MAY 20, 2017

REGIONAL FAMILY MEDICINE RESIDENCY RESEARCH SYMPOSIUM

ABSTRACTS OF ACCEPTED PRESENTATIONS

utmb Health
Family Medicine

ACC/AHA Cholesterol Guidelines Compliance of Statins Prescribed to Patients Attending an Academic Family Practice Clinic

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Abstract

Purpose: The 2013 American College of Cardiology (ACC)/American Heart Association (AHA) cholesterol guideline recommends the use of moderate and high intensity statins for primary and secondary prevention of atherosclerotic cardiovascular disease (ASCVD). Poor knowledge of guideline recommendations among physicians and differences in prescribed statin intensities across providers are reported as barriers to statin adherence among patients. This study aimed to assess ACC/AHA guideline-compliance of statin intensities prescribed to patients attending an academic family practice clinic.

Methods: A cross-sectional chart review was conducted on one hundred patients seen between September 1, 2015 and August 31, 2016. Other inclusion criteria for the review were patient's age of at least 21 years and a history of either diabetes mellitus or coronary arterial disease (CAD). Abstracted data included demographics, history of hypertension and ASCVD, duration of statin use, and statin intensity. Patients' serum total cholesterol, high-density lipoprotein (HDL), and low-density lipoprotein (LDL) levels were also abstracted.

Results: Mean age of study participants was 59.5 years and 66% were female. Eighty-one percent of study participants had diabetes and 78% had hypertension. In total, 74 (74%) patients belonged to at least one of the four statin benefit groups targeted by the ACC/AHA guideline. Sixty-eight (91.9%) patients were prescribed statins of varying intensities but only 39 (52.7%) were prescribed guideline-recommended moderate or high intensity statins.

Conclusion: Although many eligible patients are currently prescribed statins, the proportion of patients prescribed guideline -recommended statin intensities is low. Previous studies report a similar proportion but it is unclear what specific factors determine statin prescription by physicians. Identifying factors influencing physicians' statin prescription practices and developing effective interventions to improve them might help to improve patients' adherence to the ACC/AHA lipid guidelines.

Addressing knowledge gaps in HPV vaccination among parents and adolescents

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Abstract

According to the CDC, 80 million people are infected with HPV in the United States. Approximately 14 million are infected with HPV every year. The purpose of this study is to improve Gardasil vaccination rates among adolescents in a suburban outpatient setting. This study involved surveys and educational handouts with 176 patients in a family medicine outpatient clinic between the ages of 11-18 during preventive health visits. Our target group was patients without vaccination and incomplete vaccination. Each patient was called in for an appointment and given a survey to assess knowledge gaps in parents. Gaps were addressed through direct patient and parent education. Patient and parents were offered the HPV vaccine after the educational discussion. Parents who declined vaccination were given informational handouts and instructed to follow up when they were ready for vaccination.

Data was analyzed by the paired T-test to assess if HPV education increased vaccination rate.* With our analysis we compared the number of patients who opted for vaccination after education compared to before. Before receiving vaccination we analyzed the number of patients wanting to receive more information as well as the amount who correctly identified that HPV is sexually transmitted. The data demonstrated a statistically significant/insignificant improvement in HPV vaccination rates, though this study did not assess the application of this knowledge. These results suggest questionnaires and physician-led education may/may not improve vaccination rates in the adolescent populations.

*Our study is still in progress until 4/20/17. After this date, we will have finalized data.

All Twisted and Nowhere to Go: A Case of Situs Inversus and Sigmoid Volvulus

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Abstract

BACKGROUND: Situs inversus is a genetic condition that is often discovered at birth, following the newborn physical examination. In this condition, the internal organs are a "mirror image" of placement according to typical human anatomy. It may be associated with intestinal malrotation.

CLINICAL CASE: I present a case of a 32 year old Burkina woman presenting generalized abdominal pain. A diagnosis of acute abdomen was made. Secondary to lack of availability of imaging modality and the patient's rapidly declining clinical condition, the decision to perform an emergency laparotomy was made. After the initial abdominal incision, an ischemic, black, foul smelling bowel was found. The dead bowel was resected—a right colectomy performed with end ileostomy.

On further abdominal exploration, and enlarged spleen was noted to be in the right upper abdominal quadrant significant hepatomegaly with extension from the left upper abdominal quadrant to the mid abdomen.

The patient recovered well in the post-surgical unit and was stable during the post-operative period.

CONCLUSION: This is an interesting case that presents acute sigmoid volvulus as an initial presentation of situs inversus

Applying short cycle quality improvement methods towards the improvement of diabetic foot exam rates

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Abstract

Context:

Healthcare Effectiveness Data and Information (HEDIS) measures are widely used health care performance measure within the United States. Within the residency Family Medicine Center (FMC), the measure for Diabetic Foot exams was found below the health system's benchmark.

Objective:

To improve Diabetic Foot exam rates within the FMC

Setting:

Community supported, residency affiliated, underserved, ambulatory Family Medicine clinic (FMC).

Patients:

Diabetic patients receiving care within the FMC.

Intervention:

A clinic wide initiative was introduced to all faculty, residents, staff, and administrators within the FMC. The initiative included standardized patient rooming processes (all shoes off), enhanced EMR documentation and ordering, and weekly reporting on foot exam rates. All fallouts were shared with clinic and jointly investigated to identify areas for continued improvement.

Results:

Diabetic foot exam rates improved across all providers and with a higher rate for residents when compared to faculty providers.

Conclusion:

Including all clinic members in short (weekly) quality improvement cycles can lead to improved health care quality measures.

Are topical NSAIDs effective for treating arthritic pain in patients with knee osteoarthritis?

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Abstract

CONTEXT: Osteoarthritis (OA) is the most common joint disorder affecting >10% of men and 13% of women in the United States.1

OBJECTIVE: To evaluate/assess the efficacy of topical NSAIDs to reduce pain in the treatment of adults with knee OA as measured by the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) pain sub scale.

DESIGN: Systematic review of four double blinded, randomized controlled trials; PubMed and Cochrane Search keywords included "Osteoarthritis, Knee OA, NSAIDS, Topical NSAIDs, WOMAC, Knee Pain, North America" and we Eliminated studies for NON-RCT, other forms of arthritis.

SETTING: Outpatient clinics in North America

PATIENTS: Adult males and non- pregnant female (age 18- 80) with knee OA diagnosed by radiographic evidence of joint space narrowing and osteophyte formation.

INTERVENTION: Topical Diclofenac 1.5% - 2% applied BID – QID over 4-12 weeks.

OUTCOME: Primary Outcome is decrease in subject pain as measured by the WOMAC pain sub scale.

RESULT: Participants in the studies treated with topical diclofenac showed reduction in the WOMAC pain subscale with ranges from 2.5 - 5.9 points, while the placebo groups saw a decrease ranging from 2.5 – 4.3 points. P values ranging (0.001 – 0.04) and NNT (6-12) of the 4 trials analyzed. 2-5 The most common adverse effect was mild skin irritation at application site.

CONCLUSION: Topical NSAIDS are effective therapy for the treatment of OA associated knee pain. This is a practical approach for primary care population especially patients with coexisting conditions that preclude them from using oral NSAIDs. One foreseeable limitation to clinical practice application of the findings is the affordability, as the generic form of diclofenac is currently limited to 1% while our studies investigated treatments at higher concentrations.

Breaking bones… Are you PrEP-ared to run?

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Abstract

29 yo white male runner without PMH on HIV pre-exposure prophylaxis (PrEP), emtricitabine-tenofovir, presented with fracture of base of left 5th metatarsal. It occurred while walking down stairs when his foot missed a single step causing his toes to curl under his foot on the next step. Was initially placed in non-weight bearing splint and then transitioned to boot. Non-union noted at 6 weeks followup. Bone scan was done, which was consistent with osteoporosis.

Initial MSK exam:

Gait: Antalgic

LLE: Left foot with swelling; no bruising. +TTP over 5th metatarsal base; no pain with toe movement. Neurovascularly intact, Full ROM of ankle with dorsi/plantar flexion.

Differential:

Foot Fracture vs. sprain

Toe fracture

Ankle Sprain

Bone bruise

Tests:

X-ray – Transverse slightly distracted fracture of base of 5th metatarsal

Bone Scan – Positive for osteoporosis

Final Dx:

1.Osteoporosis secondary to PrEP

2.Fracture of left 5th metatarsal base secondary to osteoporosis

Discussion:

1.Risk factors for bone fragility: low BMI, smoking, Hep C, hypogonadism, HIV, ART use

2.<30 yo on ART are at risk for bone mineral density (BMD) loss as they have increased bone turnover rates and haven't attained peak bone mass

3.Emtricitabine-tenofovir is first line therapy for HIV prophylaxis; but ASSERT and ACTG trials have indicated decrease of 1-2 % more in BMD at 48 wks versus other regimens

4.Strategies:

Interrupted ART -> Risk: increased AIDS/death

Bisphosphonate –> Risk: pill burden, cost, toxicity

ART switch: from Tenofovir to Raltegravir or Abacavir/lamivudine

- increase BMD of hip/spine noted in trials at 48 wks, but no long term trials

5.Higher BMD decrease and fractures noted within first 1-2 yrs with ART

6.It's important to discuss about loss of BMD and fractures and encourage calcium and vitamin D supplementation before PrEP use.

Outcome:

Patient was transitioned from boot to post-op shoe and underwent physical therapy. He has returned to regular physical activity. Was placed on calcium and vitamin D. Has close follow-up with endocrinology.

Case Report: breast cancer on hormonal therapy and Palbociclib, and ethanol intoxication

Aditi Ghosh, MD.
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Abstract

Case of a 66 year old female with a PMHx significant for breast cancer on hormonal therapy and Palbociclib, who presented for nausea, vomiting, and "blood in vomit". Ms. G was significantly altered in the ED, noted to have bright red bleeding from gums, asterixis and moderate abdominal swelling with spider angiomata and potentially mild amount of ascitic fluid within the abdomen. Labs were significant for thrombocytopenia , hyperbilirubinemia @ 2.1, hypoalbuminemia @ 2.7, ALP @ 212, AST @ 58 and lipase of 565, hypocalcemia @ 7.5, and elevated TSH of 5.23. Her blood alcohol level was 361. Ms. G's dark emesis, dark stools can be explained her swallowing blood from gingival bleeding and chronic thrombocytopenia. Abdominal pain can be explained by pancreatitis caused from ALD along with taking decadron for bony metastasis. Based on her clinical findings, Ms. G was treated for acute pancreatitis and during the course of her stay became acutely short of breath, unable to maintain oxygenation on her own, developed the need for 15L of O2 by Non-rebreather mask and her chest xray was indicative of acute pulmonary edema. We discontinued her fluids, began treatment with Lasix and brough palliative and oncology on board to discuss further treatment. It was explained to her and her family that her breast cancer was in remission and if she chose to quit drinking alcohol, her chemotherapeutic agents may work. But after a long family discussion with Ms. G, it was determined that her addiction to alcohol exceed her wish to continue chemotherapy treatment. Ms. G was DNR/DNI to begin with, therefor before she went into respiratory failure, all treatment was withheld, and she passed.

Case Report: Keeping antibiotics off the list of allergies.

Robert Rakowczyk, MD.
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Abstract

Drug and viral exanthems can be a challenge to distinguish based on exam alone. However, it is critical to definitively make this distinction in young children taking amoxicillin because the drug is so important as a first-line treatment for pediatric infections.

A 9-month old girl developed a low-grade fever with left ear-tugging, and she was evaluated in the emergency department on Day 2 of illness after the fever rose to 103.5F. In the ED she had a fever to 102.2F, an erythematous left tympanic membrane with normal light reflex, and no skin rash. She was diagnosed with otitis media and prescribed amoxicillin. Fever resolved on Day 5. On Day 6 of illness, she was brought to the pediatric clinic for evaluation of a new rash. Rash was composed of a blanching maculopapular rash, present only on trunk and forehead. Ear exam was unchanged from ED examination.

A drug reaction was unlikely in this scenario given that the patient had no prior exposure to amoxicillin, and it was too early in the course of antibiotics for a hypersensitivity to develop. The decision was made to stop the amoxicillin and re-evaluate the infant in 2 days.

Upon re-evaluation on Day 8 of illness, the infant's rash had progressed to diffusely cover the entire body in a fine erythematous maculopapular rash. At that point, the medical team was able to definitively rule out drug reaction and diagnose the infant with roseola infantum.

This case illustrates the value of being able to critically evaluate the etiology of a rash in situations where there is more than one possible cause, and making the wrong conclusion would prevent a child from being able to use a commonly prescribed antibiotic.

Chronic Kidney Disease and the use of ACE/ARBs

Mona Madani, MD, Thomas Northrup, PhD, Deepa Iyengar, MD, MPH, and Michelle Klawans, MPH.
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Abstract

Purpose: Chronic kidney disease (CKD) is the 9th leading cause of death in the USA. Early treatment with angiotensin-converting enzyme inhibitors (ACEIs) or angiotensin-II receptor blockers (ARBs), avoiding drug-induced kidney injury, and lifestyle changes may prevent CKD progression. Primary care providers (PCPs) manage co-morbidities and help prevent CKD progression by knowing CKD prevalence, testing for CKD, and prescribing ACEIs/ARBs.

Methods: A cross-sectional chart review at an urban primary care clinic was conducted (for patients seen between July 2014-July 2015. Patients' charts (N=100) were selected for a CKD diagnosis (stages II-V) and age >18 years. CKD was determined by GFR (2009 CKD-EPI creatinine equation). The following data were extracted: demographics, co-morbidities (diabetes mellitus [DM], hypertension [HTN], cardiovascular disease [CVD]), creatinine level, proteinuria, ACEI/ARB use, and nephrology referral documentation.

Results: Two-thirds (67%) of patients with CKD II-V were placed on ACEIs or ARBs. Patients with CKD were also diagnosed with HTN (86%), DM (58%), and CVD (31%). Over half (54%) of patients were referred to nephrology, with nearly all stage-V patients being referred. All patients with stage-IV and V CKD had creatinine >1.2. Almost half (46%) with stage-III CKD and 15% of patients with stage-II CKD had creatinine levels >1.2.

Conclusion: Results show that more than half of the physicians (67%) are implementing the use of ACEIs or ARBs to preserve kidney function in patients with CKD and co-morbidities. The use of creatinine alone to detect CKD, especially in early stages, should be discouraged and using GFR estimates as indices of kidney function should be encouraged. Education on the appropriate annual screening for CKD in a high-risk population, blood pressure control, careful use of NSAIDs and prescribing ACEIs or ARBs as deemed appropriate may help treat and further reduce the progression of CKD.

Decreasing variability in chronic pain management through standardization of clinic processes and documentation

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Abstract

Context:

The 2007 Monitoring The Future (MTF) survey found high rates of nonmedical use of the prescription pain relievers Vicodin and OxyContin. One of the factors believed to have led to the increase in abuse are doctors. Seeing an opportunity to update Pain Management and Opioid prescribing training, we applied Canada, DiRocco, and Day's "better approach to opioid prescribing in primary care" to our curriculum.

Objective:

To improve faculty and resident knowledge in prescribing opioids and decrease variability in provider management of chronic pain through adherence to standardized clinic processes and documentation.

Setting:

Community supported, residency affiliated, underserved, ambulatory Family Medicine clinic (FMC).

Patients:

Chronic Pain Patients prescribed controlled substances by providers of the FMC.

Intervention:

Programmatic adaptation of a revised clinical lecture series and processes. Provider participation in workshop and general electronic dissemination of materials relating to the revised opioid treatment process. Main points of the protocol included: a) utilization of Opioid Risk Tool to risk stratify patient, b) follow high-risk paints monthly, low-to-moderate patients every 3 to 6 months', c) use standard diagnosis (chronic pain, ICD-9 code 338.29A) in the EMR problem list, d) complete a standardized EMR "smart set" documenting evaluation and management.

Results:

While providers were introduced to standardized clinic processes and documentation, utilization of these approaches remained low.

Conclusion:

Additional cycles of this QI project are needed to promote further 'buy-in" from providers.

Efficacy of adjuvant Cognitive Behavioral Therapy (CBT) in improvement of depression and pain in Rheumatoid Arthritis patients

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Abstract

Context: Pain is a significant complaint in patients with rheumatoid arthritis. Pain involves significant physical and psychological components. Pharmacological interventions alone often are ineffective in addressing the psychological aspects of pain in rheumatoid arthritis. (RA)

Objective: To assess the efficacy of adjuvant cognitive behavioral therapy (CBT) in reducing pain as measured by "Impact of Rheumatic Diseases on General Health and Lifestyle" (IRGL) pain scale and improving depression as measured by the IRGL depression screen and the "Hospital Anxiety and Depression Scales" (HADS) score, in adults with RA.

Design:

- Evidence-based review

- Searched PubMed, Cochrane Review, and Medscape using keywords "Rheumatoid Arthritis", "CBT", "Behavioral therapy", "counseling", "Cognitive Therapy"

Setting: Ambulatory Outpatient centers

Patients: Patients aged 18-86 diagnosed with Rheumatoid Arthritis Inclusion Criteria: ≥18 years old and confirmed diagnosis of RA by a rheumatologist. Exclusion Criteria: co-morbid cardiac condition, cancer, renal insufficiency (Evers 2002); RA less than two years (Sharpe 2001)

Intervention: 11-12 Adjuvant CBT sessions over 6 months in addition to pharmacological standard of care.

Results:

(Evers 2002) -Absolute decrease in pain as measured by IRGL pain scale showed pain decreased from 36.03 to 24.08 (P value 0.02) - IRGL depression screen, from 12.79 to 9.98 ($P < 0.01$)

(Sharpe 2001) -HADS-D score decreased from 4.87 to 3.83 (P value 0.018).

(Leibing 1999) -Affective pain score decreased from 21.3 to 16.5 (P value 0.048).

Conclusions: Adjuvant CBT sessions resulted in a statistically and clinically significant reduction in pain and depression as measured by IRGL and HADS scores in adults with rheumatoid arthritis.

- There were no significant adverse events associated with use of CBT when compared to control group

- Further studies with long term follow up are needed to assess effects of CBT on disease progression and functional status of RA

Efficacy of Caloric Restriction for Pain Reduction in Adult Patients with Knee OA and BMI over 25 kg/m^2.

Shoaib Khalid, MD and Joel Rodriguez, MD.
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Abstract

Context: Osteoarthritis is a common cause of knee pain, caused by a complex set of modifiable risk factors such as Obesity. Patients with elevated BMI are six times more likely to have Osteoarthritis1. Treatment modalities include exercise, diet and weight loss. The effect of isolated caloric restriction on knee OA pain needs to be clarified.

Design: Evidence Based Review. PubMed search using key words “Knee OA, Weight Loss + Knee OA, Caloric Restriction + Knee, Knee Pain + WOMAC + Caloric Restriction. Diet + Osteoarthritis” with 8 Results that were narrowed down to three randomized controlled trials.

Setting: Outpatient Centers.

Patients: 415 Patients with a mean age of 61 old and predominantly females 65%-88% were randomized to either a caloric restriction diet or no-diet weight loss. Inclusion criteria comprised of adult men and women with BMI over 25kg/m2 with primary knee OA and functionally limiting pain. Exclusion criteria included anybody with rheumatologic disorders, unstable medical conditions, and secondary causes of Knee OA.

Intervention: 600-1000 kcal deficit or 800 kcal total intake per day.

Main Results: Absolute reduction in mean WOMAC pain score was compared between Caloric restriction vs. control group; -7.2mm (p=0.02)2 and -27.2mm (p=0.15)3 on the VAS and -.08 (p=0.085)4 on Likert Scale.

Conclusion: In adults with BMI >25kg/m2 and primary knee osteoarthritis, there is insufficient evidence to show that caloric restriction alone over a 2 to 24 month period reduces knee pain with consistent statistical and clinical significance.

Exploring the Effectiveness of Antidepressant Medication Plus Counseling vs. Antidepressant Medication Alone in the Care of Patients

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Abstract

USPSTF recommends screening for depression in all adults regardless of risk factors (level B recommendation). The Patient Health Questionnaire (PHQ-9) is a commonly used and validated screening tool. In those that screen positive, adequate support systems should be in place to ensure accurate diagnosis, effective treatment, and follow-up. Clinicians must determine the best way to accomplish this in their own practice setting.

Methods:

This resident-led quality improvement initiative was a retrospective review of patient's medical records aimed at evaluating whether antidepressant medication plus counseling was superior to antidepressant medication alone. Secondary aim was to identify barriers to counseling. The setting was a family medicine residency clinic in Sugar Land, TX. Participants were patients of residents and faculty members in the Green Pod at the residency clinic. The results were analyzed through the use of descriptive statistics.

Results:

All patients reported improvement whether on antidepressant medication plus counseling or antidepressant medication alone. Patients on antidepressant medication plus counseling had greater improvement.

Conclusion:

Our physicians are well equipped to screen for depression. Regular follow-up visits are critical when caring for patients on antidepressant medication. Antidepressant medication combined with offering counseling services is the clinic standard of care and proved to be superior. Physician documentation of acceptance (and declination) of this standard of care is critical. The residency clinic will continue to pilot new mental health initiatives based on this research.

Familias Contra Diabetes: Group Visits to Teach Self-Management Strategies to Diabetic Patients and Their Families

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Baylor College of Medicine Family Medicine Residency Program.

Abstract

Context:

Teaching patients self-management strategies is an important treatment component for people with diabetes. Lifestyle changes can improve blood sugar control and prevent diabetic complications. In addition, group visits have been found to be an effective means to help patients learn the self-management items needed for them to gain control of their diabetes.

Objective:

To teach self-management strategies to patients with poorly controlled diabetes in order to prevent disease progression and complications by using a family group model.

Design:

Patients from Northwest Health Center between 18 and 75 years of age, with a Hemoglobin A1C ≥8 %, who had a support person who could attend the sessions, were recruited during clinic visits to participate in five group sessions. Twenty participants were recruited and six were consented and enrolled.

Setting:

Community supported, residency affiliated, underserved, ambulatory Family Medicine clinic.

Intervention:

Using materials from the National Diabetes Education Program, each session included: physical activity, nutrition (patients were shown how to prepare foods appropriate for a diabetic diet) and the "topic of the day". Topics included: Introduction to diabetes, Diet, Medications, Exercise, Summary/Q&A session. Patients and their family members were surveyed at the beginning of the study to assess their knowledge of diabetes and at the completion of the study to see if their knowledge changed.

Results:

The post session questionnaires in overall knowledge and rating of the group sessions are pending. The expected outcome is improvement in knowledge and understanding of the disease process.

Conclusion:

We hope that patients and their family members will rate the group sessions as being useful. We expect involving support members will benefit patients as they learn to manage their diabetes. Long-term objectives include seeing improvements in hemoglobin A1C values, lipid profiles and BMI after the interventions.

Food Insecurity QI- Can we screen?

Thomas Kim, MD, MPH, Sophia Thomas, MD, Sheldon Gaines, MD, Roslyn Oduro, MD, and Eric Warwick, MD.
Baylor College of Medicine Family Medicine Residency Program.

Abstract

Context:

Socio-economic factors play a pivotal role in the overall well-being. Food insecurity is a significant issue within the Houston area and collecting data will help to assess the prevalence of this problem. As primary care providers who deliver care to an underserved population, it will be beneficial to see the impact of food security on chronic co-morbid conditions such as depression, obesity, and diabetes.

Objective:

To assess if a screening tool to identify food insecurity can be successfully implemented. Then, to describe the prevalence of food insecurity in patients seen at the Northwest Harris Health Center by means of a 2-part validated questionnaire.

Setting:

Community supported, residency affiliated, underserved, ambulatory Family Medicine clinic (FMC).

Patients/Participants:

Patients of participating providers of the FMC, from October 2016 – April 2017.

Intervention:

Providers participated in a workshop focused on food insecurity. Providers then engaged patients regarding food insecurities in their routine visits. Documentation of patient intervention, validated questionnaire, and outcome of plan were resulted into patient's medical record.

Outcome: Retrospective review of participating provider patient panels to identify percent of population screened, and barriers encountered in screening process. Intervention increased total number of food insecurity inquiries compared to prior to the intervention.

Improving compliance of Diabetic Eye Exams: A quality improvement project

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UT Health McGovern Medical School Family Medicine Residency Program.

Abstract

Purpose:

Diabetic retinopathy is a leading cause of blindness and screening eye exams per recommendations for early changes related to diabetes is very crucial. After the initial examination, annual screening should be performed if retinopathy is present or every 2 years if not present. This quality improvement project aimed to increase diabetic eye exam ordering at a family medicine teaching clinic.

Methods:

Charts of diabetic patients were chosen randomly and reviewed for eye exam documentation. If documentation was not found, the patient was contacted via telephone. Following the chart review, all diabetic patients presenting to the clinic received a questionnaire about their last diabetic eye exam. The triage nurse provided a referral for a diabetic eye exam, if none was found with a return results fax form. Patients receiving the intervention had their charts reviewed after one month to determine compliance.

Results:

At baseline, 58 out of 64 charts reviewed (90.5%) did not have a documented dilated eye exam present. Out of the 58 patients, 25 were reached by phone, eight (out of 25; 32%) reported not receiving a diabetic eye exam in the past 2 years. Fifty-nine patients completed the check-in questionnaire, and 21 (35%) of these patients reported not having an eye exam in the past 2 years. Following the intervention, 16 (out of 21; 76%) had a documented order for a referral for an eye exam placed.

Conclusion:

This project showed that greater than half of the diabetic patients had an eye exam in the past 2 years, but the results were not documented in their chart. A simple, nurse-led intervention demonstrated feasibility and possible improvement in the referral and documentation of the eye exam per recommendations among diabetics.

Improving Quality of Life with Thyroid Replacement in Patients with Subclinical Hypothyroidism

Julia Dong, MD and Poyani Desai, MD.
Houston Methodist Hospital Family Medicine Residency Program.

Abstract

Context: The role of thyroid replacement in subclinical hypothyroid has been controversial. Several review articles published in 2007 discuss the role of levothyroxine treatment in SCH. Since 2007 new research has been published regarding treatment of SCH and the improvement of multiple patient oriented outcomes

Objective: In adult non-pregnant patient without heart failure with subclinical hypothyroidism, does treatment with thyroid replacement improve quality of life compared to no intervention?

Design: Evidence based review

Setting: Outpatient

Patients: 208 patient (ages 18-80)

Inclusion criteria – Patient with stable SCH with elevated TSH >4 and FT4 in normal range.

Exclusion criteria – psychiatric disorder, uncontrolled chronic diseases, previously treated hypothyroidism

Measurements/Main results

- First article (Reuter 2012): SF36 (Quality of Life questionnaire) 6.5 ± 13.2 vs 7.4 ± 18.3, p=0.863.

- Second article (Baldini 2009) –SF36 (57.1 ± 16.7 vs 67.3 ± 13.7, $p<0.05$)

- Third article (Razvi 2007) – Total Quality of Life questionnaire (-1.1 ± 1 vs. -1.2 ± 0.9, p =0.24)

*Studies not adequately powered for Quality of life measurements.

Conclusion

In adults with SCH, there is insufficient evidence to recommend for or against thyroid replacement to improve overall quality of life (Level of Evidence B)

Inactivated influenza vaccine and Bell's Palsy

Madiha Khan, MD, Charvi Shah, MD, Tracey Angadicheril, DO, Dimple Desai, MD, and Bret Howrey, PhD.
UTMB Health Family Medicine Residency Program.

Abstract

Introduction:

We analyzed the current literature in order to investigate the association between inactivated influenza vaccine and Bell's Palsy.

Methods

We conducted a literature search through the Pubmed search engine, using the keywords "influenza vaccine" and "Bell's Palsy". This resulted in 27 articles. Of these we included the five studies which specifically used the parenteral inactivated influenza vaccine.

Results:

We found that parenteral seasonal influenza vaccine was not associated with Bell’s palsy (BP) (SOR B, 2 cohort and 3 case-control studies). Monovalent inactivated vaccine (MIV) showed no increased risk of BP (SOR B, 1 case-control study). Intranasal inactivated influenza vaccine was associated with increased risk of BP (SOR B, 1 case-control study).

Inappropriate use of the Emergency Department: Patient perception or physician unavailability

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UT Health McGovern Medical School Family Medicine Residency Program.

Abstract

Purpose: Unnecessary Emergency Department (ED) visits each year result in significantly increased medical expenditures, despite a majority of ED patients having a primary care provider (PCP). The purpose of this QI project was to explore how often and why family medicine clinic patients presented to the ED. A secondary aim was to determine if patients presented directly to the ED and/or used alternative measures, such as urgent care and nurse triage hotlines.

Methods: A cross-sectional survey was distributed to all patients >18 years old who presented at the clinic. Patients reported their sociodemographics, insurance type, and if they had presented to the ED in the past six months. Those who had presented to the ED for care reported on their reasons for ED visits and any alternatives they had utilized.

Results: 326 patients completed the survey; 57% of respondents were insured privately and 37% were insured publicly. A quarter of respondents (n=82; 25%) had visited the ED in the past 6 months. While many reported visits for acute reasons (i.e., head injuries and motor vehicle accidents), the majority sought care for non-emergent reasons (i.e., flu-like symptoms, back pain, and ear infection). Two-thirds (n=52; 67%) reported making an appointment with their PCP prior to visiting the ED, but few called the triage nurse or visited an urgent care (n=20; 26%). Following ED discharge, 73% (n=47 out of 64) reported following up with their PCP. In keeping with national trends, the publically insured were significantly more likely to present to the ED than the privately insurance (p=0.0001).

Conclusions: This QI project highlights that many patients seek ED care for non-emergent reasons. Developing interventions, including patient education and block appointment slots for ED and hospital follow-up, may help ease the burden on EDs nationwide.

Is the quadruple screen better than cell-free DNA testing for prenatal diagnosis of chromosomal disorders?

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Abstract

PURPOSE: To determine how the quadruple screen (QS) compares to cfDNA testing in detecting genetic abnormalities during pregnancy.

METHODS: A mini-systematic review was conducted by online review of relevant studies.

DATA: A 2015 meta-analysis, a 2012 Cochrane Review, a 2011 retrospective cohort analysis, and a 2014 prospective observational study in which screening for fetal aneuploidies was performed by either standard of care (QS) or cfDNA testing were examined.

ANALYSIS: Data regarding detection rates and false positive rates from each study were combined into a single table.

RESULTS: The 2015 meta-analysis (cfDNA) found DRs for T21, T18, T13, and XO were 99%, 96%, 91%, and 90.3%, respectively, while FPRs ranged from 0.09%-0.23%. The 2012 Cochrane Review (QS) found DRs ranged from 72-85% and FPRs ranging from 3-24%. The 2011 retrospective cohort analysis (QS) found DRs for T21, T18, T13, and XO were 75.7%, 84.3%, 43.5%, and 74.5%, respectively, and FPR for T21 of 3.8%. The 2014 prospective observational study found lower FPRs for cfDNA than QS (0.3% vs 3.6% for T21, $P<0.001$; 0.2% vs. 0.6% for T18, $P=0.03$).

CONCLUSIONS: From 2 independent meta-analyses, cfDNA testing is more accurate than QS in detecting trisomy 21 (T21). (SOR: A, meta-analysis). cfDNA also appears more accurate in detecting trisomy 18 (T18), trisomy 13 (T13), and Monosomy X (XO). (SOR: C, retrospective cohort, prospective observational).

No History of Fall: Subdural Hematoma Surveillance in Elderly found down with Rhabdomyolysis

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Abstract

A patient who presented to the Emergency Department (ED) after being found down at her home who endorsed generalized muscle weakness, but was alert and oriented. She was found to have a slightly elevated troponin, but very high creatinine kinase . Cardiology ruled out cardiac etiology. EKG was normal and troponins were drawn. Patient denied any history of falling. Patient was admitted and treated primarily for rhabdomyolysis. The next day after the development of neurological deficits and further questioning patient endorsed the possibility of a fall. CT head non contrast revealed bilateral acute on chronic subdural hematomas. Patient underwent successful burr hole drainage of subdural hematomas with successive left frontal-temporal-parietal craniotomy days later after the development of a pneumocephalus following subdural drain removal. About a week later the patient was discharged to a LTAC facility for further recovery. The decision between conservative and operative management for SDH is based upon many factors. This case indicated by the size and impingement of the hematomas qualified for operative management. While not all subdural hematomas require surgery, the estimated overall mortality rate in those that do range from 40-60%.1 Although an initial patient presentation with the history of no apparent fall and normal neurological exam may not warrant head imaging; the onset of rhabdomyolysis should decrease the threshold for further imaging to rule out acute intracranial abnormality. Understanding that prolonged immobilization after lying in one position for an extended period of time may lead to rhabdomyolysis and particularly for a patient without history supporting another cause for rhabdomyolysis; head imaging should be acquired to ruled out the cause of immobility to help avoid catastrophic complications from a delayed or missed diagnosis of intracranial pathology. The objective of this case report is to support the utility in acquiring head imaging in a patient with the onset of rhabdomyolysis after being found down despite history of no fall.

Physician Knowledge of Occupational Diseases and Referral Practices

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Abstract

Purpose: Occupational diseases are acute or chronic ailments that occur as a result of work or occupational activity. Examples of occupational diseases (ODs) include asbestosis (ship yard workers), occupational asthma, and chronic back pain. Patients with occupational diseases frequently present to family medicine clinics; available evidence suggests ODs are under reported. In 2014, 3 million nonfatal ODs and injuries were reported to the U.S. Bureau of Labor Statistics. The aim of this quality improvement project was to assess the knowledge of and perceived importance of screening for ODs among family medicine physicians, and the frequency of referral of patients with ODs to occupational medicine specialists.

Methods: Fifty-five physicians at an urban, academic family medicine clinic (n=30 residents; n=25 attending physicians) completed a 9-item questionnaire which included questions on types of ODs treated by the physicians, frequency of referral to occupational medicine specialists, barriers to taking an occupational history, and perceived importance of taking occupational histories by physicians.

Results: Fifty-seven percent (n=31) reported receiving some occupational medicine training, and 53% (n=29) reported that asking patients about employment during a visit was either very or extremely important. However, 49% (n=27) of the physicians surveyed had never referred a patient to an occupational medicine specialist. The most commonly reported barrier to taking an occupational history was time (n=19; 35%), followed by knowledge of occupational diseases (n=14; 25%). Thirty-seven respondents (67%) gave a work excuse without obtaining a patient's work history.

Conclusion: The majority of physicians reported having some occupational medicine training and believing that assessing patients' occupations was important. Only half reported ever referring patients to occupational medicine specialists. Time constraints and lack of knowledge about ODs were listed as the most common barriers to completing an occupation health screen. Increased occupational medicine training during residency may increase efficient occupational screening.

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Pre-visit Planning impact on Quality Health Measures

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Abstract

Background: Improving efficiency of clinic workflow is critical in improving delivery of care and physician work satisfaction. Team based care and pre-visit planning is a strategy to maximize efficiency by evaluating patient needs prior to each encounter. This strategy empowers the health care team to contribute to patient care by initiating discussion of preventive care before the physician enters the room.

Objective:

The purpose of this project is to evaluate usefulness of pre-visit planning and its effect on quality improvement measures.

Methods:

A mixed method study design was employed.

Setting: Memorial Family Medicine Residency Physicians at Sugar Creek-Orange POD

From 11/2016 – 3/2017, a pre-printed form containing information on overdue preventive tests was utilized. The contents of the form were discussed between the care team at the beginning of each clinic session. Qualitative data was collected through surveys, ethnographic observation, and informal interviews. Quality measures were tracked via EMR. Study limitations include usage variance, nursing interventions, and short time frame of project.

Results:

Ethnographic data: Provider usage of pre-visit form: 25-50%. Nurses felt empowered to initiate discussion on preventive tests, and physicians reported identifying gaps in care.

Physician self report: Pre-visit form usage: 25-50%. Reported positive impact on quality of care.

Objective data:

Flu vaccination rate improved from 70% to 79%. HbA1C < 9 increased 80% to 82%. Blood pressure control in hypertensive patients increased 68% to 70%. Blood pressure control in diabetics increased 55% to 63%.

Conclusion:

The findings suggest pre-visit planning leads to subjective improvement in care measures. After implementation of the pre-visit planning form, there is a significant improvement in blood pressure control among patients with history of hypertension and diabetes, HBA1C < 9 and flu vaccination. Quality measures which could be implemented at the same office visit showed improvement. There was no improvement in other preventive quality measures. Limited effect of the pre-visit form improving quality measures could be attributed to varied adaptation in physician usage.

Risk vs Benefit of Cholesterol Reduction with Statin Use

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Abstract

Purpose: In 2013, the American College of Cardiology came out with new recommendations for cholesterol management with statins. This represented a shift away from the treat to target approach to an approach where patients qualify for different intensities of statins based on risk stratification using risk factors for ASCVD. Statin use leads to lowered cholesterol levels, and the purpose of our study was to see if extreme reduction in cholesterol levels with statin therapy increases morbidity or mortality.

Methods: We did a mini-systematic review using Pub Med, Ovid, and Google Scholar. We reviewed several studies including meta-analysis of RCTs, systematic review of cohort studies, as well as RCTs.

Data: We used 4 articles relevant to our topic.

Results: Decreasing LDL levels are associated with decreased risk of cardiovascular events (SOR-A). Decreasing LDL levels are associated with decreased risk of coronary events (SOR-A). Decreasing LDL levels are associated with adverse events (SOR-C).

Conclusions: Lowering LDL levels has been associated with decreased cardiovascular and coronary events, as well as reduction in all-cause mortality. There is a possibility of increasing hemorrhagic stroke at LDL levels <100, but this is a rare event. These studies have reinforced the benefits of statin use in ASCVD risk reduction which seems to outweigh the risks which include increased risk of diabetes, hematuria, insomnia.

Starting Off on the Right Foot: A Diabetes Quality Improvement Project

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Abstract

PURPOSE: Diabetes mellitus (DM) is a health condition that affects millions of Americans. Appropriate management involves a significant proportion of health resources, including human health resources and is often managed by primary care physicians. The purpose of this quality improvement project is to improve the outcome and delivery of high-quality diabetes care to our patients affected by this disease.

METHODS: This quality improvement project is a comparative study which was carried using patient data obtained from electronic medical records (EMR) to evaluate each physician's current quality of diabetes patient care. Using a smart phrase shared with faculty and residents which contained ADA Clinical Recommendations facilitated evaluation of management at patient point of care. Medical records were reviewed 30 days following implementation of smart phase to assess project effectiveness.

DATA: Patient records reviewed included hemoglobin A1c, urine microalbumin, lipid panel, blood pressure, BMI, eye exam and complete diabetic foot exam. These were reviewed to determine compliance with current standard of care in the view of staving further progression of DM.

ANALYSIS: Chart review was first carried out and gathered into the AAFP Diabetes METRIC module. It was analyzed before and after smart phrase implementation.

RESULTS: Are pending.

CONCLUSION: We hope that the use of a comprehensive smart phrase will improve both physician documentation and adherence to diabetes guidelines, ultimately leading to the improvement of patient care.

Sudden Paralysis: A Case Report Regarding Brachial Plexopathy

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Abstract

Brachial plexopathies can be characterized as a sudden onset of severe pain in the upper extremity and shoulder, upper arm weakness and loss of sensation.¬¬1 A patient presenting with these symptoms poses many challenges in diagnosis and therapy especially in light of the limited literature available regarding this topic primarily due to its rarity.

A 35-year-old man presented to the ER for asthma exacerbation and sudden onset of right arm weakness and pain following a viral upper respiratory infection. His asthma was treated appropriately however his neurological deficits persisted following resolution of his exacerbation. His symptoms consisted of decreased range of motion and strength in his right shoulder and elbow, burning pain at his right arm with gradation to paresthesia into his forearm and decreased reflexes of the right biceps and brachioradialis. CT head without contrast showed no acute intracranial processes other than paranasal sinus opacification. MRI brain without contrast noted T2/FLAIR hyperintense foci in the bilateral cerebral white matter. MRI with and without contrast of the right brachial plexus was unremarkable. Basic labs remained within normal limits, sputum and blood cultures, influenza and RSV were negative; he was positive for opiates. Given his lack of trauma and a self-reported episode of left wrist drop in 2012 which resolved gradually over 6 months with steroids, the diagnoses of idiopathic and hereditary brachial plexopathy were at the top of the differential. The patient was given 100mg prednisone for two weeks followed by an eighteen-day taper with full resolution.

This case exemplifies the importance of a thorough history and neurological exam when accessing a patient with any neurological symptoms to adequately localize and diagnose without extraneous imaging or tests. Appropriate diagnosis not only guides therapy but also provides the opportunity to mitigate the patient's apprehension often associated with this condition through education.

Superior mesenteric artery thrombosis from marantic endocarditis leading to acute mesenteric ischemia

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Abstract

Marantic endocarditis if not properly diagnosed and anticoagulated can cause deadly embolism throughout the body (cerebrovascular accidents, mesenteric ischemia, splenic/renal infarct, limb ischemia, pulmonary embolism, etc.). Etiologies are often from hypercoagulable states which include advanced malignancy (80%), autoimmune syndrome such as systemic lupus erythematosus, antiphospholipid syndrome, rheumatic heart disease, rheumatoid arthritis, sepsis, and burns. A review of previous case reports and literatures showed association between mesenteric ischemia with antiphospholipid syndrome or occult malignancy. This report presents a unique case of marantic endocarditis with thrombus to SMA causing jejunal ischemia with negative hypercoagulable state work up and no occult malignancy seen on imaging. It also serves as a quick review on how to recognize impending ischemia on physical exam and the importance of a timely diagnosis to prevent irreversible bowel damage. It is our job as physicians to look for the underlying cause of the clinical presentation no matter how unique or rare it is and intervene before it is too late. Sometimes the answer may not be straightforward and that may call for a collaborative effort from multiple specialties to enable a good outcome. As always, effective communications between teams is crucial in saving lives and avoiding bad outcomes.

The Evaluation and Management of Sports-related Concussions: A Review of Current Consensus Guidelines on the Timeframe from Injury to Return to School and Play

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Abstract

The diagnosis and management of sport-related concussion is a subject of ongoing debate. While various medical authorities generally agree upon the necessary steps between onset of injury to returning to school and play (i.e. diagnosis, initial assessment, continued evaluation and management, return to play, long term considerations), there are no clear recommendations regarding the timeframe at which such steps occur. The purpose of this study is to review current consensus guidelines on concussion diagnosis and management and summarize the limited timeframe recommendations available regarding return to school and play. Most consensus guidelines appear to be in agreement on initial sideline assessment with tools such as the Sport Concussion Assessment Tool 3 (SCAT3) and Standard Assessment of Concussion (SAC), using a graduated approach to post concussive management, and individualizing and athlete's plan to return to school and play. Most athletes with uncomplicated concussion will return within 7 to 10 days. However, for many athletes, their post concussive courses can be complicated by various factors, such as extended duration of symptoms, history of previous concussions, and neurological and other sequelae. Thus, while having greater evidence for establishing a timeframe for safe return to school and play will likely impact an athlete's recovery, it is still important to make decisions based on individual needs, previous history, and post concussive course.

The Use of Drug Screen Tests in Pregnant Women and Neonatal Health Outcomes

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Abstract

Illicit drug use during pregnancy increases the potential for poor neonatal outcomes. Women who screen positive for substance use during pregnancy are often tested again at delivery to determine if further intervention is necessitated. The primary aim of this quality improvement (QI) project was to determine the prevalence and results of urine drug screening (UDS) during prenatal care and at delivery in an urban, academic medical center.

Methods:

A cross-sectional chart review was conducted on 177 women who had a physician-ordered UDS during pregnancy. One hundred and forty-three of these women delivered at the clinic-affiliated hospital and had their charts reviewed again. Data abstracted included sociodemographic information, UDS results, infant birth outcomes, and maternal comorbidities.

Results:

Of the 173 women screened for drug use during pregnancy, 23% (n=40) had a positive result for any drug, and 19% (n=33) screened positive for marijuana. Ninety-two of the women screened during pregnancy (64.3%) were also screened at delivery. Twenty-two percent (n=20) tested positive for any drug, and 6.5% (n=6) tested positive for marijuana. Four of the women who tested positive for marijuana at delivery also tested positive for marijuana prenatally, while the remaining two women who tested positive at delivery had tested negative prenatally. Fifteen women who tested positive for marijuana prenatally were negative at delivery, indicating that they had successfully stopped their substance using during their pregnancies.

Conclusions:

This project revealed that marijuana was the most commonly used substance in this obstetric patient population, and that a small number of patients continued using marijuana throughout their pregnancies. Intervening with substance-using women early in the prenatal period may aid women in ceasing drug use and ensuring the best possible outcomes for their babies.

Thirdhand Smoke Exposure in a Neonatal Intensive Care Unit

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Abstract

Purpose: Thirdhand smoke (THS) is the residual nicotine and other chemicals left on surfaces by tobacco smoke; recent studies have shown that THS is ubiquitous including in seemingly smoke-free environments like the neonatal intensive care unit (NICU) (Northrup et al., 2015). No safe level of THS has been determined, and research raises the possibility that it may contribute to morbidity and mortality. THS in the NICU may be transmitted by medical staff in contact with THS outside the NICU. This project aimed to determine the proportion of NICU medical staff in contact with THS.

Methods: Questionnaires were distributed to 60% of NICU staff during shifts (n=260), 5.4% of whom refused the survey (n=14). The majority of participants were nurses (n=170). A carbon monoxide breathalyzer was administered to verify self-reported smoking status (smoking cut-off ≥ 11 parts-per-million).

Results: Based on the questionnaires, 8.9% (n=21) of the NICU staff were former cigarette smokers, while 1.7% (n=4) were current smokers. Similarly, 4.6% (n=11) reported trying electronic nicotine delivery systems (ENDS), but none reported being current ENDS users. This was consistent with the carbon monoxide levels obtained. However, 5.6 % of participants declared having at least one actively smoking household member. Despite the low percentage of participant smoking and ENDS use, any degree of exposure to THS was reported in 18.3% of friends'/family homes and 38.6% was reported in other locations. ENDS exposure was reported in 13.3% of friends'/family homes and in 28.9% of other locations.

Conclusions: Over a third of the NICU medical staff reported exposure to both smoking and ENDS use. This serves as a potential exposure pathway in the NICU as THS can be transmitted through contact with clothes and skin contaminated with residual smoke or nicotine. Further research into potential health consequences for NICU infants should be pursued.

Walking the Walk: Exploring Strategies to Engage Patients in a Physician-Led Exercise Program

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Abstract

Background: Walk With A Doc (WWAD) is a physician-led exercise program that seeks to model healthy behaviors and engage patients outside the exam room. Studies show walking helps improve blood pressure, mood and overall cardiovascular health. Despite the potential benefits of this type of community outreach program, it can be challenging for primary care practices to establish and maintain regular patient participation.

Primary Objective: Using a multimodal intervention, we sought to increase patient participation in a previously-established WWAD program based in a large, residency-affiliated patient-centered medical home.

Secondary Objective: To assess and analyze the incentives and barriers to WWAD participation.

Methods: In the second year of our WWAD program, we increased the frequency of the physician-led walks, added raffle-prizes, and provided phone reminders to interested patients. Attendance sheets recorded patient participation before and after these interventions. Qualitative data regarding successful interventions and barriers to participation (transportation, time, interest, lack of program awareness, etc.) were collected from both participants and non-participants in the form of surveys.

Results: Our study will conclude at the end of April so our results are still pending. We hope to see a positive increase in WWAD participants with the interventions we implemented this year. We also hope to delineate some of the barriers to participation and strategize ways to reduce them.

Conclusions: We hope the data from our study will improve the WWAD program for the 2017-18 year and ultimately make a positive impact on patient health and well-being.

Why patients refuse the influenza vaccine: Understanding barriers to enable the development of targeted interventions.

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Abstract

Background:

The influenza vaccine is an effective method used to prevent flu-associated morbidity and mortality. During the 2015-2016 flu season, vaccination prevented approximately 5 million influenza-associated illnesses, almost 2.5 million flu-associated medical visits, and 71,000 hospitalizations. Despite the risks associated with influenza, patients decline vaccination. The reasons for refusal continues to puzzle physicians since a vast majority of patients do not experience serious side effects or allergic reaction to the vaccine.

Aims:

The goal of this quality improvement project was to categorize vaccination-refusal reasons by patients at a university-based family medicine clinic. This would facilitate the development of targeted interventions to increase vaccine compliance rates.

Methods:

A chart review identified patients who did not receive the influenza vaccine for the 2015-2016 season. One hundred patient telephone interviews were conducted with these patients to collect vaccination status, reasons for vaccine refusal and potential strategies to ease patients' concerns.

Results:

Among patients reached via telephone survey, 50% of the participants were between 40 to 59 years old. Fifty-nine patients were female and 41 were male; 43% reported being Caucasian, followed by 19% African American, 15% Hispanic. The majority (55%) reported that they refused the influenza vaccine due to concerns that it is ineffective. Patients overwhelmingly (68%) preferred for their physician to emphasize the need for the vaccine and to engage in a discussion with them regarding its efficacy and safety. A smaller percentage of patients also expressed interest in a vaccination brochure placed in the clinic waiting room and patient rooms.

Conclusion:

This project showed that the fear of vaccine ineffectiveness was the most significant reason for influenza vaccine refusal. The project highlighted that physician-initiated discussions may be one of the most powerful methods to address patient refusal.