMI.
RESULTS: Data was analyzed and the was no significant statistical difference in BMI from baseline compared to 1 month, 3 months, and 6 months
CONCLUSIONS: There is no evidence of hypothalamic obesity post-concussion based on the study's timeframe of up to 6 months. The 17 year old age group showed the greatest transient BMI increase which did not return to baseline within 6 months.

POSTER: 12

"Face to Face Patient Education to Increase Exclusive Breastfeeding Rates at the NHC"

CATEGORY: QI

AUTHOR(S):

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: BACKGROUND: Exclusive breastfeeding is recommended for the first 6 months of life by the AAFP. The WHO recommends a minimum of two years of breastfeeding. The CDC reports although breastfeeding rates at birth are 83.2 %, exclusive rates drop at 3 months to 46.9 % and 12 months to 35.9 %. Any amount of breastfeeding is better than none, and greater benefits accrue with increased duration. Current Neighborhood Health Center (NHC) exclusive breastfeeding rate is 20% at the 6 weeks postpartum visit. The national Healthy People 2020 goal is 46.2% at 3 months and 25.5% at 6 months. The top three reasons why women stop breastfeeding are: Insufficient milk supply (31%), Inadequate latch (19%), painful

nipples or breasts (12%). Literature suggests the most effective strategy to increase exclusive breastfeeding rates is face to face education
OBJECTIVE: To assess if a face to face patient education increases exclusive breastfeeding rates at the NHC.
DESIGN/METHODS:
Inclusion criteria: All pregnant patients receiving care at the NHC were offered to participate in breastfeeding education. A baseline patient survey was completed for two months for a total of 71 patients.
Exclusion criteria: Any patients who did not want to receive breastfeeding education and postpartum patients.
Intervention: The face to face education included: education to medical providers including residents, faculty and nursing staff. Face to face discussion by providers during 3 prenatal visits at 11 weeks, 24-26 weeks and 35 weeks of gestation. The discussion with patients included exclusive breastfeeding benefits, reasons women usually stop breastfeeding. A handout was given to patients. It included lactation support services available to patients in the local area. A subsequent chart review of the six week postpartum visit to determine the exclusive breastfeeding rates was done.

RESULTS: 71 patients were surveyed for baseline data. Patients reported 77 % intent to breastfeed for an average of 12 months. Only 49 patients (69 %) had breastfed in the past; 19.7% exclusively and 47.8% combined. Main reason for discontinuing breastfeeding was low milk supply (18%) and returning to work (15%). In regards to patient beliefs on the benefits of breastfeeding, 73% believe it's beneficial for the mother and 82% believe it's beneficial for the baby. At the present point in the study, 52% of patients have delivered and 62% are currently exclusively breastfeeding.
CONCLUSIONS: Face to face antenatal breastfeeding patient education increased exclusive breastfeeding rates at the NHC from 20% to 62 % with 52% of the patients eligible for analysis. Specific patient education should target the main reasons why patients discontinue breastfeeding including: low milk supply as physiologic in early neonatal period, details on pumping and going back to work. Breastfeeding education should occur once per trimester and continue at the postpartum period.

POSTER: 13

"Are We Counseling and Documenting Patients Decisions regarding Advanced Care Planning at the NHC?"

CATEGORY: QI

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: BACKGROUND: Advanced care planning has been a subject not commonly discussed with adult patients. Data regarding completion rates of advanced care directives in the US is inconsistent as shown in a systematic review of studies published from 2011 to 2016. This review showed that among 150 studies which included 795,909 people, 37% had completed an advanced directive R5 The US elderly population is increasing every year, with an estimated population of 70.8 million adults over age 65 by the year 2035. Advanced care planning is important to ensure patients' wishes and preferences are implemented in the event they are unable to communicate these decisions. The CDC emphasizes the importance of advanced care planning stating that cooperation and collaboration between health care professionals and patients can improve experiences associated with serious illness or end of life decisions for our patients' and their families R1. It is important to have this discussion early with our patients as the risk of an incapacitating medical condition increases as we age. OBJECTIVE: To increase rates of advanced care planning at the Neighborhood Health Center (NHC) by promoting the conversation and improving documentation of advance care planning between the primary care physician and the patient. DESIGN/METHODS: Phase I: EMR inquiry of 25 charts of randomly selected adult patients 50 yrs. and older at NHC seen from January 1st , 2018 to December 31 st , 2018 to see if advance care planning was discussed and documented. Phase II: Workflow created in which an education session will take place with the residents of NHC to inform/discuss with residents how to start the conversation on advanced care planning with adult patients age 50 and older, and also to provide instructions on how to document this discussion in the pt.'s chart in the preventative medicine notes section. Handouts will be given to patients 50 yrs. and older in the waiting area at the NHC with information on advanced care planning. A copy of the POLST form will also be provided. Oral feedback will be solicited from residents regarding implementation of workflow and any barriers encountered. Phase III: Review of 100 charts of randomly selected adult patients 50 yrs. and older at NHC seen from February 15th, 2019 to April 30th , 2019 to see if advance care planning was discussed and documented. RESULTS: There was a 4% increase in discussion and documentation of advanced care planning in patients 50yrs and over at NHC. CONCLUSIONS: While the objective was met, the increase in rate of discussion and documentation of advanced care

planning was minimal. Barriers identified include: physician time constraints, and staff feeling overwhelmed with the added task of handing out printed material. Study limitations were: short time frame, small sample size for implementation of phase II, printed material intermittently not handed out.

POSTER: 14

"Prevalence of Stress Urinary Incontinence in Intercollegiate Female Student-Athletes Compared to Sedentary Female Students"

CATEGORY: Research

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Background: There has been little research about the prevalence of stress urinary incontinence (SUI) specifically in college-age female athletes and even fewer studies comparing them to sedentary women of similar age. It is posited that sports that significantly increase intra-abdominal pressure, i.e. sports that require significant amounts of jumping or pounding, have a higher prevalence of SUI. This study contributes to previous research by creating a comparison study using female athletes participating in multiple sports with varying intensity/impact and a similar number of control participants, to determine the prevalence of SUI in collegiate female athletes compared to more sedentary collegiate women of similar age. Preliminary data suggests that there is a higher prevalence of SUI in female intercollegiate student athletes compared to their more sedentary female classmate.

Methods: Design: This is a cross-sectional survey study of 136 female students (76 female athletes and 60 female non-athletes) to investigate the prevalence of SUI. Surveys include demographic data, athletic event/sport if applicable or level of physical activity weekly, and genitourinary history. Participants have also completed an SUI questionnaire, which is a combination of questions from the International Consultation Incontinence Questionnaire-Short Form, ICIQ-SF, and the Urogenital Distress Inventory, UDI-6.

Participants:
Study Group: Female intercollegiate student athletes
Comparison Group: Female college students, with 7 hours or less of moderate physical activity/week
Inclusion Criteria: Nulliparous, 18 years of age and older
Exclusion Criteria: trans-female or any individual on testosterone therapy, intramural/club sports participation, recurrent urinary tract infections

Setting: state university campus

Results: Preliminary data indicate that the prevalence of SUI is higher in intercollegiate female athletes (48.68%) compared to their sedentary counterparts of similar age (18.33%) p=0.00024. None of the participants have ever been screened for SUI. BMI does not seem to play a role in the difference in SUI symptoms seen between groups. In addition, number of hours of physical activity weekly may play a role in SUI symptoms.

Conclusions: Preliminary results of this study have determined that there is a significant difference in the prevalence of stress urinary incontinence in this very specific population compared to their more sedentary counterparts. This study is limited by self-reported symptoms, use of convenience sampling, and different recruitment strategies for study and comparison populations. Understanding the prevalence of SUI in female college athletes will allow us to prioritize screening this population as well as bring awareness about this condition, which affects athletic performance as well as self-esteem. Future studies may also be developed to determine the best management for this otherwise physically fit population.

POSTER: 15

"Study Of The Compliance Of Providers In A Residency Program Following Education And Implementation Of A Revised Narcotic Policy"

CATEGORY: Research

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: STUDY OF THE COMPLIANCE OF PROVIDERS IN A RESIDENCY PROGRAM FOLLOWING EDUCATION AND IMPLEMENTATION OF A REVISED NARCOTIC POLICY Sridevi Kandula, MD, Rajdeep Singh Sangha, MD, Eun Soo Park, MD, Asa A Dewan, MS JFK Family Medicine Residency Program, Edison, NJ INTRODUCTION: Millions of Americans suffer from chronic pain and are often prescribed opioids to treat their condition. In recent years, narcotic prescribing has received significant attention on a national scale due to the epidemic associated with prescription misuse, opioid use disorder, and overdose. Prevention, assessment and treatment of chronic pain are challenges for health care providers. New laws and recommendations have been enacted in an attempt to reduce the risk of long term opioid therapy. JFK Family Medicine Center adopted a revised narcotic policy in September 2016, mirroring recommendations from the CDC and in line with NJ state law along with the initiation of yearly didactics to educate providers on appropriate prescribing practices. The objective of this study was to assess whether there was a change in clinical practice behavior pertaining to chronic pain management after education and implementation of a revised narcotic policy. METHODS: A retrospective chart review was conducted on patients identified at JFK Family Medicine Center, who had been prescribed narcotics in the pre intervention period (07/01/15-06/30/16) and post intervention period (10/01/16-09/30/17). We randomly selected 150 patients from both periods and reviewed whether they had signed Narcotic Agreements (NA), a New Jersey Prescription Monitoring Program (NJPMP) report scanned into the EMR, >=4 office visits, and if a urine drug screen (UDS) was performed. Exclusion criteria were the following: patients who were prescribed opioids by another prescriber, patients who were prescribed opioids for acute pain, and Nursing Home patients. Pearson's Chi-square tests were used to compare categorical variables between intervention periods. RESULTS: A total of 61 patients from each period met inclusion criteria. The percentage of subjects with a signed NA was significantly higher in the post-intervention period (21.3%) as compared to the pre-intervention period (4.9%), with a p-value of 0.007. The percentage of subjects with a UDS (6.6% vs. 9.8%) and NJPMP (36.1% vs. 44.3%) did not significantly differ between the post-intervention and pre-intervention periods, with p-values of 0.51 and 0.36, respectively. Additionally, the percentage of subjects with >= 4 visits did not significantly differ between the post-intervention (72.1%) and pre-intervention periods (59.0%), with a p-value of 0.13. Since the intervention was performed over a three month time period, we also collected and analyzed data during this period. This period was labelled as the "doughnut period", in which we found that, of the 48 subjects without a signed NA from the post-intervention period, 12 (25%) had a signed NA during the doughnut period. There was no observable difference found in the UDS or NJPMP reports performed during the doughnut period. CONCLUSIONS: This study found an increased provider compliance with obtaining pain management agreements following our intervention of provider education. However, no significant changes were observed in the other 3 opioid prescribing practices we reviewed.

POSTER: 16

"Treating sepsis: Pushing the boundaries in the post acute arena"

CATEGORY: Clinical Inquiry

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Introduction

Sepsis is the most expensive condition treated at US hospitals. The geriatric population is at higher risk for admission to a hospital and even higher chance of being admitted to the ICU for sepsis once hospitalized. The average length of stay is 40%

higher than young adults and in hospital mortality is 37%. Case Description: This is a 74 female with PMH of PAD, schizophrenia, SLE, obesity, dysphagia living in a rehab facility on the long term care unit, with multiple failed swallow evaluations. She was noted to have a cough, suspicious for aspiration pneumonia, a CXR was done however, negative for infiltrate. Respiratory rate was elevated with mild cough but vital signs were stable and patient was put on O2 support of nasal cannula at 2L. Later in the evening, a repeat set of vitals revealed: T100.2F, HR110, RR44, O2 of 86% on 2L. Call was made to overnight resident physician for increased work of breathing and tachypnea. Patient was otherwise afebrile and BP stable. Patient started on albuterol nebulizers q4 PRN for shortness of breath. Nursing called 2 hours later reporting patient is requiring increased oxygen. The resident physician went to facility to evaluate the patient. VS: T100.2, RR40s. Blood culture, CBC and CMP ordered and drawn. Given the patient was allergic to penicillin, Clindamycin 600mg IV Q8 hours and IV fluids were initiated. Lab results: WBC 17.6. Antibiotics and fluids continued for next 7 days with complete recovery. Current Practice Guidelines: Current practice guidelines for screening include: SIRS criteria with sepsis defined as 2 SIRS criteria with confirmed or suspected source, the INTERACT 100/100/100 rule, INTERACT "STOP and WATCH", and QSOFA. Current treatment is based on the Surviving Sepsis Campaign which includes prompt fluid resuscitation, broad spectrum antibiotics, and labs which include CBC, CMP, INR, Lactate, and blood cultures. Discussion: More often than not, once sepsis is identified in the post-acute setting, patients are transferred to the hospital. These patients are frequently admitted to the ICU, increasing cost to both the hospital and the patient as well as potentially decreasing patient safety and outcomes. In this case, sepsis was identified early and the patient was started on fluids and IV antibiotics promptly therefore significantly improving the patient's chances of recovery. To replicate this outcome on patients in the future, we are educating the post-acute staff on standard protocols for screening, identifying and adequately treating sepsis without transfer to the acute care hospital.

1) Nursing education: improve recognition, communication, and minimizing time to treatment

a. Continue to train staff on a protocol based, validated screening tools; the 100/100/100 rule

b. Continue to use the SBARs to facilitate communication between nursing and physicians

c. Decrease delay between identification and treatment of sepsis

2) Reduce time to treatment

a. Utilize HIPAA compliant video services to allow providers to virtually assess patient

b. Use EMR to alert based on triggers set for abnormal vital signs

3) Coordinate labs to be drawn and sent in a timely manner

POSTER: 17

"The Effect of EMR Templates on Medicare Annual Wellness Visit Utilization"

CATEGORY: Research

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INSTITUTION: Virtua Health

DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: ABSTRACT Background: The Medicare Annual Wellness Visit (AWV) has been shown to increase the use of age appropriate preventive health services, decrease individual costs, and improve patient outcomes. Despite this, use of the visit remains low. The purpose of this study is to evaluate if a focused electronic medical record (EMR) template changes the utilization rate of AWV's. Methods: A retrospective cohort study will be conducted using eligible patients from a large community-based health care system. Within this health system an intervention practice will use a streamlined EMR template to facilitate AWV's, while other control practices will not. The EMR template was implemented within the intervention practice in February 28th 2018. The total number of AWV's of each cohort will be collected from March 1st 2017 – Feb 28th 2018, and also from March 1st 2018 – March 1st 2019. The primary outcome measure will be the percent change in the number of AWV's from each cohort before and after the initiation of the EMR template. Secondary outcome measures such as adherence with age appropriate preventive care metrics (e.g., colonoscopy, mammography, Flu vaccine, etc.) and hospitalization rates will likewise be compared between cohorts. In addition, this study will attempt to identify other determinates of AWV use such as demographic variables (age, gender, etc.) of both the patients as well as the medical providers. Chi squared ($\chi 2$) analysis will be used to compare categorical variables. Results: Data collection and analysis is still ongoing. Conclusion: Given preliminary data, we anticipate an increase in AWV use as well as utilization of preventive health services with the EMR template.

POSTER: 18

"Impact of prenatal & postpartum contraceptive counseling on postpartum contraceptive use and subsequent IPI"

CATEGORY: Research

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Purpose: Postpartum contraception remains the most effective method in reducing rates of short interpregnancy intervals (IPI) and its associated adverse maternal-infant outcomes. This study will analyze the association between prenatal contraceptive counseling on provision of postpartum contraceptive methods and subsequent IPI at a family medicine residency program. Methods: This is a retrospective chart review of approximately 300 patients who received prenatal care at one family medicine residency practice during a 5-year time period. We will compare the rates of short interpregnancy intervals between patients who had a match or mismatch in their contraceptive preferences and provision in the prenatal to postpartum period. We will record contraceptive preferences that were documented during the prenatal and postpartum periods, contraception provision within the 3-month postpartum period, and subsequent IPI. We will calculate the proportion of patients with congruence or "match" between their desired contraceptive choices and documented provision at the 3-month postpartum period. From this, we will be able to determine whether documented provision of desired contraceptive methods has any effect on interpregnancy intervals. We will also identify sociodemographic factors and other predictors associated with provision of effective contraception and short IPI. Results (Anticipated): We anticipate that documentation of any contraceptive preference in the prenatal period will be associated with provision of effective contraception postpartum and longer interpregnancy interval. We hypothesize that mismatches in contraceptive preferences and documented provision will have higher rates of short IPI. We also expect that there will be a greater mismatch among patients who prefer long-acting reversible methods or permanent methods than those who prefer short-acting methods. Conclusions (Anticipated): Eliciting patients' contraceptive preferences during the prenatal and immediate postpartum period may improve the likelihood of provision of postpartum contraception and thus decrease the rates of short IPI. Outcomes from this study may shed light on the positive impact of repeated contraceptive counseling throughout pregnancy in promoting effective family planning and healthy birth spacing.

POSTER: 19

"A Randomized Controlled Trial of Enhanced Care Coordination with Colon Cancer Screening using iFOBT Compared to Usual Care in an Uninsured and Medicaid Population"

CATEGORY: Research

AUTHOR(S):

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Background: colon cancer is a major cause of mortality but is often preventable with appropriate screening. While colonoscopy is considered the gold standard, stool testing for blood using immunochemical fecal occult blood testing (iFOBT) done on a yearly basis is considered acceptable screening. An advantage of iFOBT in an uninsured and Medicaid population is that the screening can be completed in the primary care setting when access to colonoscopy may be limited. One downside of iFOBT is the need for stool collection at home and return of the kit for processing. Unreturned iFOBT kits result in lost value and a missed opportunity for screening. Our hypothesis was that an enhanced care coordination program would increase the rate of return of iFOBT. Methods: participants who were eligible for colon cancer screening and were uninsured or had Medicaid who wanted an iFOBT for colon cancer screening were randomly assigned to either usual care or enhanced care coordination. Participants in the enhanced care coordination group received additional education at the point of care, were given the telephone number of the care coordinator (with 24 hour voicemail) to call with questions, and were contacted by the care coordinator by telephone on days 3 and 7 after obtaining the iFOBT kit if not returned. We collected return rates after 30 days and demographic data. Results: in the intervention group (enhanced care coordination),

27 of 37 (73%) iFOBT were returned within 30 days. In the control group, 28 of 42 (67%) returned the iFOBT within 30 days. There was no significant difference between the groups. Among participants who reported Spanish as their preferred language, regardless of group, 84% returned the iFOBT within 30 days, while only 54% of the participants who reported English as their preferred language returned the iFOBT. Conclusions: while the enhanced care coordination did not show a significant effect on return rates of iFOBT, the results of this study can provide effect sizes to be used for future, larger studies. Future research may also focus on different strategies of care coordination to see if alternative methods will be more effective in increasing return rates of iFOBT. A notable finding was a high rate of return, regardless of group, in participants who preferred Spanish as their language of choice. The use of iFOBT for colon cancer screening in this demographic group may be an effective way to achieve a relatively high rate of screening.

POSTER: 20

"A Procedure Curriculum to Train Community-Based Family Medicine Residents on Women's Health Procedures"

CATEGORY: QI

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INSTITUTION: Virtua Family Medicine Residency

DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Background: The use of long-acting reversible contraceptives (LARCs) has increased significantly, yet the number of family physicians providing these services remains low. Similarly, performance of colposcopy and endometrial biopsy by family practitioners is declining. This leads to barriers in accessing routine women's health care. While there are multiple reasons why performance of women's health procedures remains low, provider comfort remains a significant factor. Family physicians who train in residency programs where women's health procedures are routinely performed are more comfortable and more likely to continue these procedures in their practice, yet many community-based family medicine residencies do not include LARC insertion, colposcopy, and endometrial biopsy in their curriculum. Objectives: The objectives of this curriculum are to increase the number of women's health procedures (including LARC insertion, colposcopy, and endometrial biopsy) performed at a community-based family medicine residency and increase the comfort level of resident physicians in discussing and performing these procedures. This project was completed in two phases: phase 1 saw implementation of a LARC curriculum and phase 2 expanded the curriculum to include colposcopies and endometrial biopsies. Results: A retrospective analysis was completed looking at data prior to (July 2014 – June 2016) and after the start of the women's health procedure curriculum (July 2016-June 2018). The number of women's health procedures, as well as the number of providers performing these procedures, increased after implementation of the curriculum by a statistically significant amount. Provider comfort was also analyzed. A pre-training survey was sent to faculty and residents prior to completion of training. Post-training surveys showed an increase in the number of participants who felt somewhat or very comfortable with colposcopy and endometrial biopsy. Conclusion: Current comfort level with discussing and performing women's health procedures in family medicine residency is low. With procedure training and regular opportunities for women's health procedures, resident comfort level increased as did the number of procedures performed.

POSTER: 21

"Trends in Colon Cancer Screening"

CATEGORY: Research

AUTHOR(S):

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INSTITUTION: Virtua Family Medicine Residency

DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Purpose: Colon and rectal cancer is the fourth leading cause of cancer death in both men and women. As a result, the USPSTF recommends screening for all individuals over the age of 50. Despite this, the CDC estimates that almost one third of the population is not up to date with colon cancer screening. Of these, 75% have never been screened in their lifetime. While there are many reasons for low screening rates, including health care provider and system factors, patient factors are also major contributors. These include lack of awareness and negative attitude towards colonoscopies. The

purpose of this study is to determine if fecal immunoassay testing (FIT) is associated with changing rates of colon cancer screening. Methods: Utilizing data from the National Health Interview Survey (NHIS), we will conduct a cross sectional study to analyze trends in colon cancer screening from 2000 to 2015. Included in the data analysis are men and women over the age of 50. Excluded from the study were participants under the age of 50, those with a family history of colon cancer, and those with a prior history of colon cancer. Primary outcome compared the percentage of the population that completed colon cancer screening to those who had not. Secondary outcomes will include percentages that completed FIT, colonoscopies, or sigmoidoscopies. Additional analysis will involve stratification by patient demographics (including but not limited to age, gender, race, and insurance status) which will help to uncover colon cancer screening trends regarding completion and type of test used in different subgroups. Proportions will be compared using chi-squared testing. Logistic regression will be used to determine the odds of completing colon cancer screening with FIT vs colonoscopy when controlling for demographic factors. Results: Evaluation of data shows that more people are up to date with colon cancer screening in 2015 as compared to 2005. Further analysis, however, reveals interesting trends. While more people underwent colonoscopies, the number of people using FIT testing went down. Additionally, those groups of people who were less likely to be up to date with their colonoscopies in 2005 (such as those without insurance or primary care site) were the same groups unlikely to be up to date in 2015. Conclusion: Colon cancer screening remains a significant cause of morbidity and mortality and a significant portion of the population remains unscreened. With the advent of FIT, an alternative, less invasive colon cancer screening method has become available. However, our research shows that FIT testing decreased between 2005 and 2015. Research also showed that those groups who did not have up to date screening in 2005 continued to be at risk in 2015. As a result, further research can be conducted to determine barriers to FIT and methods to reach these at risk groups.

POSTER: 22

"Strongyloidiasis: Hyperinfection Syndrome & Disseminated Disease"

CATEGORY: Clinical Inquiry

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INSTITUTION: Hackensack Meridian Health Palisades

DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Introduction: Strongyloidiasis is an infection caused by a parasite, Strongyloides stercoralis is the primary species responsible for human diseases but species that infect primates and dogs have also been known to infect humans. An infection can difficult and challenging to identify and treat given the very broad symptomatic spectrum of a Strongyloides infection. Symptoms range from the more common subclinical presentation in acute and chronic infections to the more infrequent, severe, and highly fatal hyperinfection syndrome and disseminated disease – mortality approaching 90-100% if left untreated. Case Presentation: A 65-year-old Dominican male with a PMH hypertension, hyperlipidemia, cocaine abuse, and recently diagnosed pemphigus vulgaris on corticosteroids who experienced fever and altered mental status. Family reports subjective fevers, an episode of vomiting, diaphoresis and slumping over the kitchen counter with altered mentation, and incontinence. Deny head trauma, cough, dyspnea, hemoptysis, chest pain, focal deficits, or recent sick-contacts. Report recent initiation of prednisone 20mg PO BID. Travel history: emigration from the Dominican Republic as a child and a vacation trip to South Florida approximately 6.5 years ago In the ED he was hypertensive at 197/147mmHg, tachycardic, diffuse non-blanching petechiae on trunk and extremities. He was admitted to the ICU for hypertensive emergency/urgency, suspected bacterial meningitis and severe sepsis. He was promptly treated with broad-spectrum IV antibiotics, and IV antihypertensives. He initially improved with resolution of his meningitis and downgraded from the ICU in the first week of his hospital course. He later developed sudden recurrent onset of his meningitis. After further investigation and re-evaluation of underlying etiology during his hospital course, it was determined and confirmed with sputum & fecal smear for ova and parasites, and EGD duodenal biopsy positive for larvae confirming strongyloidiasis hyperinfection syndrome and disseminated disease. Failure of the initial standard of care with anti-helminth agents orally (via NGT) and per rectal, emergent FDA-approval for use of investigational drug was obtained for approval to utilize ivermectin IM based on regimen dosing protocol utilized successfully in two out of four cases of Strongyloidiasis disseminated disease on a previous case report. Discussion: The case demonstrates the typical course of a case of strongyloidiasis infection from acute infection with mild symptoms that develops into a subclinical/mildly symptomatic chronic presentation started on a

corticosteroid treatment after that consequently would go on to develop a sudden and insidious onset of a hyperinfection syndrome and disseminated disease. For this reason, screening is of up-most importance and physicians should remain diligent in considering or suspecting Strongyloides infection in patient at potential risk such as those 1. currently on or about to begin corticosteroid therapy or other immunosuppressant agents. 2. asymptomatic individuals such as immigrants, refugees, long-term travelers, or military personnel who have been in areas known to be endemic for strongyloidiasis, even if their last exposure was decades prior, 3. known HTLV-1 infection, 4. hematologic malignancies including leukemias and lymphomas, 5. organ transplantation recipients or potential recipients, 6. history of persistent peripheral or unexplained eosinophilia, or 7. any history of recent or remote travels to endemic areas.

POSTER: 23

"Improving Medical Student & Resident Training in Women's Health Utilizing Free Cervical Cancer Screenings"

CATEGORY: Community Project

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Pap smears have dramatically reduced the cervical cancer mortality rate by over 50% in the U.S. over the past 30 years. However, major disparities in cervical cancer prevention persist, majority in minorities and women who have not had a Pap smear in more than 5 years. Recently updated guidelines have lengthened cervical cancer screening intervals to every 3-5 years, which has significantly reduced opportunities for medical students and residents to gain experience performing gynecologic exams including pap smears and colposcopies. We implemented a free cervical cancer screening program for underserved women in Middlesex County. It is co-sponsored by the Cancer Education and Early Detection (CEED) Program of the Middlesex County Office of Health Services and the Robert Wood Johnson University Hospital (RWJUH) Community Health Promotion Program. The program is run by residents of the Rutgers Robert Wood Johnson Medical School (RWJMS) Family Medicine Residency Program, who perform pap smears and bimanual/clinical breast exams (when indicated), while simultaneously training volunteer RWJMS students on how to perform these exams. During each event, approximately five pairs of providers (one resident and one medical student) encountered 3-6 patients per session. The medical students performed 3-6 pelvic exams under direct supervision of the resident. A faculty member then reviews the Pap/HPV results, and patients who require additional testing (i.e., colposcopy) return to the Family Medicine office for this procedure. Since 2016, we have hosted 10 cancer screening programs at the Family Medicine at Monument Square office in New Brunswick, NJ. More than 170 women have been seen and 150 women have been screened for cervical cancer. Through the free cancer screening programs, the Family Medicine residents and Middlesex County Board of Health have helped reduce the cervical cancer screening disparity gap among the underserved women of Middlesex County. Additionally, medical students gained experience performing gynecological exams and residents developed their procedural training skills, and performed more colposcopies.

POSTER: 24

"Depression: Frequent PHQ-9 monitoring and its correlation to better clinical outcomes"

CATEGORY: QI

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Depression is one of the most common mental health disorders seen in primary care. As such, clinicians have been urged to routinely screen patients for depression, which in turn, implies that that such monitoring practices are effective in reducing depression. In this retrospective chart review study, therefore, we tested the association between

patient depression screenings and depression scores. A randomized sample of 50 patients with a diagnosis of depression, who followed up for depression at Mountainside Family Practice during 2017-2018 and 2018-2019 were randomly selected using a random number generator. Patients without a diagnosis of depression, or those who have depression but only had one visit, were excluded from the sample. The PHQ9 scores were assessed and categorized in minimal, mild, moderate, moderate-severe, and severe depression, and were trended with each patient. Additional contributing factors such as psychotherapy and pharmacotherapy were also noted when interpreting fluctuations in PHQ-9. Results indicated that regular screenings of depression did not correspond to lower depression scores. Findings revealed, however, that this was due to several confounding factors including patient adherence to treatment (e.g., follow-up, number of visits, length of time between appointments), and suicidality. Conversely, reports of psychotropic medication or psychotherapy treatment did not correspond to changes in PHQ-9 Scores. The authors conclude with a detailed discussion of findings and future directions for practice.

POSTER: 25

"Assessment of low bone mineral density and fracture burden at the primary health care office"

CATEGORY: QI

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ABSTRACT: Osteoporosis is a "silent" disease that results in substantial morbidity and mortality in aging postmenopausal women. It is estimated by 2020, over 14 million people in the Unites States will have osteoporosis of which over 80% will be women over the age of 50. As this burden increases it is paramount that primary care physicians screen age appropriate women in efforts of catching the disease in the early stages and initiate treatment to decrease the disease progression and ultimately reduce the fatal outcomes. This study therefore, aimed to gain insight into the utilization of osteoporosis screening with DXA scan and implementation of appropriate treatment at Mountainside Family Practice. Using a retrospective analysis research design, 90 randomly selected charts of women aged 65 years and older were reviewed for the current study. Charts were evaluated to examine rates of appropriate screening and treatment. Approximately three-fourths of patients were inadequately screened in the current study. More specifically, 67 (74%) were not screened whereas 23 (26%) received appropriate assessment, [$\chi = 16.51$, $p < .05$, 95% CI's = 24.55% to 64.23%]. Moreover, relatively few patients with a positive DXA screen were appropriately treated. In light of study limitations including the reliance on secondary data, results sheds light on the fact that in order to improve quality of patient care and for the wellbeing of the patient, both patients and providers would benefit from increased awareness of the disease.

POSTER: 26

"Are patients diagnosed with depression adequately being screened for thyroid dysregulation?"

CATEGORY: QI

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ABSTRACT: Depression is estimated to affect 300 million people around the world. Current estimates of the prevalence of hypothyroidism, an associated physiological disorder in patients with depression, are scarce. Primary care physicians are actively involved; however, in the regular screening of depression patients for thyroid dysfunction. More specifically, these tests include thyroid stimulating hormone (TSH), complete blood count (CBC), vitamin D levels, and comprehensive metabolic panel (CMP). A randomized sample of 120 patients were selected for three specific time frames 2018-2019, (2) 2017-2018, and (3) 2016-2017, to assess associations between PHQ-9 scores, TSH, CBC, and CMP. Forty patients per time frame were selected using a random number generator. Patients were excluded from the sample if they were not family practice patients and if they did not have a depression diagnosis. The PHQ-9 scores were assessed and correlated to the

presence of a CBC and CMP. Overall, PHQ-9 scores were associated with CMP, CBC, and CMP; however, not to TSH. There were differences, nevertheless, in the pattern of associations for the three-time frames. More specifically, the associations were highest in 2017 and 2018 and lowest in 2018 and 2019. In 2016 and 2017, PHQ-9 scores were found to correlate to CBC but not to TSH, CMP, or Vitamin D. These findings suggest that PHQ-9 scores did not correspond to TSH. The authors conclude with a discussion of study limitations, Implications of results, and directions for future research.

POSTER: 27

"Actinomyces Masquerading as Appendicitis"

CATEGORY: Clinical Inquiry

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Introduction: Actinomycosis is a chronic granulomatous disease, caused by gram positive, filamentous, anaerobic bacteria that can usually be found in the oral cavity and the intestinal tract. It can cause granulomas, extensive fibrosis, necrosis, abscesses and fistulas if given the opportunity to migrate via breaks in tissue. Abdominal actinomyces can be hard to diagnose due to its presentation with nonspecific symptoms and tendency to present like other common diseases such as Crohn's disease, malignancy, or tuberculosis. In a case report and literature review by G.A. Gómez-Torres it was found most cases of actinomyces appendicitis was due to a perforated appendix (75%). In this report, we present a case where abdominal actinomyces presented with classic signs of appendicitis without perforation. Case: A 36-year-old male with no past medical history presented to the office with complaints of epigastric and right lower quadrant abdominal pain with 2 episodes of emesis since the morning. He admitted to eating spicy food and consuming a lot of coffee. On physical exam, the patient had moderate tenderness in the epigastric region and mild tenderness at McBurney's point. He was treated conservatively with a PPI and pain management for gastritis. His symptoms not only did not improve but also worsened before he presented to the ED later that day. White blood cell count was 12.1. Abdominal ultrasound and CT revealed a distended appendix with surrounding mesenteric stranding suggestive of appendicitis. The patient was started on IV pipercillin/tazobactam, fluids, and pain management and underwent a laparoscopic appendectomy. The appendix was sent to pathology and cultures grew actinomyces. Further discussion with patient uncovered the patient had recently undergone a dental procedure. After recovery from surgery the patient was recommend to start IV antibiotics via PICC line for 4 to 6 weeks followed by oral antibiotics for 6 months. The patient elected to get a 2nd opinion from an Infectious Disease specialist who recommended the same. Ultimately the patient decided only to go on oral antibiotics for 6 months instead. Discussion: Abdominal actinomycosis is a difficult diagnosis to make because it is a rare condition that can present like many other more common diseases. It is known as the "great pretender" and should be considered when a patient presents with a slow indolent course, unlike our patient who had an unusually rapid progression, and nonspecific abdominal symptoms with a history of associated risk factors. In fact about 20% of cases involve the abdomen with 0.02% to 0.06% presenting as appendicitis. Fewer than 10% are diagnosed preoperatively. Due to the lack of specific laboratory and imagining studies, diagnosis is usually made by histology after unnecessary surgical processes. Studies have emphasized the use of Gram stain to identify the bacteria and prevent any delay of treatment and stop unnecessary surgical procedures.

POSTER: Abstract only

"Improving Screening and Prevention for Falls in Adults over the age of 65 at the NHC?"

CATEGORY: QI

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: BACKGROUND: According to the CDC, millions of people over the age of 65 fall annually.1 The falls cannot only cause physical trauma, but also psychological. Falls lead to reduction in daily activities, eventually leading to deconditioning. In 2015 the medical cost from falls totaled more than 50 million dollars. 1 Due to this growing health problem, the CDC

created STEADI (Stopping Elderly Accidents Deaths and Injuries).1 The CDC recommends screening patients over the age of 65 with the "stay independent brochure" or 3 simple questions. Based on the results, the cause can be further investigated. OBJECTIVE: 1) Raise awareness among healthcare providers 2) Improve screening for falls at the Neighborhood Health Center (NHC), and 3) implement strategies that will prevent falls and fall-related injuries. DESIGN/METHODS: This study was performed at NHC in Hoboken, NJ. Phase I: A PowerPoint presentation was conducted to show the Family Medicine residents the importance of screening for the risk factors leading to falls. Phase II: A workflow algorithm was created to assist in screening for falls in the elderly. A questionnaire was implemented into the EMR. Patients age 65 and over who were asked three questions to evaluate the risk of falls: 1) Have you fallen in the last year? 2) Do you feel unsteady when standing or walking? 3) Do you worry about falling? If a patient responded yes to any of these questions, they would be asked to do the thirty-second chair raise test. This test evaluates the leg strength and endurance. Patients were provided a chair raise exercise sheet if they failed to reach recommended number of chair raises. Phase III: Data was extracted and analyzed from the EMR from 2/26/19 to 4/24/19 on screening for falls in the elderly. RESULTS: A total of 20 out of 225 patients were screened (8.8%). Of the 20 patients that were screened, 10 of them were found to be at risk for falls. Results of the questionnaire were as following: Question 1: 10 patients answered yes and 15 patients answered no; Question 2: 7 patients answered yes and 20 answered no; and Question 3: 7 answered yes and 19 answered no. CONCLUSIONS: The study was conducted to evaluate the propensity of falls in the elderly. Patients with increase risk were provided interventions including a referral to physiotherapy, medication review and/or strengthening exercises. Limitations to the study included: 1) Short time period to conduct study. 2) Difficulty for the providers to ask the screening questions during complex medical visits. 3) Short time frame for adopting new workflow. The next steps for the projects are to continue education on fall prevention, designating a physician champion to implement and analyze fall prevention screening, and investigate the effectiveness of the various interventions prescribed to prevent future falls.

POSTER: Abstract only

"Impact of Metformin in the Management of Prediabetes"

CATEGORY: QI

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: BACKGROUND: A number of studies have explored the potential of improvements in lifestyle and/or pharmacological interventions to prevent or delay the onset of clinical type 2 diabetes in prediabetes in prediabetic subjects, and metformin has been particularly well studied in this regard. The Diabetes Prevention Program (DPP), funded by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) and conducted at 25 centers nationwide, was a landmark trial to show that lifestyle changes or metformin can effectively delay diabetes in a diverse population. Significant reductions in the risk of progressing from prediabetes to type 2 diabetes in subjects treated with metformin were observed in populations in the US DPP and DPPOS studies. During DPP and DPPOS, the pharmacological intervention was metformin 850 mg bid, as tolerated. The study "Are we appropriately utilizing metformin for patients with prediabetes at the Neighborhood Health Center (NHC)" was performed from Oct 2017 to Feb 2018, where intervention was performed to improve the use of metformin in prediabetes patient who met pharmacologic criteria. OBJECTIVE: 1) To determine if the recommended dose of metformin for prediabetes in the United States, has been used at the NHC. 2) To assess if utilization of metformin therapy in prediabetic patients has delayed or prevented the development of DM2 at the NHC in the studied period. DESIGN/METHODS: Setting: Neighborhood Health Center at Hoboken University Medical Center, Hoboken, NJ Study design: Our inclusion criteria were prediabetic patients (HgbA1c 5.7-6.4) obtained from a previous randomized study performed at the NHC.(3) Data on the use of metformin, dose, length, HgbA1c, prediabetes criteria met, gender, race, age, and socioeconomic background was collected from 108 charts between the period of Oct 2017 to Feb 2019. RESULTS: A total of 108 patients were studied, of these, 30 were taking metformin and 78 were not on any DM medication. Of the group on metformin 3 did not have a repeat A1c. 4 patients of the 27 left progressed to DM and 23 did not. The most common dose prescribed as 500 mg BID in both groups and no significant differences were found on its progression to diabetes. Of the 71 patients not on metformin that had a repeated A1c only 1 was found to have progressed to diabetes. CONCLUSIONS:

91 % percent of patient had a f/u A1c as recommended. We are not prescribing the recommended dose of metformin for prediabetes at NHC. The use of metformin did not translate into the prevention of DM at NHC.

POSTER: Abstract only

"Persistent shoulder pain following a flu immunization"

CATEGORY: Clinical Inquiry

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Case presentation of a 67yo F develops 7-month history of left shoulder pain following an intramuscular injection of the influenza vaccine that was administered higher than the usual injection site.

POSTER: Abstract only

"Dietary And Exercise Habits In Different Bmi Groups: Surveying An Ethnically Diverse Population"

CATEGORY: Research

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: DIETARY AND EXERCISE HABITS IN DIFFERENT BMI GROUPS: SURVEYING AN ETHNICALLY DIVERSE POPULATION Sridevi Kandula, MD, Sarah Shih, MD, Asa Dewan, MS. JFK Family Medicine Residency Program, Edison NJ. INTRODUCTION: Obesity is a multifaceted pathologic state affecting more than one-third of US adults and continues to grow in prevalence. The purpose of this study was to survey the ethnically diverse population at JFK Family Medicine Center and assess if an individual's background, ability to cook, education, health habits and understanding of their weight has a role on BMI. METHODS: A cross-sectional study using a survey to assess the demographics, nutrition and exercise habits of subjects who were at least 18 years of age was conducted between June and December 2018. The survey was a mix of dichotomous, contingency and single-select questions in English and Spanish. Surveys were handed out to consented adult patients at JFK Family Medicine Center who were English or Spanish literate, and that were not pregnant, bed-bound, members of a group home or had cognitive dysfunction. Categorical measures were compared between groups using Chi-Square and Fisher's exact tests while non-normally distributed continuous measures were compared between groups using Kruskal-Wallis and Wilcoxon rank-sum tests. RESULTS: A total of 194 surveys were collected from subjects of which 31 (16.0%) were Asian, 41 (21.1%) Black, 50 (25.8%) Hispanic, 55 (28.3%) White, and 17 (8.8%) Mixed race. The majority of subjects were women (76.3%). One hundred seventeen (60.3%) subjects were obese, 48 (24.74%) were overweight and 29 (14.95%) were of normal weight. There was no significant difference between the normal BMI, overweight and obese groups for age (p=0.61), US born vs immigrant (p=0.36) and education level (p=0.086). Additionally, no significant differences were observed between BMI groups for the following variables studied: number of meals/day, number of snacks/day, eating out/week, eating fast food/week, sugary beverages/day or cooking knowledge. A significantly higher percentage of the overweight subjects (74.5%) stated they exercise when compared to those who were obese (53.6%) (p=0.014). Among those who exercise, the median number of times exercising per week was significantly higher in those who were overweight (3, IQR=2-5) when compared to those who were obese (2, IQR=2-3) (p=0.017). For all two-way comparisons, percentages of those who thought they were overweight significantly differed between those in the normal (10.7%), overweight (42.6%), and obese (89.2%) groups (all p<0.01). CONCLUSIONS: In our survey, white subjects were more likely to be of normal BMI. A higher proportion of subjects in the overweight group said that they exercised compared to those in the obese category and they exercised more frequently. Subjects in the overweight and obese groups were more likely to think they were overweight compared to the subjects in the normal BMI group. The sample size likely affected the ability to detect differences in other surveyed variables.

POSTER: abstract only

"Does a Medical Student's Perceived Value of Basic Science Influence Their Residency Specialty?"

CATEGORY: Research

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DISCLOSURE: The author(s) have no relevant financial conflicts pertaining to this poster. **FINANCIAL SUPPORT:** None

ABSTRACT: Title: Does a medical student's residency decision influence their perceived value of pre-clerkship basic science? Purpose and background: Basic science is the foundation for clinical reasoning and diagnostic accuracy. The perceived value of basic science has implications for long-term learning and achievement. Student perceptions of the value of basic science may be shaped by a number of factors, including specialty choice. An increasing number of interns/residents in surgical specialties report a lack of interest in basic science. No prior study has assessed the relationship between specialty choice and medical student perception of basic science. This multi-institutional study investigates fourth-year medical students' perception of the value of basic science and their corresponding specialty choice. Research Question: Do primary care oriented students perceive the importance of basic science more than students pursuing a surgical specialty? Methods: A 21 item anonymous survey assessed student perception and integration of basic science using a 5-point Likert scale. Prior to distribution, the survey was piloted by 30 students from two schools to assess the quality of the survey. The questionnaire was distributed to fourth-year medical students from two medical schools between September-November 2019, ensuring that the students surveyed had already committed to their intended specialty. One-sample t-tests were calculated each survey item to determine statistically significance between different specialties. Results: Surveys were completed by a total of 108 medical students from the two medical schools (response rate 35%). All students had similar baseline experience with the basic sciences in terms retention of material and emotions for it (standardized items were not statistically significant). Statistically significant differences were found in certain specialties when compared to the average of all specialties. For example, students going into Pediatrics more strongly believed basic science knowledge was important for clinical educators. Students going into Anesthesiology more strongly believed basic science knowledge was important for their licensing exams (i.e., Step 1). Students going into Emergency Medicine and Neurosurgery more strongly agreed to identifying and integrating basic science during clerkships Conclusions: The results show that students going into certain specialties may perceive individual facets of basic science differently, and thus value the importance of basic science differently. Different learning contexts can have different effects on perception. For example, students pursuing surgical specialties view basic science as important in the classroom and for integration during clinical encounters vs. students pursuing pediatrics who view basic science as important for educational purposes. Future studies will include additional schools and increased response rates by sending out surveys prior to residency applications.