SIU GME Quality Improvement Poster Competition and Symposium

April 6, 2022
BACKGROUND
Handoffs are considered an essential part of transition of care. They compose an important pillar to patient safety and successful patient care. Incomplete information can adversely affect the quality of care. It has been reported in current literature that more than 60% of the root causes of sentinel events reported to the joint commission are related to failures of communication.

OBJECTIVES
We sought to evaluate the quality of the cardiovascular fellow hands-off in order to improve the accuracy of communication and elevate patient safety.

METHODS
In order to assess the transition of care in the inpatient setting in the Cardiovascular Division, physician hand-offs were monitored between the day fellow and the overnight on-call fellow. Baseline assessment of the quality of fellow to fellow hand-offs were assessed by a third fellow monitoring the accuracy of the hand-off. No standardized version of the hand-off was introduced to the fellows during the first phase of the project. For accuracy scoring, a standardized bullet-point document was used to determine the quality and the quantity of information which was transferred between observed fellows. Baseline scores were recorded from November 15th and December 15th of 2020.

RESULTS
The average pre-lecture accuracy score for physician hand-offs between observed fellows was 46%, where in the average post-lecture accuracy score was found to be 72%. Using Cochrane-Armitage method, we found a statistically significant uptrend in the accuracy of physician hand-offs from 30% to 70%, with a P-Trend < 0.001.

CHANGE IMPLEMENTED
The transition of care model was revised to include the recommended standardized assessment points during the hand-off process between fellows. The next step in the cycle is planned to assess the clinical impact of the change.

CONCLUSION
Peer to peer education utilizing a standardized model for assessment of hand-offs may increase compliance with patient safety standards and improve accuracy of physician sign-outs.
Improving statin use in patients at risk for cardiovascular disease

Malika Baig MD, Aminat Ogun MD, Lauri Lopp MD

Introduction

Cardiovascular disease (CVD): defined by the CDC as “a group of heart and blood vessel disorders” (1).
- Number one cause of death & disability globally
- Hypertension, Hyperlipidemia common risk factors for cardiovascular disease (1).
- Statins are the number one class of drugs to lower elevated low density lipoprotein cholesterol (LDL-C).
- Multiple meta-analyses of clinical trials of LDL-C lowering therapy in patients with ASCVD found strong evidence for reductions in CVD events & CVD mortality with use of statin therapy (2).

The USPSTF recommends that adults without a history of CVD use a low to moderate dose statin for the prevention of CVD events and mortality when:
- age 40 to 75 years
- 1 or more CVD risk factors
- calculated 10-year risk of a cardiovascular event of 10% or greater (3).

Methodology

AIMS AND OBJECTIVES
To improve statin use amongst SIU Center for Family Medicine patients at risk for cardiovascular disease.

METHODS
- 14 physicians: 10 residents and 4 faculty at the FCM clinic participated in this project
- Patient population: 21 years of age or older with:
  - Established dx ASCVD
  - LDL >190
  - Familial hypercholesterolemia,
  - Diabetes patients 40-75.
- Patients excluded: patients on hospice care, allergy to statin, liver cirrhosis or ESRD.
- Each physician assigned a set of patient charts to review via EHR whether above criteria was met for being on a statin. Chart was then updated with correct diagnoses.
- If hyperlipidemia or CVD diagnoses were met, “Statin declined”, “Statin Intolerant” was added to chart or prescription for statin was sent.

- PDSA CYCLE #1
  - Patients with diagnosis of CVD, diabetes found via an existing diagnosis in EHR who were not on statin therapy.
  - Contraindications were identified in cases where statin therapy was not appropriate or did not tolerate statin in past or declined statin therapy.
  - Patients were contacted via phone to inquire whether they were taking Statin medication and offered to start medication.
  - We analyzed the data and assessed improvement rates for statin therapy in the clinic.

- PDSA CYCLE #2
  - Patient care, chart review continued
  - Patients were identified who had inappropriate diagnosis of ASCVD and was corrected in EHR.
  - Treatment was initiated on patients who were willing and had indication for statin therapy
  - We analyzed the data and assessed improvement rates for statin therapy in the clinic.

Results

Baseline 2020 UDS reporting:
- 1235 (75.40%) taking a statin
- 403 (24.60%) not taking a statin

After PDSA 1:
- 1052 (58.7%) taking a statin
- 741 (41.3%) not taking a statin

After PDSA 2:
- 1819 (88.47%) taking a statin
- 237 (11.53%) not taking a statin

Significant increase in compliance between PDSA1 and post intervention (p<0.0001)

Conclusion

- By direct chart review of identified population, and care and communication with patients:
  - Identified &corrected diagnoses, prescription errors in EHR
  - Identified &updated allergies/intolerances in EHR
  - Provided education &prescribed statins in high risk populations
  - Improved our rate of statin use in high risk populations from 75% to 88.4%!

References:
1) "Cardiovascular Diseases | Division of Global Health Protection | Global Health | CDC." Centers for Disease Control and Prevention
Since at least 2010, cases of hepatitis C have been increasing rapidly, especially in the age group 20-39, and is thought to be related to IV drug use. The 20-39 age group is especially important because it includes women of child-bearing age.\(^1\) Maternal-fetal transmission is estimated to be between 4-7%.\(^2\) Recent CDC guideline changes in 2020 and ACOG guidelines in 2021 include recommendations for screening for Hepatitis C with every pregnancy.

Despite this updated recommendation, Hepatitis C screening rates in SIU Center for Family Medicine – Decatur pregnant patients are not where we would like them to be. Therefore, the objective of this quality improvement project is to increase Hepatitis C screening rates in pregnant patients through a resident education intervention.

**Methods**

This quality improvement project is a pre/post intervention study to improve Hepatitis C Screening Rates. The interventions will include:

1. educating SIU Center for Family Medicine – Decatur residents
2. updating prenatal worksheet to include Hepatitis C screening.
3. adding Hepatitis C antibody screening to EMR initial prenatal labset

Prenatal care is exclusively done through faculty-supervised residents at SIU Center for Family Medicine - Decatur. Residents will be educated of the new guidelines from CDC through didactic presentations. Our clinic utilizes a prenatal worksheet with a timeline for every pregnancy and the HCV antibody was added to this at the initial prenatal visit as something that should be done with every single pregnancy. Screening rates will then be compared pre and post intervention.

**Results**

![Graph showing Hepatitis C Screening rates](chart)

**Take-Home Points or Main Finding**

- Increases in incidence of Hepatitis C in pregnancy-aged women have led to need for more frequent screening, especially with increased consequences of maternal-fetal transmission of undetected.
- While no cases of Hepatitis C were diagnosed, there continues to be room for improvement in adopting newly recommended guidelines.

**Discussion or Next Steps**

Data collection has not been completed yet due to difficulties with extracting data from the Electronic Medical Record (EMR), but initial partial data from two months of 2022 was suggestive of large increase in screening rates. Most of this increase is due to initial lack of screening combined with starting new screening protocol. Preliminary data was suggestive of no systemic Hepatitis C screening, whereas post-intervention screening has shown improvement in compliance with screening recommendations from ACOG and the CDC. There continues to be room for improvement, but these additions have helped increase Hepatitis C screening in vulnerable populations.

**References**


A Quality Improvement Project to Improve the teaching of Pediatric Residents in resident Continuity Clinics

Nikita Garg, MD1, Afreen Abraham, MD1, Michelle Miner, MD1, Mary Katherine Siebenaler, MD1
1Department of Pediatrics, Southern Illinois University School of Medicine, Springfield, IL

Introduction

Background
- Continuous improvement of the education curriculum is required to meet the resident needs and ensure success of pediatric residents.
- In July 2021, Pediatric Residents reported opportunities for improved continuity clinic education.
- Initial survey of the pediatric residents noted a satisfaction score of 3.5 on a 5 point Likert scale (1 = very poor; 5 = excellent).
- Studies have shown that strategies such as "ambulatory teaching minutes" with brief teaching sessions are effective during resident continuity clinics and enhanced resident satisfaction.

Global Aim:
Improve the teaching of pediatric residents in resident continuity clinics.

SMART Aim:
1. Primary Aim: Improve average SIU pediatric resident satisfaction scores of their continuity clinic education by 0.5 on a 5-pt Likert scale over a period of 12 months by June 2022.
2. Process Measure: At least 60% of resident continuity clinics to have 10-15 minute teaching sessions by June 2022.

Methods

- A team of motivated residents and faculty were assembled to work on this project.
- A key driver diagram was created reviewing factors driving dissatisfaction with continuity clinic education (Figure 1).
- Multiple PDSA cycles were conducted with interventions targeting the factors identified.

Measures:
Outcome: Resident satisfaction on a 5 pt likert scale (1 = very poor, 5 = excellent)
Process measure: Percentage of teaching sessions reported per continuity clinic per week

Interventions:
1. Standardizing teaching time to 15 minutes prior to the start of the clinic. (Aug, 2021)
2. Asking residents and attendings to rotate leading the teaching discussions. (Sep, 2021)
4. Creating a list of resources (PowerPoint lectures, articles, tip-sheets) and topics to review during these sessions. (Nov, 2021)
5. Making resources accessible both in clinic and online. (Dec, 2021)
6. Posting tracking sheets to keep a record percentage of clinics having teaching sessions per week.
7. Sending surveys regarding resident satisfaction.
8. Sending feedback emails to residents and faculty reviewing their progress.
9. Sending encouragement emails to continue to track the education. (Mar, 22)

Results

- Tracking sheets demonstrated increase in the number of continuity clinics having 10-15 minute teaching sessions to 75% by mid of the academic year i.e by December, 2021. (Figure 2)
- Results show that our recorded sessions declined over time to 37.5% by Feb, 2022. (Figure 2)
- Serial surveys completed by residents illustrated improvement in their overall satisfaction to 3.75 by December, 2021 (Figure 3) and to 3.68 by March, 2022 after implementation of numerous interventions targeting the enhancement of the teaching curriculum.

Discussion

- Enacting several changes under the guidance of a resident-led quality improvement group to enhance the teaching curriculum in the resident continuity clinics shows a trend towards increased overall satisfaction of the residents.
- We suspect that the decline in the recorded number of teaching sessions over time is related to decreased tracking of educational sessions despite educational sessions actually happening as noted by recall method during the focus group monthly meetings.
- Anecdotally, residents report feeling more prepared for their clinics and know where to find information on topics they wish to read about.

Next Steps:
- Adding a balancing measure of patient wait times to ensure teaching is not negatively impacting clinic patient flow.
- Reviewing any change in board pass rates over time the course of years.
- Offering incentives like award for the resident continuity clinic with maximum days of teaching.
Introduction

Objectives:

• Determine the number of women who have been appropriately counseled on their risk factors at their new obstetrical visit that would warrant ASA use in pregnancy
• Assess evaluation methods and retention strategies during pregnancy

Methods

Data collection and analysis:
We conducted a retrospective chart review of all new obstetrical patients from SIU attending physicians and residents between the months of July-August 2020, October-December 2020, February-March 2021 and August-September 2021. The data used were extracted from the electronic medical record (Touchworks), and were stratified by the following criteria:
• Date patient was seen in clinic
• Provider level (resident vs. attending)
• Documentation of preeclampsia risk factors and ASA use
• Patient’s insurance provider, used as marker of socioeconomic status

Results

Table 2. Counseling Rates

Table: 2.048

<table>
<thead>
<tr>
<th>Time</th>
<th>Provider</th>
<th>ASA Counseling N (%)</th>
<th>P-value (Chi square)</th>
</tr>
</thead>
<tbody>
<tr>
<td>July-August 2020</td>
<td>Attending</td>
<td>143 (89%)</td>
<td>17 (11%)</td>
</tr>
<tr>
<td></td>
<td>Resident</td>
<td>78 (94%)</td>
<td>5 (6%)</td>
</tr>
<tr>
<td>October-December 2020</td>
<td>Attending</td>
<td>168 (84%)</td>
<td>31 (16%)</td>
</tr>
<tr>
<td></td>
<td>Resident</td>
<td>85 (76%)</td>
<td>27 (24%)</td>
</tr>
<tr>
<td>February-March 2021</td>
<td>Attending</td>
<td>135 (87%)</td>
<td>20 (13%)</td>
</tr>
<tr>
<td></td>
<td>Resident</td>
<td>37 (42%)</td>
<td>52 (56%)</td>
</tr>
<tr>
<td>August-September 2021</td>
<td>Attending</td>
<td>173 (84%)</td>
<td>32 (16%)</td>
</tr>
<tr>
<td></td>
<td>Resident</td>
<td>58 (76%)</td>
<td>18 (24%)</td>
</tr>
</tbody>
</table>

Results (cont.)

Discussion/Conclusions

• After implementation of department-wide communication to increase awareness of counseling patients on low-dose ASA use at new obstetrical visits, documentation of counseling rates increased.

• Adherence to ASA use has not been assessed, but more women were counseled on their risk for preeclampsia and how to prevent it which would potentially increase adherence.

• The rates of counseling documentation decreased when the new academic year started, and a new PGY-1 resident class joined the department. This class was given the same intervention; however, in addition to remembering to counsel patients about preeclampsia, they also needed to learn and remember to include all other aspects of a new obstetrical visit.

• The intervention did not seem to affect the practice of attending physicians’, as their rates of documentation were steady across all time frames. However, it is important to point out that when we calculated the rates based only on cases where counseling was documented, which may lead to underestimation of the rate of patients being counseled (it is likely that in a number of cases, patients were counseled, but documentation of counseling was not done).

• For future practice, our results show that increased communication results in improved provider awareness; however, it is likely that the intervention needs to be repeated regularly (re-education) or modified (by introducing different methods of education) to have a lasting effect on outcomes.

References


IMPLANTATION OF HUMAN REGENERATIVE TISSUE MATRIX WITH NATURAL LIVING STEM CELLS DURING DIRECT VISION INTERNAL URETHROTOMY TO REDUCE URETHRAL STRICTURE RECURRENCE

Daniel Lybbert, Kristen Delfino, Danuta Dynda, Samuel Grampsas

**Introduction**

- Urethral stricture affects up to 0.6% of men in the United States.
- Initial treatment options include endoscopic dilation or DVIU, although urethroplasty with an experienced urologist has the greatest long-term success.
- Unfortunately, many urologists are not trained for extensive open repair.
- Some patients also elect to forgo more invasive repair due to medical comorbidities or need to travel long distances to get care from a reconstructive urologist.
- With each subsequent endoscopic treatment, there are diminishing success rates and high incidence of stricture recurrence.

**Methods**

- Retrospective chart review from 2017 to 2021
- Endpoints for review:
  - Change in urinary symptoms using International Prostate Symptom Score
  - Adverse events related to procedure
  - Time to stricture recurrence if any during the study period

**Patients**

- Ten men aged 54-79; avg 65.5.
- Nine patients had a single stricture and one patient had two separate urethral strictures.
- Stricture length ranged from 0.5-5cm.
- Seven patients had isolated bulbar urethral strictures.
- Two had strictures within the pendulous urethra.
- The patient with two short strictures had one within the bulbar urethra and one within the pendulous urethra.

**Results**

- Preoperative IPSS ranged from 6-33 (mean 17.2)
- Postoperative scores ranged from 2-24 (mean 9.4).
- Adverse events included
  - urinary tract infection (one)
  - dysuria (one)
- Stricture recurrence
  - two patients at 3 and 9 months.

**Conclusion**

- Patients who undergo DVIU may benefit from application of HRTM at the time of procedure.
- Further studies are needed to assess the efficacy and long-term effects of HRTM use in urethral stricture disease.

**Human Regenerative Tissue Matrix (HRTM)**

- FDA approved for use anywhere in the body.
- Composed of live human placental membrane
- Mesenchymal stem cells
- Amnion layer
- Trophoblasts in the Chorion layer are removed to prevent immune response

**Benefits**

- Contains growth factors that promote neovascularization
- Reduces scar tissue from excessive fibrosis
- Reduces inflammation
- Inhibits bacterial growth

**Application of HRTM**

- At the time of DVIU, length to stricture to bladder neck is measured using the cystoscope.
- Length of stricture is measured.
- HRTM applied to catheter and sutured in place to ensure coverage over the incised stricture.
ROBOTIC ASSISTED URETEROPLASTY WITH BUCCAL MUCOSA GRAFT: A SINGLE SURGEON EXPERIENCE

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SIU School of Medicine - Springfield, IL¹
Tripler Army Medical Center - Honolulu, HI²

Introduction
• Ureteral stricture disease can be difficult to manage.
• There are multiple treatment modalities depending on length, location, and surgeon experience.
• The use of buccal mucosa autograft is a relatively new approach for management of complex ureteral stricture disease.
• Our approach utilizes ureteroscopy to identify the stricture and confirm patency intraoperatively.

Buccal Mucosa Grafts
• Buccal mucosa is commonly used during urethroplasty.
• Few centers around the world have started using buccal mucosa for repair of complex ureteral strictures.
• Data on this approach is limited to case reports and case series.

Ureteroplasty
• Ureteroplasty with Buccal Onlay
• Augmented Ureteroplasty

Firefly Imaging
• Detects near-infrared wavelengths of light
• Can isolate light from the tip of ureteroscope inside the ureter

Methods
• Retrospective chart review from 2019 to 2021
• Primary endpoints include
  • Subjective symptom resolution
  • Post-operative imaging demonstrating surgical outcome
  • Complications
  • Evidence of stricture recurrence

Patients
• 10 Patients age 21-74 (avg 47.9)
• 4 women, 6 men
• 9 Caucasian, 1 Hispanic
• Stricture length 1-6cm (avg 2.6)
• Stricture Location
  • 5 Proximal Ureter
  • 2 Mid-proximal Ureter
  • 3 Mid Ureter
• Approach
  • 5 Buccal onlay
  • 5 Augmented ureteroplasty

Results
• 8 patients had imaging demonstrating ureteral patency within 3 months post-operatively
• 8 patients had complete resolution of pain at follow up.
  • One patient failed to follow up after stent removal
  • One patient failed to follow up but per phone note is “feeling well after surgery”.
• 2 adverse events <30 days post-op.
  • ACS requiring PCI
  • UTI with peri-ureteral abscess
• 2 patients with stricture recurrence

Conclusion
• Ureteroplasty with concomitant ureteroscopy for stricture identification provides and additional treatment modality of ureteral stricture disease.
• Our cohort of ten patients overall had positive outcomes comparable to other larger case series.
• Patients have expressed resolution of flank pain from ureteral stricture and satisfaction with their procedure.

References
• Buffi, Nicolò Maria et al. (2016) Robot-assisted Surgery for Benign Ureteral Strictures: Experience and Outcomes from Four Tertiary Care Institutions. European Urology, Volume 71, Issue 6, 945 – 951
Reducing Radiation Exposure in Pediatric Patients with Abdominal Pain
Jillianne Nanadiego, DO 1; Mary Katherine Siebenaler, MD 2; Sharon Kim, Ph.D. 3; Jennifer Rosario, MD 1; Myto Duong, MD 1
Departments of 1 Emergency Medicine, 2 Pediatrics, and 3 Center for Clinical Research

Introduction
Computed tomography (CT) scans are widely utilized to evaluate abdominal pain in the emergency department (ED). There are risks to radiation, especially in the pediatric population, such as the long-term risk of malignancy.1 Because of these risks, it is important to selectively decide which patients require CT imaging and in which patients it could be bypassed while still providing a safe disposition.2

We seek to understand the current management of pediatric abdominal pain at Saint John’s Hospital in hopes of identifying ways to reduce radiation exposure.

❖ Our AIM is to decrease rates of CT scans in children presenting to the ED with abdominal pain by 10% over the next 12 months.

Methods
We performed a chart review to collect baseline data for every patient aged 2-17 that presented to the ED with abdominal pain from June 2018 to May 2021.

Using this information, we generated our baseline rates of CT scans performed in children with abdominal pain.

We are now completing PDSA cycles to reach our goal:

Consensus on best practice
Clinical pathway
Team Education
Peer-to-peer feedback

We will track our progress by analyzing run charts of CT scans and ultrasound (US) rates monthly.

Outcome Measure
• Rate of CT scans performed

Balancing Measures
• Perforation Rates
• 72-hour revisits to ED

Results

Figure 1.
From June 2018 to May 2021, average CT rates increased from 15% to 22%.

Figure 2.
From June 2018 to May 2021, average US rates increased from 22% to 35%.

Figure 3.
From June 2018 to May 2021, average rate of US that then had CT increased from 20% to 25%.

Discussion
While CT scans increased by 7%, we saw a greater increase in ultrasounds by 13%, which may suggest that more providers are preferentially ordering ultrasounds over CT scans. This growth may in part be due to the dialogue we have opened between EM, pediatric, and surgery physicians. However, still in the early stages of this project, we have identified some barriers to the process. These barriers can be demonstrated through the parallel increase we found in the ordering of ultrasounds that still go on to have CT scans.

Next steps will be to implement the clinical pathway within the SJH ED and monitor for improvement in CT ordering practice. We then plan to complete the above PDSA cycles towards our aim of lowering CT rates by 10%, adding additional intervention ideas as needed.

References
**Introduction**

Over the past several decades, the prevalence of obesity has been rising. There is a mounting body of evidence that obesity is a chronic disease that is progressive and relapsing and thus it should be treated as a primary medical condition. Obesity is associated with multiple comorbidities such as diabetes, hypertension, coronary artery disease, hyperlipidemia, and joint pain. It is also associated with increased lost days at work and increased use of health care. In an article published in 2019 surveying 14,502 patients with obesity and 2,785 health care providers in 11 nations, there was an average of six years in the time it took a healthcare provider to address the diagnosis if obesity with their patient. It was found that a significant number (68%) of patients with obesity would like their health care provider to initiate the conversation about their weight, but only 3% were offered such a conversation. There is a need to increase the provider's utility of the educational tools available to them in the Center for Family Medicine in Decatur.

**Methods**

PDSA cycles were used to guide this project. Resident physicians at the SIU Center for Family Medicine Decatur were briefly educated individually on the following:

1. Identify patients with BMI ≥ 30 between ages 18-72 that were not pregnant, end of life, receiving treatment for cancer, or had certain psychiatric conditions and identify them as obese.
2. Add this diagnosis to the patient problem list if this is not already there.
3. Providers gave handouts and discussed nutrition with the patient and or placed a referral for the patient to see a dietician or enroll in a bariatric weight loss program.
4. The providers then checked “education on healthy diet/nutrition” in the plan section on Touchworks Electronic Medical Record (EMR)
5. Pre-intervention data was collected from quarter 3 and 4 of 2020 and post-intervention data was collected from quarter 3 and quarter 4 of 2021.

**Results**

<table>
<thead>
<tr>
<th>time period</th>
<th>total percentage rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>quarter 3 - 2020</td>
<td>41%</td>
</tr>
<tr>
<td>quarter 4 - 2020</td>
<td>41%</td>
</tr>
<tr>
<td>quarter 1 - 2021</td>
<td>66%</td>
</tr>
<tr>
<td>quarter 2 - 2021</td>
<td>68%</td>
</tr>
</tbody>
</table>

Figure 1. Clinic obesity recognition and screening rates from quarter 3 and 4 of 2020 to quarter 1 and 2 of 2021.

**Discussion**

Intervention resulted in a 25% - 27% increase in checked boxes in the EMR between the pre-intervention and post-intervention periods. Patients that received obesity related counseling also had improvements in their comorbidities and weight loss. However it must be noted that data collected included those who were overweight with a BMI >25 while my project was focused on adults with BMI >30. This was due data collection being programed to collect this info in the EMR prior to my project and could not be changed as the UDS measures for our clinic was to track obesity counseling for those with BMI >25. Nonetheless, there was a great improvement in obesity recognition and counseling. Of note, some data may have been lost due to residents forgetting to check the box in the EMR and EMR errors in gathering data which was noted in quarter 4 of 2021 however not displayed as it was outside the timeframe of this study.

Obesity is a pandemic affecting millions of people. Even a small increase in awareness on the effects obesity has on multiple comorbidities is a step forward. Obesity counseling led to weight loss which also led to reduction in blood pressure, improvement in hemoglobin a1c and reduction in medications. In conclusion, identifying obesity as a medical condition and nutritional counseling is important in improving patient health for our FQHC. Provider education on utilization of the EMR and increased obesity counseling and appropriate management of obesity will help further guide future QI projects and improve patient outcome.

**References:**


Influenza vaccination rates of children 6 mo – 2 years
Jaehyeon Park MD, Justin Parker MD, Johnny Tenegra MD MS
SIU Decatur Family Medicine Residency

**Background**
There were a record high pediatric deaths in the United States for the 2019-2020 flu season at a total of 199. Eighty-seven (87) of these deaths were in children younger than 5 and 12 of these deaths were children under 6 months old. Only 22% of eligible children were fully vaccinated against influenza virus. There were multiple factors contributing to lower influenza vaccine rates with one of them being hesitancy amongst parents in giving an additional vaccine to the multiple vaccines that is already given at the appointment. The objective of my quality improvement project is to improve influenza vaccination rates of children 6 months to 2 years of age by educating providers in clinic to reassure the safety of administering multiple vaccinations in one visit in order to re-assure hesitant parents during the visit.

**Methods**
Educational material was provided to healthcare providers including Advanced Practice Providers (APPs), residents, and faculty regarding evidence-based safety and efficacy of multiple vaccine administrations in pediatric patients. Goal of this education is to give providers knowledge and information to be able to inform parents of children who may be hesitant of flu vaccine in addition to the other vaccines that are already being administered during the scheduled office visit. Data was collected by counting the total number of appointments attended by pediatric patients ages 6 mo – 2 years old on the appointment date in both Jan/Feb 2021 and Jan/Feb 2022. No repeat visits in the 2 month span were counted, therefore the office visits are described as appointment attended by each individual pediatric patient (no repeat visits for the same child in the 2 month stretch). The number of vaccinated children ages 6 mo – 2 years old were collected based on CPT code for the influenza vaccine. Data was analyzed in order to obtain percentage of each individual pediatric patient ages 6 mo – 2 years that were fully vaccinated in the months January and February of both 2021 and 2022.

**Results**

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Number Vaccinated</th>
<th>Number of Office Visits</th>
<th>Percent Vaccinated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan/Feb 2021</td>
<td>20</td>
<td>124</td>
<td>16.13%</td>
</tr>
<tr>
<td>Jan/Feb 2022</td>
<td>10</td>
<td>149</td>
<td>6.71%</td>
</tr>
</tbody>
</table>

**Outcome/Discussion**
From the data that was obtained, there was a decrease in completed influenza vaccination rates of children 6 months to 2 years at SIU Decatur Family Medicine after intervention as stated before. This outcome is likely multifactorial in nature as lack thereof parent education about efficacy and safety of multiple vaccinations in pediatric patients is only one of many factors leading to low completed influenza vaccine rates in the ages stated above. Other factors may include belief in efficacy of influenza vaccines, inability to attend follow up appointments for consecutive doses, difficulty in transportation to the clinic for routine care, etc. COVID may have had an impact on the data obtained as well due to the Omicron surge that occurred in Jan/Feb 2022.

**Outcome/Discussion cont.**
This may have exacerbated hesitancy for the flu vaccine in fear of developing upper respiratory infection-like symptoms from the flu vaccine which would then potentially take parents out of work and children out of daycare. Future direction for this project may include addressing parent’s concern for lack of efficacy in flu vaccine with education. Another direction could potentially be having an expedited way of scheduling children for the 2nd dose of influenza vaccine after they receive the first dose.

**References**
1. https://www.researchgate.net/publication/11583559_Addressing_Parents'_Concerns_Do_Multiple_Vaccines_Overwhelm_or_Weaken_the_Infant's_Immune_System
A Quality Improvement Project to Improve Contingency Planning in Pediatric Resident Handoffs.

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1. Department of Pediatrics at Southern Illinois University - School of Medicine, Springfield, IL; 2. Pediatric Hospitalist Medicine at St. John’s Children’s Hospital

Introduction

Background:
- I-PASS is a well-studied systematic approach to standardize patient handoffs.
- In May 2020, residents reported that handoffs were inconsistent between learners, often missing critical information and contingency plans.
- Nearly 80% of our pediatric residents felt handoffs did not prepare them for unexpected events.
- In June 2020, I-PASS was implemented on our pediatric medicine floor with an emphasis on contingency planning.

Aims:
- Global Aim: Improve handoffs between trainees on the pediatric inpatient service and decrease the frequency of unexpected nighttime events and missing information in handoffs.
- SMART Aim: Improve the frequency of contingency plans included in inpatient pediatric handoffs to 80% in 6 months.

Methods

We reviewed key drivers for improvement and barriers for change.

PDSA cycles were implemented and included:
- Standardizing with EMR tools
- Prompting learner with contingency planning headings in EMR Smartphrase
- Email reminders
- Posting I-PASS posters in common areas
- Just-in-time training
- Direct faculty coaching
- Peer-to-peer coaching

Process measure: percent of patients with contingency plans noted on handoff sheets.

Outcome measure: reported occurrence of unexpected events that the handoff did not prepare the night resident for and missing information using a 5-point Likert Scale (“never”、“always”), collected at baseline, after PDSA 2 and after PDSA 7.

Results

We reached goal of 80% of patient handoffs including contingency plans and sustained our improvements (Figure 1) over 6 months.

At baseline, 79% of residents reported missing information “sometimes”, “often”, or “always” which improved to 38% after PDSA 2 and 21% after PDSA 7, with all 21% reporting “sometimes” (Figure 5).

Only 10% reported unexpected events occurred “rarely” or “never” at baseline which improved to 61% and 52% after PDSA cycles 2 and 7, respectively.

Discussion/Conclusions

- Resident report of missing information and unexpected events improved after standardized patient handoffs consistently addressed contingency plans
- Limitations of this project include:
  - The natural progression of the learner
  - Different residents filling out consecutive surveys.

Future directions:
- Add balancing measures of time to prepare/completed handoffs
- Sustain improvements with higher patient census (low census in 2020)
- Expand measures to include escalation of care, rapid responses/codes, and formal observational assessment of handoff process.

References

Acknowledgments:
I gratefully acknowledge the support of residents, medical students and attending physicians.

Figure 1

Figure 2

Table 1


In the US, there are more than 2 million ED visits per year for skin and soft tissue infections (SSTI).

Studies show that a shorter antibiotic treatment course for SSTI of 5 days is as effective as 10 days.

Shorter antibiotic duration decreases: health care costs, burden of care, adverse effects, and bacterial resistance.

Our facility participated in the AAP Value in Pediatrics (VIP) project, Better Antibiotic Selection in Children (BASIC), to improve our antibiotic stewardship.

Our local baseline data revealed an appropriate duration of antibiotics for SSTI prescribed only 33% of the time.

Performed monthly retrospective chart review from July 2019 to December 2021.

Gathered local data from healthy patients aged 2 months to 18 years old who had no prior SSTI treatment.

Monitored ED visits and hospital admissions regarding SSTI.

Entered data into Quality Improvement Data Aggregator (QIDA).

Barriers to change were identified and several interventions and PDSA cycles were implemented (Figure 2).

Following standardization of treatment protocols with our clinical pathway, resident-led educational sessions, and pocket cards, we saw an increase in prescriptions of appropriate shorter antibiotic duration for pediatric patients with SSTI to 77%.

We have not yet consistently met our goal of 85% compliance in SSTI antibiotic duration.

Next steps include integrating a discharge EMR prescribing tool with preset antibiotic drug, dose, and duration along with peer-peer feedback to reach our goal and ensure improvements are sustained over time.

**References**


Background:
Early pregnancy loss (EPL), miscarriage or spontaneous abortion, refers to the loss of a pregnancy during the first 13 weeks of pregnancy (the first trimester). Management options include:

- Expectant management (waiting for tissue pass naturally)
- Medical management (medications to help expel tissue)
- Surgical management (surgical removal of products of conception via a procedure called dilatation and curettage (D&C))

After management, standard of care is to either follow the trend of beta-human chorionic gonadotropin (hCG) to < 5, a negative urine pregnancy test, or performing a transvaginal ultrasound to confirm complete passage of products of conception.

The adherence rates of patients at the SIU Early Pregnancy Loss Clinic is significantly lower compared to other SIU OB/GYN clinics. Without adequate follow-up, future pregnancy problems may occur, including recurrent pregnancy loss, alloimmunization, or unintended pregnancy. Our current EPL clinic utilizes a standard medical protocol for management of these patients. However, no loss, alloimmunization, or unintended pregnancy. Our current EPL clinic utilizes a standard medical protocol for management of these patients. However, no standardized patient educational materials were given at the time of clinic appointments. Transitions and hand-off between resident physicians providing care to EPL clinic is also lacking and need for improvement.

Objectives:

- To evaluate follow-up after implementing standardized patient education materials and resident hand-off
- To evaluate contraception use after implementing patient education
- To potentially identify other areas of improvement for patient care

Methods

Study design:

- Based on our preliminary data (2020 data), we applied a ‘Plan-Do-Study-Act cycle’ to improve patient follow-up and our care of this patient population.

Intervention (2021):

- We created a patient educational pamphlet to be handed out to all new patients in clinic with an EPL. The pamphlet includes the answers to the following Frequently Asked Questions:

  - What is early pregnancy loss?
  - How common is early pregnancy loss?
  - What causes early pregnancy loss?
  - Are there certain activities that cause early pregnancy loss?
  - Are some women at higher risk of early pregnancy loss than others?
  - How is early pregnancy loss diagnosed?
  - If I experience early pregnancy loss, will I have to get treatment?
  - What nonsurgical options are available to treat early pregnancy loss?
  - What can I expect if I have nonsurgical treatment?
  - What surgical options are available to treat early pregnancy loss?
  - What can I expect during recovery from early pregnancy loss?
  - Is there anything that can help my partner and I cope with early pregnancy loss?
  - Is it possible for me to have another baby after an early pregnancy loss?
  - How long after early pregnancy loss will it take for me to be able to become pregnant again?

- We added an EPL ‘task box’ through our electronic health record that all rotating residents had access to follow up on patient results or pending tasks.

- We increased the detail of our patient hand-off sheet.

Data collection and analysis:

- We conducted a retrospective chart review of all patients who were scheduled for the SIU Early Pregnancy Loss Clinic from January 1, 2020 through December 31, 2021. The quality improvement interventions were applied beginning on January 1, 2021.

- We compared number of patients who attended their appointment vs. those who did not attend and did not inform our clinic staff prior. We measured the average number of days it took to schedule follow up for these patients from the emergency room and the average number of days it took to schedule a planned surgery. We evaluated documentation of our contraception discussion and what type of contraception the patient ultimately chose, recorded what type of initial management the patient chose after her early pregnancy loss and at what frequency these options were chosen. We also assessed how often patients completed their follow-up to confirm resolution of their early pregnancy loss.

- Descriptive Statistics were computed for all study variables. Continuous variables are described with measures of central tendency (mean, median) and dispersion (range, standard deviation). Categorical variables are summarized as frequencies and percentages. Comparisons between variables were performed using Student’s T test, Wilcoxon and Chi-Square tests as appropriate. P-values < 0.05 were considered statistically significant.

Results

Table 1. Results and statistical analysis from 2020 and 2021

<table>
<thead>
<tr>
<th>Continuous Variables</th>
<th>2020</th>
<th>2021</th>
<th>P-value (Wilcoxon)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>26.87±6.38</td>
<td>26.82±6.04</td>
<td>0.222</td>
</tr>
<tr>
<td>Gravidity</td>
<td>3.5±2.21</td>
<td>3.7±2.21</td>
<td>0.555</td>
</tr>
<tr>
<td>Parity</td>
<td>1.52±1.49</td>
<td>1.82±1.41</td>
<td>0.001</td>
</tr>
<tr>
<td>BMI</td>
<td>29.10±9.38</td>
<td>29.12±9.48</td>
<td>0.873</td>
</tr>
<tr>
<td>Gestational age at week(s)</td>
<td>7.71±3.95</td>
<td>7.98±3.08</td>
<td>0.955</td>
</tr>
<tr>
<td>Number of prior early pregnancy losses</td>
<td>1.36±1.42</td>
<td>1.66±1.12</td>
<td>0.014</td>
</tr>
<tr>
<td>Time from ER to clinic appointment (days)</td>
<td>8.65±7.1</td>
<td>6.88±3.94</td>
<td>0.583</td>
</tr>
<tr>
<td>Time from decision to surgery</td>
<td>5.22±3.07</td>
<td>3.99±2.79</td>
<td>0.061</td>
</tr>
</tbody>
</table>

- Positive trends from this QI initiative were reducing the time between scheduling patients from their ER visit to their clinic appointment and reducing the time between their clinic appointment to the operating room, although not statistically significant.

- A statistically significant effect of our intervention was the increased rate for counseling regarding contraception. This improvement may reflect the fact that our hand-off checklists/ process was updated to include contraception counseling.

- There was no significantly improvement in the follow-up rate for the early pregnancy loss clinic in 2021 after intervention. This unexpected outcome may impact reflect of COVID 19 pandemic as the EPL clinic was closed for 2 months in 2020.

- Overall, there were improvements in patient care from 2020 to 2021 after implementing our QI initiative. These interventions in clinic may enhance patient management, but the impact on patient show rates were not evident. These results will be reviewed with our department to determine further interventions that may improve our care of this vulnerable patient population.

Discussion/Conclusions

- Positive trends from this QI initiative were reducing the time between scheduling patients from their ER visit to their clinic appointment and reducing the time between their clinic appointment to the operating room, although not statistically significant.

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BIBLIOGRAPHY

**INTRODUCTION**

-Disease prevention is the pinnacle of primary care, this has been made more apparent by the COVID 19 pandemic.
-This past year has been challenging as the world weathered through the worst of a global pandemic. Over six hundred thousand people died in the United States alone.\(^2\) With the COVID-19 pandemic running rampant and devastating many communities around the country, there has been a lot of uncertainty as well as misinformation around preventive measures. COVID vaccines have been proven to provide significant protection against acquiring the disease as well as decrease in rate of hospitalization and severity of symptoms.\(^2\)

-With the rise in vaccine hesitancy, it is up to primary care providers to educate patients on the importance of vaccination as well as keep accurate/up to date records to track vaccine acceptance rates and identify opportunities for improvement.

-The number of Covid vaccinated patients were under-reported partly due to poor data entry protocols. This in turn affects the ability to identify opportunities to effectively educate and improve the vaccination rate of the clinic’s patients.

-During this quality improvement project, the vaccination data in our EHR was electronically synced with the Illinois state registry vastly improving the quality of data.\(^3\)

**METHODS AND RESULTS**

**Plan-Do-Study-Act (PDSA) Cycle**
1. Measured how many people seen in clinic were documented as being vaccinated during a four-week comparison period
2. Educated providers on current availability of COVID vaccine at our clinic and local vaccination sites
3. Created a standard form for all patients visiting the clinic to record vaccination status and gauge interest in speaking with a provider
4. Designated a team to verify vaccination status with the Illinois Department of Public Health I-Care database
5. Performed intervention of introducing physical reminder of vaccine status to prompt providers to talk about the COVID vaccine
6. Compared the clinic vaccination rate to a time matched local county vaccination rate\(^1\) with a z-score to determine how many standard deviations our clinic rate was from the local population on a normal distribution.

**DISCUSSION**

- The initial comparison period vaccination rate was not significantly lower than the Adams county vaccination rate for a comparable time period, \(z=\text{-}7607\) were \(p=\text{.44726}\).
- With a simple intervention, the quality improvement period had a significantly higher rate of vaccination than Adams county’s vaccination rate for a matched time period, \(z=3.1542\) and \(p=.00164\).
- A small percentage designated on their survey that they were interested in speaking with a provider about vaccination. Only 12% \((n=45)\) of the unvaccinated that were surveyed indicated they would be open to speaking with their provider.

**FUTURE DIRECTIONS**

- Additional research on the vaccination rate of the entire clinic would be a helpful next step.
- Continued communication between healthcare providers and patients regarding their COVID vaccination including boosters
- Evaluating if improvement in vaccination rates continued after the study period

**REFERENCES**

Increasing the Rates of Depression Screening and Follow-Up

Authors: Abhinay Walia, MD; Justin Parker, MD; Johnny Tenegra, MD, MS
Affiliations: None

Introduction
According to the World Health Organization, approximately 280 million individuals suffer from depression. Currently, the Center for Family Medicine – Decatur is screening patients with a paper-version of the Patient Health Questionnaire (PHQ)-2 and PHQ-9. Even though screenings are done, they may not always be correctly entered into the Electronic Medical Record (EMR) system. If these screenings are not adequately documented, then they are not included in our Unified Data System (UDS) Measures, which are used to track the performance of our FQHC. The objective of this quality improvement (QI) project is to improve this rate by teaching and training our providers on how to correctly enter the screening results into our Electronic Medical Record (EMR). The aim of this study is to improve the rate of depression screening at the Center for Family Medicine – Decatur and to ensure providers are correctly entering the data into our EMR system to improve our screening rate in the UDS.

Methods
PDSA cycles were applied to this QI. The inclusion criteria consisted of individuals 18+ with an active diagnosis of Depression, Bipolar Disorder, Anxiety, or non-specific diagnoses such as “Anxiety and Depression”. Providers were educated with a 30-minute presentation and educational pamphlets on how and where to accurately document screenings within the EMR. We compared the percentage of patients with the above-mentioned diagnoses who received PHQ-2 and PHQ-9 testing between December 2019-February 2020 with the percentage of patients with the same diagnoses who received screening testing between the period of December 2021-February 2022. The intervention will have made a difference if we can increase the data entry into our EMR system.

Results

<table>
<thead>
<tr>
<th>Year</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quarter 1</td>
<td>24%</td>
<td>51%</td>
<td>66%</td>
</tr>
<tr>
<td>Quarter 2</td>
<td>37%</td>
<td>51%</td>
<td>78%</td>
</tr>
<tr>
<td>Quarter 3</td>
<td>55%</td>
<td>63%</td>
<td>83%</td>
</tr>
<tr>
<td>Quarter 4</td>
<td>62%</td>
<td>72%</td>
<td>82%</td>
</tr>
</tbody>
</table>

Table 1. Clinic PHQ-9 screening rates listed to match Figure 1.

Discussion
Although our providers had always been performing PHQ2 and PHQ9 screenings in-office, paper versions of the screening tests were completed in our office. The UDS, however, measures these screening rates based entries in the EMR rather than the paper version. We found that while our patients were being screened, the information was not being correctly entered into the EMR.

With my intervention performed at the end of the second quarter in 2021, we noticed a significant increase in the percentage of patients screened when compared to similar quarters in the previous years.

Problems noted during the course of the study were due to scheduling. PGY2 and PGY3 residents often have busier schedules compared to PGY1 residents as the volume of patients we see on a day-to-day basis increases. Having full schedules caused delays, resulting in residents spending less time performing screening tools and simply changing medication regimens based on patient history and exam.

Although I set out to increase the rates of depression screening and ensure adequate follow-up was arranged, I quickly found this to be a much larger and multi-step project. I learned that most of our providers were doing the paper-versions of the PHQ2 and PHQ9, whereas the UDS only accepts the results when entered in the EMR. Thus, in a QI project with hopes to increase screening rates, accurate data entry becomes crucial. The impacts of my QI project, by educating our providers and ensuring that the screenings performed are documented correctly in the EMR, will pave the way for the next steps of the QI project.

References:
1. Institute of Health Metrics and Evaluation. Global Health Data Exchange (GHDx).
2. SIU Center for Family Medicine – Decatur Clinical Informatics