9TH ANNUAL QUALITY IMPROVEMENT AND PATIENT SAFETY CONFERENCE

CAREER PATHS IN QUALITY IMPROVEMENT

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Baylor College of Medicine
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IMPROVING DEPRESSION SCREENING IN PRIMARY CARE: A SIMPLE BUT EFFECTIVE TOOL

Abstract #101
Lead author: Olubunmi Oladunjoye, MD, MPH
Contributing authors: Isabel Valdez, Saundra Nguyen, Matthew Yang, Daniel R. Murphy
Category: Quality, Cost, Value

Background: Depression is a common but serious mood disorder that can lead to poor quality of life, and potentially, suicide. It is among the common causes of years lived with disability, and the US Preventative Service Task Force concluded that screening improves the early detection and accurate identification of adult patients with depression in primary care settings. To facilitate screening in the Baylor Medicine General Internal Medicine Clinic, a depression screening best practice advisory has been added to our electronic medical record (EMR) to allow easy identification of patients due for screening. However, the screening rate remained low. Our team, therefore, undertook a quality improvement project to improve screening rates.

Aim Statement/SMART Goal: To increase the frequency of depression screening by 10% among all patients who presented to McNair General Internal Medicine Clinic over a period of 6 months.

Additional Objectives (optional):

Methods: A brainstorming session was performed with faculty, staff, and clinic leadership to identify barriers to screening. Barriers identified included the time it takes to complete a verbal PHQ-9. Thus, the team aimed to increase depression screening in the clinic by revising our Welcome to Baylor Medicine General Internal Medicine pre-visit form to include the PHQ-9 screening instrument (in English and Spanish). All patients scheduled for an office visit were given the pre-visit forms at check-in, and patients completed the forms while waiting for their visit. Completed forms were entered by staff or the physician into a section in the EMR designated for these data. The EMR then recorded the completion of screening and provided a set of orders and hand-outs that providers could use to manage patients who met the criteria for diagnosis of depression. Pre- and post-intervention data were collected on the percent of patients screened between April and September 2022.

Results: The percentage of completed depression screening increased from 42.2% % in April 2022 to 54.0% in October 2022 after the implementation of our intervention.

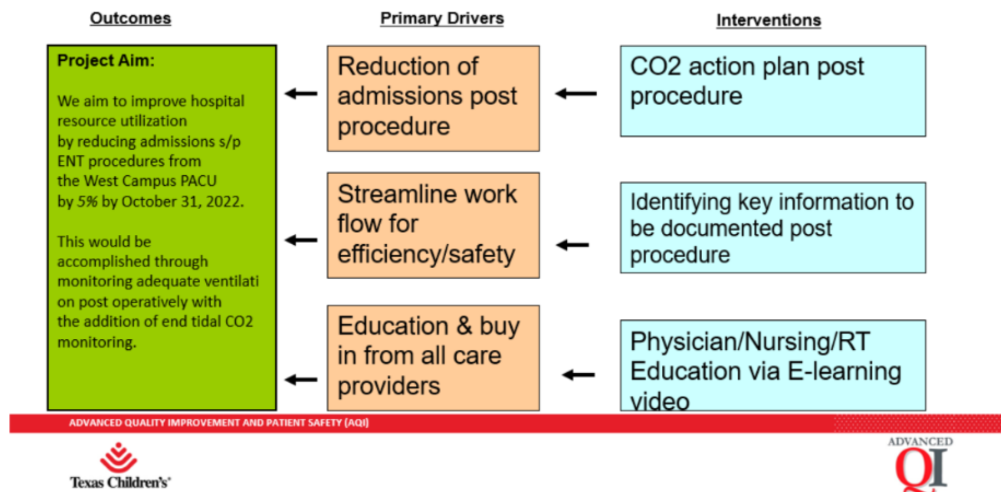
Discussion: We identified time as a major barrier to the completion of depression screening. We successfully implemented an intervention to improve the efficiency of the screening process and achieved marked improvement in depression screening rates.

POST OPERATIVE UTILIZATION OF CO2 MONITORING TO MAXIMIZE HOSPITAL RESOURCES

Abstract #102
Lead author: Amee Revana, DO, FAASM
Contributing authors: Kevin Kaplan, Krista Finster, Matthew Justice
Category: Patient safety/quality/cost/services utilization

Background: Children with moderate to severe obstructive sleep apnea (OSA) are either admitted to the hospital or discharged home following ENT procedures. Our current process does not have a reliable, repeatable method for determining disposition of a patient following ENT procedures. This results in an inefficient use of hospital resources such as inpatient beds. Our AQI team reviewed the number of patients who underwent tonsillectomy at West Campus from January 2022 to August 2022. About 18 percent of patients post procedure were admitted to the pediatric intensive care unit (PICU).

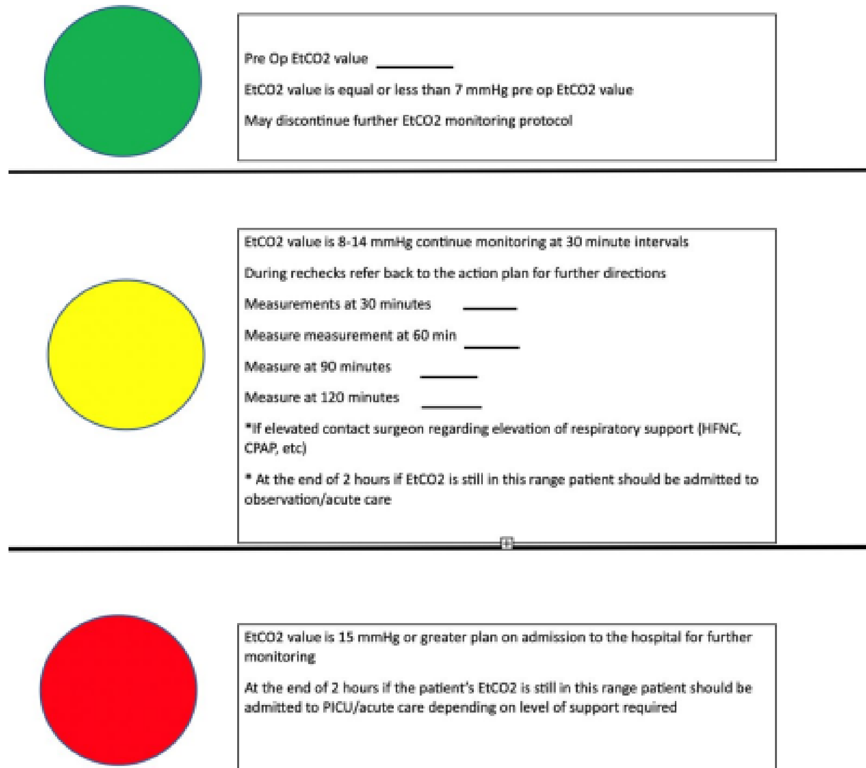
Aim Statement/SMART Goal: We aim to improve hospital resource utilization by reducing admissions s/p ENT procedures from the West Campus PACU by 5% by October 31, 2022. This would be accomplished through monitoring adequate ventilation post operatively with the addition of end tidal carbon dioxide (CO2) monitoring.



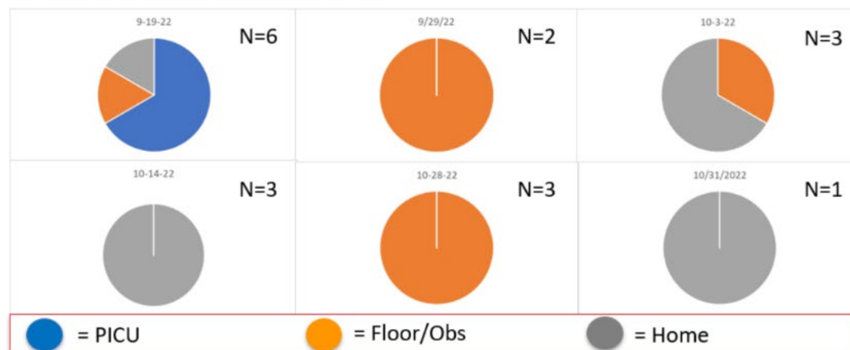
Additional Objectives (optional):

Methods: Our team created a carbon dioxide (CO2) action plan and educational video that reviews how to use the action plan. The goal of the CO2 action plan was to provide standardization of care when determining the disposition of patients post procedure. We reviewed the current workflow of patients post procedure along with documentation of the CO2 value. We educated the team of providers including PACU nursing, respiratory therapists, anesthesiologists, advanced practice providers, and surgeons of the action plan prior to the application to patients. Over a series of PDSA cycles, the CO2 action plan was modified in effort to maximize utilization of the action plan in conjunction to clinical skillset. The disposition of patients post procedure was collected.

Work flow for end-tidal monitoring in the PACU post ENT surgical procedures



Results: We collected data points of surgical patients from 6 surgical days at the West Campus TCH location. The sample size from each day ranged from n=1 to n=6. On the first surgical day, all patients were deemed as high risk for acute respiratory failure post procedure and thus were all admitted to the PICU. However, on all subsequent surgical days, further PICU admissions were not recorded and patients were either admitted to the acute care floor or discharged home.



Discussion: We were able to make small incremental changes with each PDSA cycle. Time was limited with this project and thus continued efforts to collect data remain in place. There were several barriers that contributed to the limited data set such as limited staffing leading to communication issues. Despite the limitations, reliability of data is limited for interpretation which requires more time to observe and to increase the number of data points.

STANDARDIZING POSTOPERATIVE HANDOFFS AFTER CARDIAC SURGERY

Abstract #103
Lead author: Thomas Powell, MD
Contributing authors: Cesar Castillo, MD; Harsha Koneru, MD
Category: Patient Safety

Background: Postoperative handoffs are a common occurrence. Although perhaps simple on the surface, an effective handoff requires the exchange and synthesis of a large amount of information, and can be difficult to achieve. Communication lapses can frequently occur. In fact, up to 80% of serious medical errors may be related to communication failures during transfer of patients. Fortunately, numerous studies have shown that the implementation of standardized postoperative handoffs leads to improved transmission of key information, reductions in preventable complications, improved provider satisfaction, and improved patient outcomes. As such, standardized postoperative handoffs are recommended by organizations including the Joint Commission, the American Heart Association, and the Society of Thoracic Surgeons. Prior to the initiation of this project, there was no standardized postoperative handoff process at BSLMC.

Aim Statement/SMART Goal: Develop and implement a standardized interdisciplinary CVOR- to-CVICU handoff protocol

Additional Objectives (optional):

Methods: Baseline data were collected in March - April 2022. This included surveys to all stakeholders (CV Anesthesia, CT Surgery, CV ICU teams, and CVICU RNs) and the secret observation of postoperative handoffs to gather information about quality and completeness of the handoffs. Along with a multidisciplinary team, we developed a new standardized handoff process for the cardiac surgical patients. Key factors were the creation of a standardized memory aid, as well as changes in how the handoff is done. The new handoff bundle was implemented in April 2022 patients undergoing “routine” cardiac surgery (i.e., excluding MCS, aortic, and transplantation). In December 2022 - January 2023, another period of secret handoff observations and repeat surveys were sent out to collect data (“PDSA 1”). Results were compared with the baseline period.

Results: The PDSA 1 observations showed statistically significant improvements in rates of all providers paying attention during the handoff, systematic and orderly handoffs, and in some aspects of handoff completeness, compared with the baseline.

Discussion: The initial results after our first PDSA cycle are promising. More work remains to create a culture change and increase adoption throughout the hospital.

INTENDED VERSUS ACTUAL INTERVALS BETWEEN INTRAVITREAL ANTI-VEFG INJECTIONS AND ASSESSMENT OF TREATMENT DELAYS

Abstract #104
Lead author: Dylan McBee, BS
Contributing authors: Nicole Somani, MD; Daniel Olson, MD; Jeel Mehta, BS; Austin Huang, BS; Anshul Bhatnagar, BS; Christina Y. Weng, MD, MBA
Category: Health Outcomes / Services Research

Background: Intravitreal anti-vascular endothelial growth factor (anti-VEGF) injections are commonly used in ophthalmology for the management of diabetic macular edema (DME), macular edema secondary to retinal vein occlusion (RVO), neovascular age-related macular degeneration, and myopic choroidal neovascularization. Although for some patients, delays in receiving intravitreal injections may have few long-term implications, others are at risk for permanent vision loss and future ophthalmic complications if they do not receive injections at precise, regular intervals.

Aim Statement/SMART Goal: To compare the intended versus actual follow-up interval in county hospital and private clinic patients receiving anti-vascular endothelial growth factor (VEGF) injections for diabetic macular edema (DME), retinal vein occlusion (RVO), or neovascular age-related macular degeneration (AMD).

Additional Objectives (optional):

Methods: Retrospective chart review of Ben Taub General Hospital and Baylor College of Medicine patients treated between 1/1/2017 and 3/1/2022 with anti-VEGF intravitreal injections for AMD, DME, or RVO. Statistical analysis was performed using Python and Excel. For each injection, the "delta" was defined as the time between actual and intended follow-up interval. Analyses were performed on a per-injection, per-patient, and per-eye basis with p<0.05 representing statistical significance.

Results: ,881 injections (172 patients) were included in the analysis. Amongst county hospital patients (n=106), mean age was 61.1 years and most were Hispanic (63.5%). Amongst private clinic patients (n=66), mean age was 75.8 years and most were Caucasian (64.6%). Overall, the mean delta per injection was 8.4 days; the mean delta per patient was 8.3 days. A significant proportion of injections had a clinically significant delta >7 days (24.5%, 95% CI, 0.226-0.264); more of these were observed in the county versus private cohort (30.5% <county>vs. 18.1% <private>, p<0.0001). Amongst injections with a delta >7 days, the mean delta was 33.62 days. No clinically significant delta >7 days was observed for AMD patients; there was a clinically significant delta >7 days in DME and RVO patients, but no difference based on practice setting (DME: 9.92 days <county> vs. 12.50 days <private>; p = 0.283, RVO: 21.42 days <county> vs. 9.04 days <private>; p = 0.509). Visual acuity improved by an average of -0.0338 logMAR for eyes with delays >7 days versus -0.0027 logMAR for eyes with delays ≤7 days (p=0.554).

Discussion: Nearly one-quarter of anti-VEGF injections were received at least one week later than intended; amongst injections delayed by >7 days, the average delay exceeded one month. The proportion of delayed injections and the extent of delay were greater in the county hospital versus private clinic setting. Greater delays were observed in patients with DME and RVO versus those with AMD. Eyes with longer delays trended towards lower visual gains. Efforts to improve schedule adherence are warranted in order to optimize visual acuity outcomes for patients.

IMPROVING LENGTH OF STAY FOR NON-INVASIVELY VENTILATED BRONCHIOLITIC PATIENTS IN THE PEDIATRIC INTENSIVE CARE UNIT

Abstract #105
Lead author: Craig Pymento, MD
Contributing authors: Christian Erikson, Katherine Taylor, Bridgette Nava, Mark Riccioni
Category: Quality, Cost, Value

Background: The care for bronchiolitis patients requiring continuous positive airway pressure (CPAP) in the pediatric intensive care unit (PICU) is frequent and highly variable across PICUs. Our institution does not have standardization of weaning CPAP support once children improve. The utilization of CPAP is not without consequences, as such usage increases time spent without nutrition (NPO) and overall PICU length of stay.

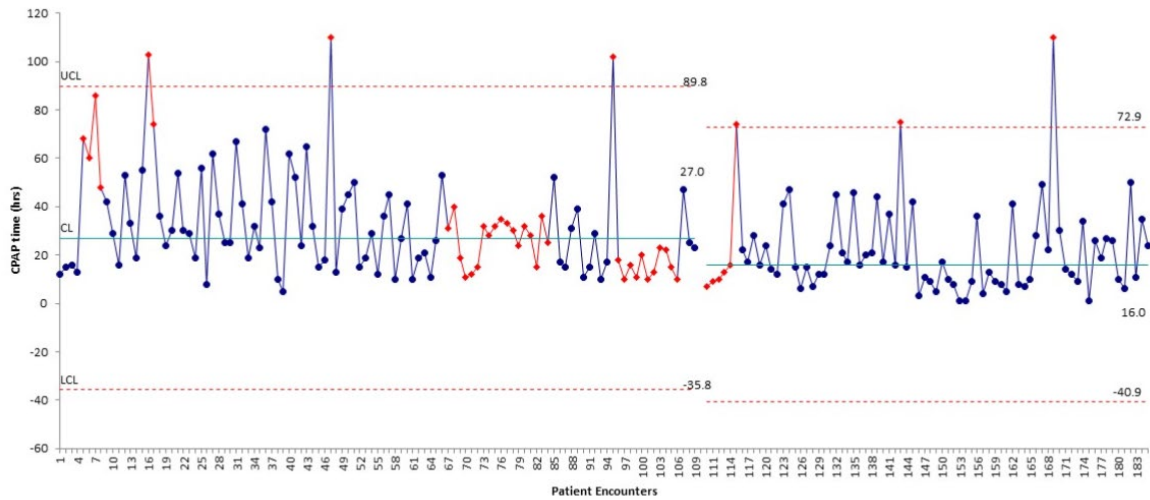
Aim Statement/SMART Goal: By introducing the "high flow nasal cannula challenge" weaning protocol, previously healthy infants less than one year of age using CPAP will have a median 20% reduction in CPAP utilization, time spent NPO, and ICU length of stay within six months of introduction.

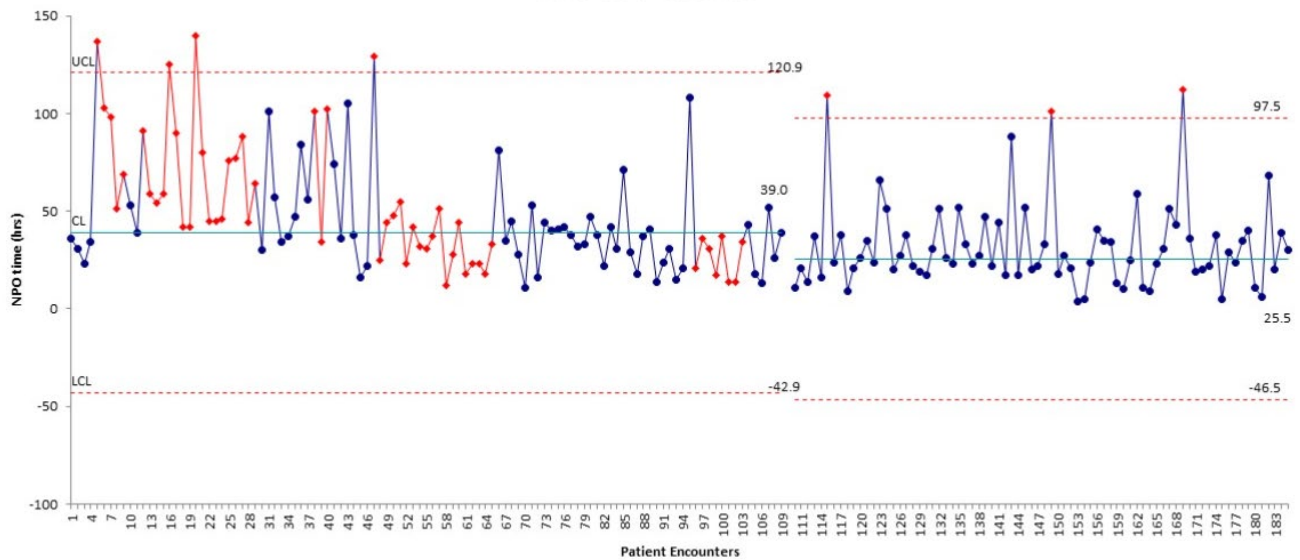
Additional Objectives (optional):

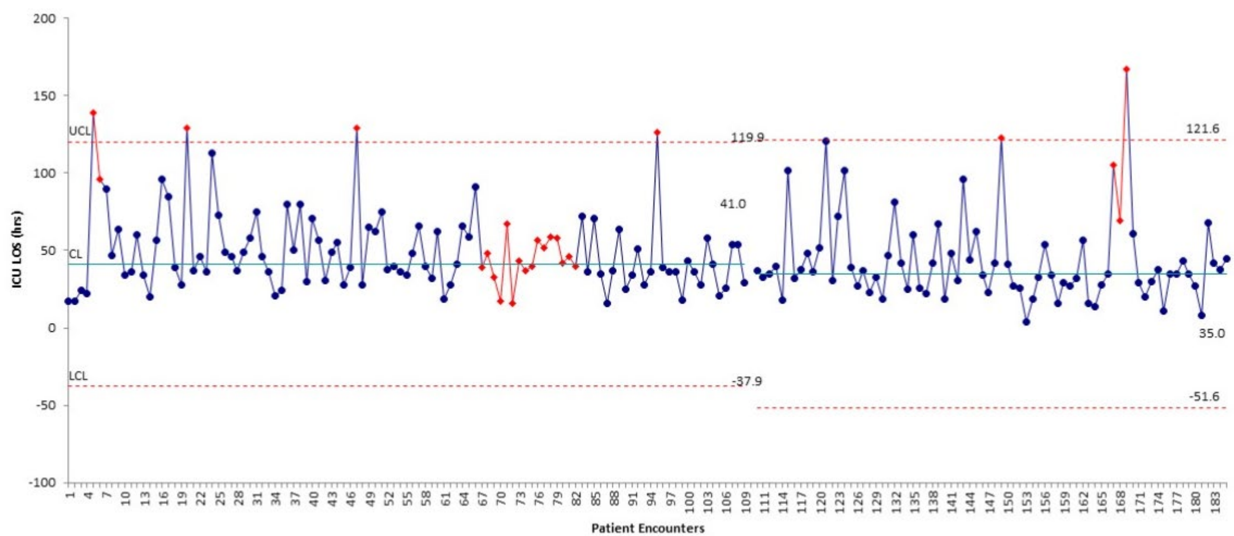
Methods: Retrospective chart review identified patients between April 2021 and August 2022 for pre-intervention baseline data. Exclusion criteria included chronic respiratory support needs, chronic medical conditions, progression to intubation, and BiPAP utilization. Meetings were held amongst key operational leadership stakeholders prior to providing this option for weaning respiratory support to clinicians. Once a patient was ready to wean CPAP, the medical team elected whether to use the "high flow nasal cannula challenge" to wean. Post intervention data was collected retrospectively following discharge from the ICU. Balancing measures included resumption of CPAP support following HFNC challenge and readmission to the ICU.

Results: A total of 230 patients were initially identified from April 2021 to February 2023. Of 137 pre-intervention patient encounters, 28 encounters were excluded, leaving 109 for review. Post intervention, 93 patient encounters were initially identified and 17 were excluded, leaving 76 for review. The weaning protocol was adopted for 40 encounters (53% of post intervention group). Overall median time on CPAP decreased by 41%, from 27 to 16 hours. Median time spent NPO decreased from 39 to 25.5 hours (35%). Median ICU length of stay decreased from 41 to 35 hours (15%). One patient had to resume CPAP following initiation of the high flow nasal cannula challenge, and one patient was readmitted to the ICU.

Discussion: Despite 53% adoption of the weaning protocol, our ICU was able to meet two out of the three goals on our first PDSA cycle safely, without a significant risk of readmission or weaning failure. We hypothesize that increasing adoption of the weaning protocol will continue to improve all three metrics, with the goal of system wide implementation soon.


CPAP utilization - X Chart
CPAP time (hrs)
Patient Encounters
UCL
CL
LCL
89.8
27.0
-35.8
72.9
16.0
-40.9


Time NPO - X Chart
NPO time (hrs)
Patient Encounters
UCL
CL
LCL
120.9
39.0
-42.9
97.5
25.5
-46.5


ICU LOS - X Chart
ICU LOS (hrs)
Patient Encounters
UCL
CL
LCL
119.9
41.0
-37.9
121.6
35.0
-51.6

IMPROVING PENICILLIN ALLERGY DOCUMENTATION AT BSLMC

Abstract #106
Lead author: Prarthana Patel, MD
Contributing authors: David Crawford, Rogelio Garcia, Ryan Geffin, Varsha Muthukumar, Shruti Revankar, Jay Shah, Christian Wayant
Category: Quality, Cost, Value

Background: Approximately 10% of patients' medical records have a documentation of penicillin allergy. However, more than 90% of these patients can tolerate penicillin drugs and therefore are labeled allergic unnecessarily. This allergic label comes at a significant cost since these patients are more likely to receive less effective and more toxic/ expensive antibiotics, which ultimately leads to reduced quality and increased cost of healthcare. Our assigned institution was BSLMC for the residency-guided QI project and therefore we decided to focus on improving penicillin allergy documentation at BSLMC.

Aim Statement/SMART Goal: Our goal is to reduce the percentage of unclear/ absent documentation of penicillin allergy reaction at BSLMC by 10% over 2 months among patients on high-volume teams with residents (RITE, 7S1/ 7S3 ICU, Endocrine, ID).

Additional Objectives (optional):

Methods: We identified residents as one of the stakeholders and are targeting the high-volume teams at BSLMC with residents, which include RITE (hospitalist team), 7S1/ 7S3 ICUs, Endocrine and ID consult services. Our main outcome measure was to determine percentage of penicillin allergies with unclear or absent documentation of allergic reaction before and after intervention. Our initial intervention included putting up informative documentation flyers in resident work rooms, encouraging them to improve penicillin allergy documentation. Our subsequent intervention included informing people of this in person later to ensure teams were aware of our project.

Results: We are currently finishing up our post-intervention data collection for this project. Preliminary data analysis showed that 13% of patient charts were labeled with a penicillin allergy, which is higher than the national average. Out of the 41 patients with chart-labeled penicillin allergy, 31.7% did not have any documentation of the allergic reaction. Among the patients with documented penicillin allergy reaction, 14.3% had a reaction that was likely non- allergic while 21.4% had an unclear documentation of reaction. The baseline data shows that there is a lot of room for improvement when it comes to penicillin allergy documentation.

Discussion: As multiple studies have demonstrated, penicillin allergy chart labels are not benign. They are associated with longer hospitalization stays, multi-drug resistant organism infections, and even increased mortality risk (14% over mean follow-up of 6 years). The goal of our QI project is to improve documentation of penicillin allergies by ensuring every documented allergy has a reaction noted and that reaction is charted in detail. With future projects, there can be a focus on eventually de-labeling these allergies safely with detailed history taking and/ or formal allergy and immunology evaluation.

IMPROVING NURSE ANESTHESIA STUDENT WELLNESS THROUGH MINDFULNESS AND OPEN COMMUNICATION: A QUALITY IMPROVEMENT PROJECT

Abstract #107
Lead author: Cora Rabe, DNP, CRNA
Contributing authors: Rachel Davis, DNP, CRNA; Jessica Gaines, DNP, CRNA; Aimee Langley, DNP, CRNA; Megan Bullerwell, DNP, CRNA
Category: Education

Background: Student registered nurse anesthetists/resident registered nurse anesthetists (SRNA/RRNA) have a documented high level of stress and anxiety. Domain 10 of the AACN essentials: Personal, Professional, and Leadership Development, requires participation in activities and self-reflection that foster personal health and resilience. Additionally, the Council on Accreditation of Nurse Anesthesia Educational Programs (COA) requires that nurse anesthesia programs incorporate a wellness/substance use disorder curriculum that is evidence- based and includes content related to mental wellbeing. There are no standard wellness curricula to address student mindfulness and wellbeing within Baylor College of Medicine's DNP Program - Nurse Anesthesia. The quality project implemented by the faculty represents the initial steps in determining ways to improve student satisfaction and decrease stress without increasing their cognitive load or burden. The students are currently in their second term of in- person didactics. They have had an opportunity to adjust to the lecture load and content and are available to take on new activities. Burnout in healthcare providers is on the rise. As an educational system, our responsibility is partly to ensure that our students obtain the necessary skills and knowledge to facilitate well-being and manage stress. Providers experiencing high levels of burnout can cause patient harm, and the quality of care provided can decrease. Research has proven that mindfulness can engage the parasympathetic nervous system and decrease systemic cortisol levels.

Aim Statement/SMART Goal: Increase first-year student nurse anesthesia awareness of mindfulness activities and number of activities to at least once a week during the 2022 Fall Term 1-3.

Additional Objectives (optional):

Methods: Context of the Intervention Burnout and student well-being have been brought to the forefront recently after the COVID pandemic. Healthcare was hit with unprecedented experiences and many nurses and providers have left the profession because of burnout and increased stress. Nurse anesthesia students are in a very demanding and high-paced educational program. They then enter into a high-paced and demanding profession. Interventions to expand their knowledge of mindfulness and increase awareness and well-being in school are essential for student success and long-term provider retention. Intervention(s)Twice a week, a mindfulness activity will be presented to the students; ideas will range from medication, body movement, quiet, gratitude list, and more (all interventions have been documented and can be provided). Aromatherapy options will be provided to students as alternative ways to decrease stress and maintain focus. Open communication with faculty has shown increased student well- being, and this is accomplished through a 1-hour am coffee time once a month. Ethical Considerations none. No student data will be published on wellness or burnout. The information gathered will be for student self-reflection only. Primary Measure Awareness of mindfulness activities and the number of mindfulness activities students currently utilize before the project. The primary population is the first-year didactic students in the DNP-NA program. Secondary Measure(s) Number of Wellness or mindfulness activities the student participates in

Results: .3% of students increased their awareness and 4.7% unchanged. Increase in utilization of

mindfulness activities into their daily routine. Student Comments on the project: I enjoyed the mindfulness activities during class and at the beginning of class. Deep breathing, giving myself grace, pacing my studying the goody bags always lifted my spirits. Coffee sessions, emailing anonymous encouragement to my classmates I enjoyed. Most of the wellness activities felt effective and keeping them brief helps us stay engaged in the lecture

Discussion: The project to increase awareness of mindfulness techniques and practices was a success. The students had an overwhelmingly positive response. The senior students not addressed in this project have overwhelming high burnout and stress level and do not feel supported in their wellness journey. This led to the creation of this project. The next steps are to assess belonging, as this is a huge part of wellness. The project will be expanded to the other DNP students, and interventions will be more targeted to assessing and increasing belonging. Faculty workload was noted and assessed, and comments were overwhelmingly positive to continue the project. Funding has been received to expand the project through a BCM-sponsored SHP Faculty Seed Grant.

IMPROVING TIME TO TREAT FOR GONORRHEA AND CHLAMYDIA AMONG ADOLESCENTS AND YOUNG ADULTS: A QUALITY IMPROVEMENT PROJECT

Abstract #108

Lead author: Meghna Raphael, MD
Contributing authors: Allyssa Abacan, PhD, MPH; Pooja Patel, MD, MPH; Peggy Smith, PhD, MA; Mariam Chacko, MD
Category: Improvement Science

Background: Sexually transmitted infections (STIs) are common, especially among adolescents and young adults (AYA). Of the over 26 million new STIs in the US in 2018, nearly 50% were among AYA aged 15 to 24 years. It is important for public health practices to successfully screen eligible AYAs for STIs, and, if positive, treat them as soon as possible. In a recent published study (DOI: 10.3390/biology11040521), we found significant differences in the time-to- treatment based on location of care (6.1 days at SBCs and 17.6 days at FPCs). Over 98% of individuals with a positive test completed treatment at SBCs vs. 92.1% at FPCs.

Aim Statement/SMART Goal: Hence, we implemented a quality improvement project aimed at: 1) Decreasing the time-to-treatment for a positive gonorrhea and chlamydia test to < 7 days; 2) Decreasing the number of untreated individuals to < 2% by the end of the calendar year. 2022.

Additional Objectives (optional):

Methods: The study included eight clinics (four SBCs and four FPCs), and included individuals aged 13 – 24 years with a positive test for gonorrhea or chlamydia who were screened between November 1, 2021 and June 30, 2022, were included in the analysis. We implemented a series of QI interventions including revisions of a standard protocol for notification of positive STI results; improved availability of return appointments for treatment; two educational sessions for staff focused on treatment guidelines, baseline data, and process changes; and monthly quality assurance (QA) processes for all patients with positive tests. For untreated patients, the clinic providers confirmed accuracy of data by chart review and completion of patient notification protocols. Results of the QA findings were discussed individually with each clinician every month.

Results: This study included 6324 tests for gonorrhea and chlamydia infections. Of these, 446 tests (7.05%) were positive for gonorrhea and 1029 (16.27%) for chlamydia. The mean time-to- treatment was 5.9 + 1.8 days and there were no significant differences between SBCs and FPCs (4.98 + 1.05 vs 6.88 + 2.16 days, p = 0.18). Nearly 2.9% of individuals took > 30 days to complete treatment, and 5.15% did not complete treatment. Data collection have continued between July and Dec 2022. (This was at the time mid-2022. This data needs to be updated based on the entire calendar year which will be completed by the time of the conference.)

Discussion: QI initiatives including standardized protocols, provider education, and continuous tracking of outcomes with formalized QA processes are feasible in a large community system, can positively impact clinical practice among individual providers, and can lead to improved STI management. Clinics serving AYA can implement and closely monitor STI treatment outcomes, as described here, to help decrease time between screening and treatment.

IMPLEMENTATION OF A STANDARDIZED PROTOCOL FOR MANAGEMENT OF PERIOPERATIVE CORNEAL ABRASIONS

Abstract #109
Lead author: Kevin Tzan, MD
Contributing authors: Susan C. Lee
Category: Quality, Cost, Value

Background: Corneal abrasions are the most common ocular injury in the perioperative setting. While a corneal abrasion typically occurs intraoperatively, most cases are not detected until the patient is in the recovery room. While treatment is straightforward in most cases, many physician anesthesiologists are inexperienced in managing ocular complications. Typically, the first response is to consult ophthalmology for management. These consults often lead to delays in treatment that can cause prolonged discomfort for patients and increased costs to the healthcare system. We propose that the creation of a protocol for a standardized anesthesiology-led management of perioperative corneal abrasions will help provide prompt, evidence-based treatment. Furthermore, this protocol will minimize unnecessary ophthalmology consults for uncomplicated corneal abrasions, thus decreasing overall costs to the healthcare system.

Aim Statement/SMART Goal: The percentage of anesthesia physicians at Ben Taub General Hospital educated on using a standardized protocol for management of perioperative corneal abrasions will increase by 75% by Feb 28, 2023.

Additional Objectives (optional):

Methods: An anesthesiology-led protocol with input from the Ophthalmology department was created to standardize initial treatment of perioperative corneal abrasions at Ben Taub General Hospital. This protocol was shared with the Anesthesiology department via email in addition to being posted to an accessible anesthesiology-specific dashboard of the electronic medical record system. A survey was distributed to anesthesiology faculty and residents in which they were asked questions pertaining to their opinion on the corneal abrasion protocol and its impact on their clinical practice.

Results: The survey results showed that many physician anesthesiologists did not know how to manage an uncomplicated corneal abrasion. However, after being introduced to the protocol, they felt that it was easy to understand and could foresee themselves changing their clinical practice in the management of corneal abrasions. Furthermore, 100% of the surveyed physician anesthesiologists believe that the protocol is beneficial, not only to the anesthesiology and ophthalmology departments, but most importantly for the patient.

Discussion: Prior to the creation of this protocol, there was no standard management of perioperative corneal abrasions within the anesthesiology department. Having a standardized, evidence-based protocol will expedite proper treatment of patients as well as minimize unnecessary consults to the ophthalmology department. Survey questions to anesthesia providers regarding this protocol were overwhelmingly positive and supported its use.

EMERGENCY CANCER DIAGNOSIS AMONG PANCREATIC CANCER PATIENTS

Abstract #110

Lead author: Natalia Khalaf, MD, MPH
Contributing authors: Basim Ali, MD; Jennifer Kramer, PhD, MPH; Yan Liu; Fasiha Kanwal, MD, MSHS; Hardeep Singh, MD, MPH

Category: Health Outcomes / Services Research

Background: Emergency presentation of cancer, a new cancer diagnosis made following an Emergency Department (ED) visit, is associated with worse patient outcomes and greater organizational stress on healthcare systems. Of the top five deadliest cancer types, pancreatic cancer has the highest rate of emergency presentation yet remains understudied.

Aim Statement/SMART Goal: To conduct the largest U.S. study on emergency presentations among pancreatic cancer patients with the goal of assessing the associations between emergency presentation status and cancer-associated outcomes. These findings can help identify care gaps and inform future quality improvement efforts.

Additional Objectives (optional):

Methods: We conducted a retrospective cohort study among pancreatic adenocarcinoma patients consecutively diagnosed from 2007 to 2019 at the Houston VA. We performed structured medical record reviews to classify patients by emergency presentation status, defined as a new pancreatic cancer diagnosis made within 30 days of an ED visit in which a cancer was suspected. We used logistic regression models and Cox proportional hazards models to examine the association between emergency presentation and cancer treatment and survival, respectively.
Models were adjusted for age, race, sex, body mass index, tobacco and alcohol use, Deyo- Charlson comorbidity score, year of cancer diagnosis, and tumor site.

Results: We identified 242 patients diagnosed with pancreatic adenocarcinoma. Most (67%; 162/143) had their cancer diagnosis made through emergency presentation. The majority of patients were diagnosed with advanced stage III-IV disease (67.5% overall cohort) with no significant difference in stage by emergency presentation status. After adjustment for sociodemographic factors and medical comorbidities, patients diagnosed though emergency presentations were 76% less likely to receive cancer treatment (surgical resection and/or chemotherapy) compared to non-emergency presenters (adjusted odds ratio (OR) 0.26; 95% confidence interval (CI) 0.13-0.54). They also had 73% higher mortality risk compared to non- emergency presenters (adjusted HR 1.73; 95% CI 1.29-2.34). This difference in mortality remained statistically significant after additionally adjusting for cancer stage and receipt of cancer treatment (adjusted HR 1.47; 95% CI 1.09-1.99).

Discussion: In the largest structured medical record review-based study on the topic, we found 67% of pancreatic cancer patients had emergency cancer presentations, which was associated with significantly lower likelihood of receiving any cancer treatment as well as decreased survival. Enhanced understanding of the process breakdowns that lead to emergency presentations are needed to inform meaningful interventions. As the largest provider of cancer care in the U.S., the VA Health Administration provides an ideal setting for developing and implementing pathways to optimize diagnostic processes in cancer care.

THE IMPACT OF RACE ON PANCREATIC CANCER OUTCOMES IN THE NATIONWIDE VETERANS AFFAIRS HEALTHCARE SYSTEM

Abstract #111
Lead author: Natalia Khalaf, MD, MPH
Contributing authors: Ann Xu, MD; Jennifer Kramer, PhD, MPH; Yan Liu; Hardeep Singh, MD, MPH; Hashem El-Serag, MD, MPH; Fasiha Kanwal, MD, MSHS
Category: Health Outcomes / Services Research

Background: Among patients with pancreatic cancer, studies show racial disparities at multiple steps in the cancer care pathway including in timeliness of diagnosis, medical management, and survival. Access to healthcare is a frequently cited cause of these disparities. It remains unclear if more equal access to care, such as within the integrated national Veterans Affairs (VA) healthcare system, might eliminate these disparities.

Aim Statement/SMART Goal: To conduct the largest U.S. study on the impact of race on pancreatic cancer outcomes within the VA. This will allow for insights to be gained on potential disparities in cancer care from which to inform future quality improvement efforts.

Additional Objectives (optional):

Methods: We identified all patients diagnosed with pancreatic adenocarcinoma in the national VA Central Cancer Registry from January 2010 to December 2018. We examined the independent association between race and three endpoints: stage at diagnosis, receipt of treatment, and survival while adjusting for sociodemographic factors and medical comorbidities.

Results: We identified 8,529 patients with pancreatic adenocarcinoma, of whom 79.5% were White and 20.5% were Black. Among the 7,552 patients with known cancer stage at diagnosis, 35.3% were diagnosed with early-stage (0-II) disease, and 64.7% were diagnosed with late-stage (III-IV) disease. Black patients were 19% more likely to have late-stage disease (odds ratio [OR] 1.19; 95% confidence interval [CI] 1.05-1.34) and 23% less likely to undergo surgical resection (OR 0.77; 95% CI 0.64-0.92). Black patients had higher mortality risk compared to White patients after adjusting for sociodemographic characteristics and medical comorbidities (adjusted HR 1.07; 95% CI 1.01-1.13). This difference in mortality was no longer statistically significant after additionally adjusting for cancer stage and receipt of potentially curative treatment (adjusted HR 1.02; 95% CI 0.96-1.08).

Discussion: Our results show that compared to White patients, Black patients were 19% more likely to be diagnosed with later stage disease and 23% less likely to undergo potentially curative treatment. These disparities translated into a 7% higher risk of death among Black patients. Adjusting for cancer stage and receipt of treatment partially but not fully explained the identified disparities in the more proximal steps in the pancreatic cancer care continuum. Our data also show that even in a system with equal access to healthcare, racial inequalities exist in the timing of pancreatic cancer diagnosis and receipt of potentially curative cancer treatment. Dedicated efforts are needed to understand reasons underlying these disparities in an attempt to close these persistent gaps and improve care quality.

IMPROVING THE QUALITY OF ADVANCE CARE PLANNING AT A COMPREHENSIVE CANCER CENTER

Abstract #112
Lead author: Elyse Lopez, MD
Contributing authors: Daniel Goyco Vera, Kevin Milligan, Jaime Haro-Silerio, Nikhil Anil Patel, Mohammad Bilal, George Ajene, Megan Grant, Kristen Simmons, David Rubio
Category: Quality, Cost, Value

Background: Advanced care planning (ACP) is the process of clarifying, communicating, and implementing patient preferences, values, and goals as they pertain to medical care and quality of life. Early communication regarding ACP can improve patient satisfaction and limit unwanted interventions and treatments. The lack of ACP documentation is particularly concerning in patients with malignancies due to their high risk of sudden deterioration, especially during hospitalization. In particular, there is an unmet need to complete ACP documentation during hospital admissions.

Aim Statement/SMART Goal: Our goal is to increase the percentage of patients admitted to a hospital medicine service with Advance Care Planning (ACP) note documentation within the first 72 hours of admission to above 50% within 1 month of intervention.

Additional Objectives (optional):

Methods: We created a comprehensive process map for the current ACP note documentation process to determine areas for improvement in our inpatient hospital medicine resident team at a comprehensive cancer center. We analyzed hospital admissions 1 month before and after our intervention to determine the rates of ACP note documentation and ACP note documenter provider specialty. Our intervention consisted of (1) providing education during team orientation with individualized slides, (2) displaying instructional flyers in the communal workroom, and (3) implementing a new electronic medical record admission template with a forcing function. We established the percent of ACP note documentation as our primary outcome measure, which was modeled via run chart.

Results: Of the sixty-four patients admitted to our hospital team during the 1 month prior to our intervention, 24 (38%) had an ACP note documented within the first 72 hours of admission.
Thirteen notes were completed by hospitalists, 7 by oncologists, 5 by ER physicians, 2 by supportive care providers, and 1 by a hospital medicine resident. Five patients had multiple ACP notes. One month after intervention, 38 of the 44 (86%) patients admitted had an ACP note documented within 72 hours of admission. In this cohort, 28 notes were completed by hospital medicine residents, 3 by hospitalists, 3 by oncologists, 3 by supportive care providers, and 2 by ER physicians. One patient had multiple ACP notes. Three months post-intervention, 22 patients (34%) of the pre-intervention cohort were deceased, 14 (64%) of whom had ACP documentation.

Discussion: Cancer patients are at an increased risk of deterioration during their clinical course. Quality improvement interventions to promote ACP documentation during hospital admissions lead to care better aligned with patients' wishes and fulfill an unmet need in addressing goals of care.

ANALYSIS OF MEDIA MEDICAL COVERAGE REPORTING HEALTHCARE CHALLENGES IN THE USA AND THE MIDDLE EAST IN 2021

Abstract #113
Lead author: Malik Ladki, BS
Contributing authors: Latifa Daher, Robert Abou Chacra, Elie Kassis, Chady Ayrout, Hadi Moubayed, Amal Abbas, Nahed Boudani, Ralph Doumit, Wissam H. Faour
Category: Population and Public Health

Background: Printed media serves as a platform through which medical information is disseminated and act as a window through which the public obtains sound scientific facts and government decisions during critical times. Circulated information shapes the public's perspectives on the state of the nation's healthcare. Articles related to healthcare published in selected US Middle Eastern and Lebanese periodicals in 2021 were analyzed to report about the public perspective of the healthcare industry across various regions of the world.

Aim Statement/SMART Goal: To use Content Analysis Methodologies to report about healthcare topics published in various printed mediums in 2021 to explore specific aims or trends across different timelines or locations

Additional Objectives (optional):

Methods: The study was conducted by a group from both the University of Texas Medical Branch and the Lebanese American University. Researchers surveyed and analyzed printed periodicals related to healthcare published between January 1 to December 31, 2021. Data were collected from five US periodicals, four Middle Eastern, and four Lebanese periodicals. This study used content analysis methodologies as a standardized qualitative research method for evaluating communication outcomes.

Results: Results indicated that all periodicals shared wide COVID-19 coverage. Similarly, all participating regions of the world initiated various strategic plans to fight the COVID-19 pandemic while shedding light on its social and economic impact. While strategies and policies to fight COVID-19 disease where among the most published topics, other important keywords such as "healthcare budget, service providers, education, and long-term care" were among the least reported media items. Interestingly, the topics of "Research and development" and "vaccines" were most frequently reported in US but were almost inexistent in all Middle Eastern and Lebanese periodicals.

Discussion: COVID-19 related news occupied most of the media coverage in US periodicals. Said periodicals served as the main sources of COVID-19 data input for Middle Eastern and Lebanese printed media. While covering COVID-19, US periodicals served as "trendsetters" whereas Middle Eastern and Lebanese printed media were followers.

RHEUM TO IMPROVE: PATIENT-REPORTED TRANSITION READINESS IN A LARGE PEDIATRIC RHEUMATOLOGY CLINIC

Abstract #114
Lead author: Kristiana Nasto, BS
Contributing authors: David McDonald, Kyla Fergason, Mary Robichaux, Bernard Danna, Monique Maher, Alexander Alexander, Miriah Gillispie-Taylor, Tiphanie P. Vogel
Category: Health Outcomes / Services Research

Background: Transition of adolescents with chronic healthcare needs to adult care may result in poor outcomes. We have developed a program to improve transition of pediatric rheumatology patients to adult providers, which includes periodic assessment of self-reported transition readiness using the validated Adolescent Assessment of Preparation for Transition (ADAPT) survey. Here, we report initial findings following electronic medical record (EMR) automation of ADAPT delivery.

Aim Statement/SMART Goal: To increase self-reported transition readiness composite scores from patients with childhood-onset rheumatic disease by one level every year.

Additional Objectives (optional):

Methods: Return patients 14 years and older were surveyed from July 2021-November 2022. ADAPT survey distribution was automated for all clinic visits using the EMR. Three composite scores, out of 100, for self-management, prescription management, and transfer planning were manually calculated and compared across demographics. Mann-Whitney, Wilcoxon and Kruskal- Wallis tests were used to compare composite scores.

Results: patients returned 670 surveys. 87% (586/670) of the surveys were scorable for at least 1 composite score, and 401 patients (87%) returned a survey with at least 1 calculatable score. Most respondents were female (75%), aged 14-17 years (83%), Caucasian (69%), non-Hispanic (64%), and spoke English (90%). Overall mean scores for self-management, prescription management, and transfer planning on initial survey were 35 (n=401), 59 (n=288), and 16.6 (n=367), respectively. Scores for self-management (mean 20.4 at age 14 years, increasing to 63.6 at 18+ years) and transfer planning (mean 1 at age 14 years, increasing to 49 at 18+ years) improved across age (both p<0.0001); scores for prescription management were high for all patients (mean 59 at age 14, 66 at 18+ years, p=0.0442). Scores did not differ by sex or race; Hispanic patients scored higher in self- management (44.5 vs. 30.7, p<0.0001). 97 patients (21%) completed 2 surveys, 39 patients (8.4%) completed 3 or more. The average time between surveys 1 and 2 was 4 months. There was no difference in this timeframe in self-management or prescription management; there was an increase in scores for transfer planning (13.6 vs. 21, p=0.008, n=90).

Discussion: In our rheumatology transition program, patient self-reported transition readiness is assessed using the ADAPT survey. Analysis indicates participation in the transition pathway can rapidly improve transfer planning scores; however, opportunities remain to improve readiness in all domains. We look forward to distributing surveys in Spanish, a current EMR limitation. In the future, we will assess which aspects of readiness correlate with successful transfer to adult care.

REDUCING DELAYS IN ONCOLOGY CLINIC APPOINTMENT SCHEDULING FOR INPATIENTS: A QUALITY IMPROVEMENT PROJECT AT THE MICHAEL E. DEBAKEY VA MEDICAL CENTER

Abstract #115
Lead author: Kristen Simmons, MD
Contributing authors: Michael Song, Emily Abdur-Raheem, Timur Bylov, Yvonne Sada, Lindsay Vaclavik, Molly Horstman
Category: Improvement Science

Background: Ideally, all hospitalized patients would have their needed follow-up appointments scheduled prior to discharge, increasing the continuity of care from the inpatient to the outpatient setting. This transition is particularly important in oncology, as reducing the time between hospitalization and the first oncology clinic appointment can decrease the amount of time from cancer diagnosis to first cancer directed treatment.

Aim Statement/SMART Goal: The goal of this project is to reduce the amount of time between the ordering and the scheduling of oncology clinic appointments for inpatients at the Michael E. DeBakey VA Medical Center by 25% between December 2022 and April 2023.

Additional Objectives (optional):

Methods: A process map was used to identify inefficiencies in the current scheduling process. Qualitative data was collected on provider attitudes toward the inpatient follow-up appointment scheduling process using PollEverywhere. Quantitative data on timing of appointment scheduling was gathered from the electronic health record system from August 2022 through February 2023 and analyzed using Microsoft PowerBI and Excel. The “return to clinic” (RTC) order was redesigned in December 2022 to make overbooking easier. Oncology providers were educated in February 2023 about how to write RTC orders to facilitate easier appointment scheduling by the staff. The process measures are the proportion of RTCs ordered with the “Overbook OK” and “Time Sensitive” boxes checked. The outcome measure is the time from RTC order placement to appointment scheduling. The balancing measure is satisfaction of ordering providers and schedulers. Improvements will be measured using run and SPC charts.

Results: Of the 14 hematology/oncology fellows surveyed, 62% are not at all confident that clinic appointments will be successfully scheduled for inpatients. 71% of fellows reported that less than a quarter of the patients they follow have clinic appointments scheduled prior to discharge. 43% of fellows spend 30 minutes per day ensuring that clinic appointments are being scheduled for inpatients, with 7% of fellows spending as much as 90 minutes daily on this activity. Data regarding the time from oncology clinic appointment ordering to appointment scheduling for inpatients from August 2022 through February 2023 is being collected and analysis is pending.

Discussion: Our hope is that redesigning the RTC order and educating providers on the appropriate use of the RTC order features will increase the number of inpatients with oncology clinic appointment scheduled prior to discharge. This will ultimately provide more timely and effective cancer care. The next step is to improve the RTC triage system used by the schedulers.

HOW DOES NURSE TURNOVER IMPACT PRIMARY CARE ACCESS AND QUALITY?

Abstract #116
Lead author: Kelley Arredondo, PhD
Contributing authors: Ashley M. Hughes, Joshua Hamer, Trang N.D. Pham, Houston F. Lester, Frederick L. Oswald, Laura A. Petersen, LeChauncy Woodard, Cheng (Rebecca) Jiang, Sylvia J. Hysong
Category: Health Outcomes / Services Research

Background: Aligned with Patient Centered Medical Home (PCMH) adoption, Patient Aligned Care Teams (PACTs) are the Veterans Health Administration's (VHA) adaptation of PCMH, that consist of Primary Care Providers, care coordinators (registered nurse [RN]), licensed practical nurses, and administrative clerks. Primary care objectives include ensuring patients have appropriate access to preventative, acute, or chronic health care services when needed. Little is known about how the PACT model influences patients' access to care. RNs, however, play a vital role within PACTs with care coordinator tasks and chronic disease management; thereby, RN turnover may pose a more immediate disruption to patients' access to care.

Aim Statement/SMART Goal: Determine the impact of PACT RN role stability on access to healthcare.

Additional Objectives (optional):

Methods: Design and data sources: Twenty-four months (1/2019-12/2020) of data on 5,897 VHA PACTs were extracted from VHA's Corporate Data Warehouse and Primary Care Compass. Measures: Primary care access outcomes include: Average third next available appointment, urgent care utilization, team 2-day contact ratio, and follow-up from patient secure messaging ratio (i.e., # inbound messages to PACT sent by patients to # outbound secure message to patient sent by PACT via secure messaging on patient portal]; Hysong et al., 2022, PMC8765671). RN turnover was defined as an RN role was vacated but was filled within the same month. RN vacancy was defined as an RN role was vacated and remained unfilled for the month.

Results: Neither RN turnover nor RN vacancy were associated with third next available appointment or urgent care utilization. However, RN turnover ($b = -0.05$, $t = -3.32$, $p < 0.01$) was negatively associated with team 2-day contact ratio. Additionally, RN turnover ($b = 0.21$, $t = 2.72$, $p = 0.01$) and RN vacancy ($b = 0.18$, $t = 2.37$, $p = 0.02$) were positively associated with follow-up from patient secure messaging ratio, where the higher the ratio the lower the patient's access to care.

Discussion: Our findings speak to the need to fill vacant RN care manager roles to avoid lapses in patients' access to care, regarding messaging. The RN fills a central, yet often underappreciated, role in access to care through direct patient communication. Future work should determine predictors of PACT RN turnover. Further, this work attests to the broad need for policies that address nursing shortages to help with RN primary care workforce development.

IMPROVING ANTIMICROBIAL STEWARDSHIP IN THE WEST CAMPUS PEDIATRIC INTENSIVE CARE UNIT

Abstract #117

Lead author: Sakina J Attaar, MD
Contributing authors: Sanju Samuel, MD; Cynthia Nelson, MPH, PA-C; Exie Meredith, DNP, CPNP-AC; Catherine Foster, MD; Matthew Pesek, MD; Debra Palazzi, MD, Med; Margaret Taylor, MD
Category: Quality, Cost, Value

Background: Most patients admitted to West Campus Pediatric Intensive Care Unit (WC-PICU) are treated with antimicrobials; however, antimicrobial use, selection, dose and/or duration are often inappropriate. Misuse of antimicrobials leads to antibiotic resistance, a global health threat as identified by the World Health Organization. Antimicrobial stewardship programs (ASPs) have been shown to decrease costs and improve patient outcomes by reducing antimicrobial resistance, prescribing errors, drug toxicities, and Clostridioides difficile infections. The ASP at WC-PICU is comprised of pediatric infectious diseases faculty, pharmacists, and Pediatric ICU faculty and recommendations are based on clinical guidelines, current antibiograms, and individual patient results such as cultures and susceptibilities.

Aim Statement/SMART Goal: To reduce the number of antibiotic days of therapy per 1000 patient days by 15% at WC-PICU by March 2023.

Additional Objectives (optional):

Methods: We collected antimicrobial utilization at WC-PICU for two years prior to initiation and during ASP activities. We conducted a didactic review of guidelines with providers and initiated virtual ASP rounds to provide feedback on antibiotic use. After meeting with key stakeholders in WC-PICU, we identified focal points for ASP recommendations based on preliminary chart audits: (1) stop antibiotic use for simple viral bronchiolitis, (2) stop prolonged broad spectrum antibiotic use for non-severe community acquired pneumonia (CAP), (3) treat non-severe CAP for 5 days, and (4) de-escalate from third generation cephalosporins after 48- hour sepsis evaluation. ASP rounds transitioned to in-person to better promote optimal antimicrobial use.

Results: In Dec 2022, only 23% of virtual ASP recommendations were accepted by WC-PICU teams over 5 weeks compared to 89% for PHM and 100% for surgery teams. After focal points for improved antimicrobial use were identified and the initiation of in-person ASP rounds, ASP recommendation acceptance increased to 90% in Jan 2023 (Figure 1).

Discussion: Unnecessary antimicrobial use in WC-PICU decreased with the implementation of several ASP interventions, including in-person rounding.

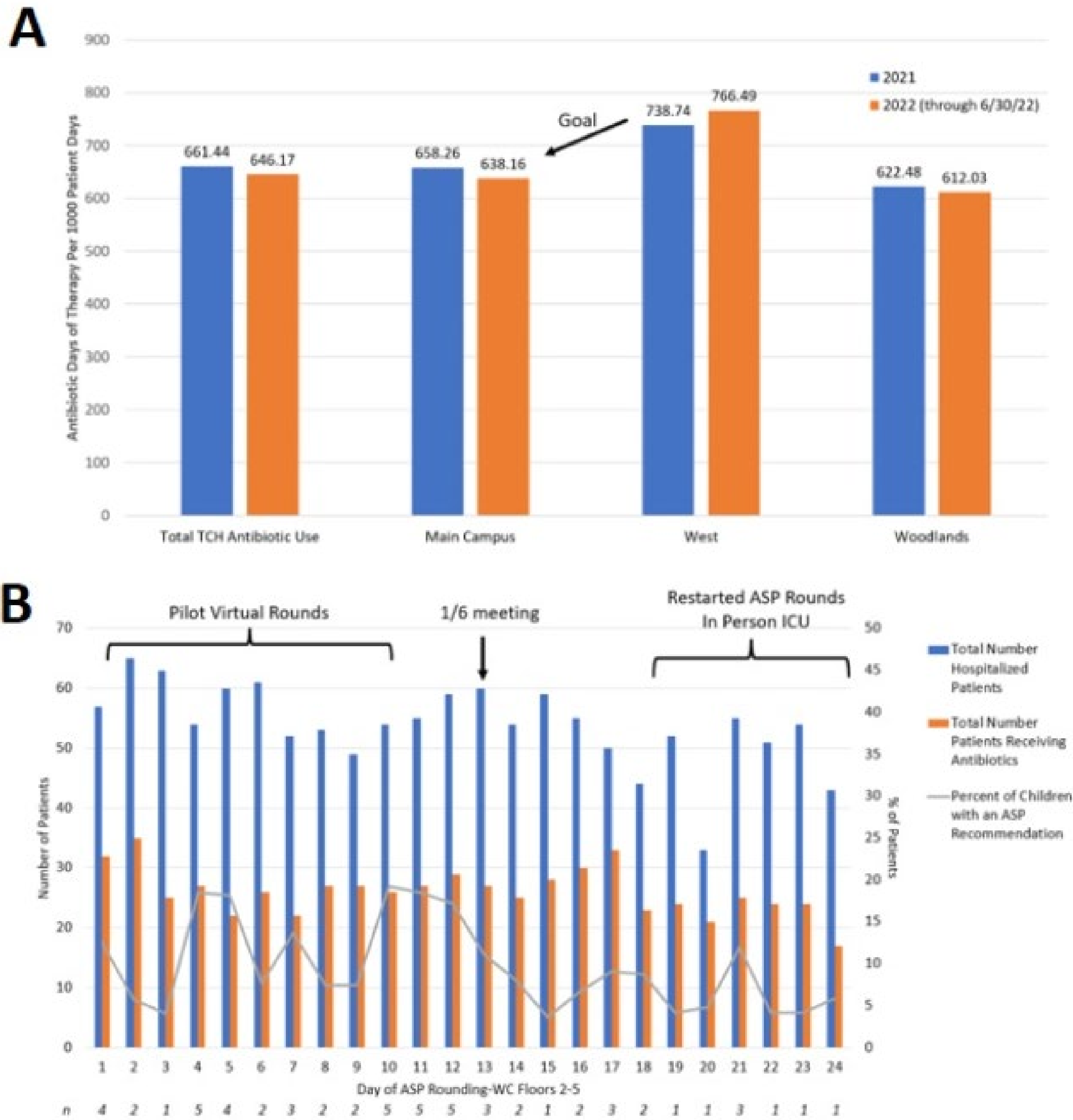


Figure 1. Initiation of ASP at West Campus. A) Antibiotic usage at WC compared to other TCH campuses. B) Percentage of ASP recommendations for all WC units in Jan 2023.

IMPROVING TIMELINES OF OPIOID ADMINISTRATION IN PATIENTS WITH SICKLE CELL VASO-OCCLUSIVE PAIN CRISIS IN A PEDIATRIC EMERGENCY CENTER

Abstract #118
Lead author: Katherine Guess, MD, MPH
Contributing authors: Gina Aloisio, Theresa Strong, Adrienne Smallwood, Shubhada Hooli , Aya Fanny , Bryan Greenfield, Binita Patel
Category: Health Outcomes / Services Research

Background: Approximately 100,000 people in the United States are affected by Sickle Cell Disease (SCD). The sickling of the red blood cells in SCD causes ischemia and resulting vaso-occlusive pain crises (VOC), the most common reason for SCD patients to present to emergency departments (ED). The American Society of Hematology (ASH) recommends opioid administration for VOC within the patient's first hour after arrival to the ED, but many pediatric emergency departments struggle to meet this metric. At our three urban academic pediatric ED, the average time to opioid administration in patients with VOC is 96 minutes with 55% of patients receiving these medications within 60 minutes of arrival.

Aim Statement/SMART Goal: The primary goal of this project was to increase the percentage of patients presenting with VOC to three urban academic pediatric ED who receive opioid administration within 60 minutes of arrival from a baseline of 55% to 75% over an 18-month period. The secondary goal was to reduce the length of stay in the ED for patients with VOC by 20% during that same time frame.

Additional Objectives (optional):

Methods: Identified delays to opioid administration included difficulty with establishing IV access. To address this delay, ED providers were asked to order both intranasal fentanyl and IV opioids upon patient arrival and were educated on the ordering process. Education was provided via e-mail reminders and during departmental meetings.

Results: During the first month of implementation, the percentage of patients presenting with VOC receiving opioids within 60 minutes of arrival increased to 65%. No patients received intranasal fentanyl during that time. The percentage of patients receiving opioids increased to its maximum rate of 71% during the 16th and 18th months of intervention. During those months, 21% and 16% of those patients received intranasal fentanyl, respectively.

Discussion: Standardization of opioid medication ordering to include intranasal fentanyl as an option of pain control in patients presenting with VOC increased the number of patients receiving their first dose of opioids within 60 minutes of ED arrival. To continue to improve time to first opioid, the second PDSA cycle will focus on rapid availability of intranasal opioids within the ED.

SEIZURE TO RESCUE: REDUCING TIME TO SEIZURE TREATMENT IN A PEDIATRIC INTENSIVE CARE UNIT THROUGH QUALITY IMPROVEMENT METHODOLOGY

Abstract #119
Lead author: Chelsey Ortman, MD
Contributing authors: Thara Bala, MD, MHA; Jon Cokley, PharmD; Jennifer Erklauer, MD; James J. Riviello, MD; Leigh Ligas, R.EEG/EP T, CLTM; Stacey Pedigo, BBA, R.EEG/EP T, CLTM; Lisa Rhodes, R EEG/EP T; Sonali Sen, MD
Category: Patient Safety

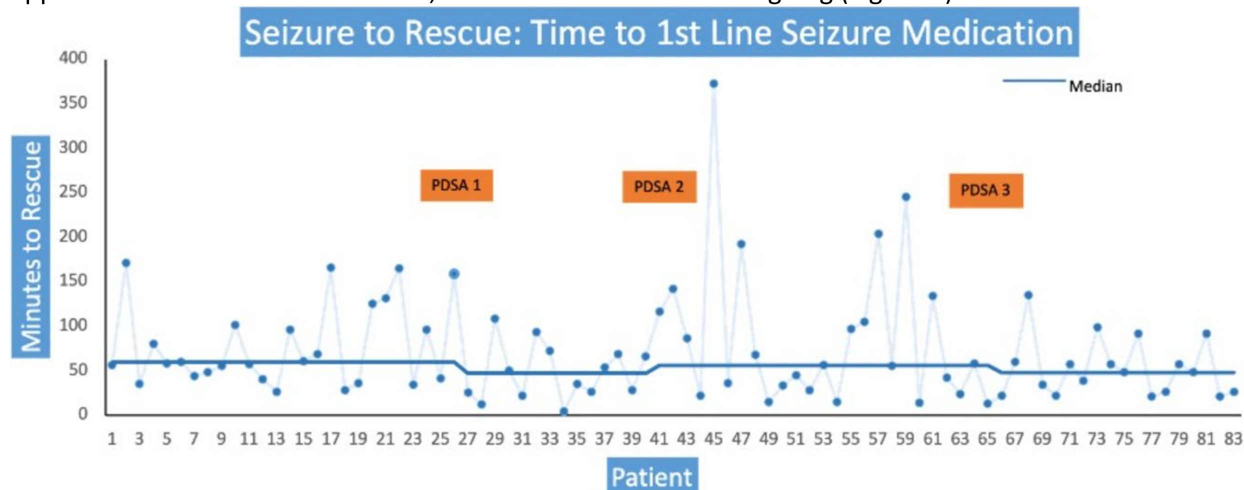
Background: First-line seizure rescue medication should be given within 10 minutes of seizure activity. The median time for patients who met rescue treatment (RT) criteria in the Texas Children's Hospital Pediatric Intensive Care Unit (PICU) and received anti-seizure medication (ASM) is 59 minutes, almost six times the recommended time frame. We used QI methodology to determine key drivers of delayed response time and developed interventions aimed to reduce the timeline to 1st-line ASM.

Aim Statement/SMART Goal: Reduce median time to 1st-line ASM for patients meeting RT criteria in the PICU by at least 25% within 1 year.

Additional Objectives (optional):

Methods: A key-driver diagram identified primary and secondary factors for delayed ASM administration. A process map highlighted opportunities to streamline our cEEG workflow and medication protocol. PDSA #1optimized communication between EEG technologists and bedside nurses for notification of criteria. PDSA#2 centered on standardizing and ordering 1st- line ASM for all patients monitored on cEEG. An ongoing 3rd PDSA cycle will ascribe ownership of the 1st-line ASM orders to members of the critical care team.

Results: After PDSA #1, there was a 28% reduction (59 minutes to 43 minutes) in median time to medication administration. This reduction was not sustained during PDSA #2, with 6% reduction in time (59 minutes to 56 minutes). Notably, compliance with new workflows between EEG technologists and bedside nurses was 78% during PDSA #1 compared to 64% during PDSA #2. Preliminary results from PDSA #3 approach similar trends to PDSA #1, however research is still ongoing (Figure 1).



Discussion: Improved communication between EEG technicians and nursing was associated with improved

RT times in PDSA #1, however this was not sustained in PDSA #2. Barriers to implementation included inconsistency adhering to protocols, notification fatigue, variable nursing phone numbers, and competing nursing demands. Ownership of 1st-line ASM orders was identified as another crucial step being addressed in PDSA #3. Future directions include implementing a continuous EEG with RT order set, educating ICU staff on new protocols, and shortening pharmacy RT delivery times.

IMPROVING REMOTE TRANSMISSION COMPLIANCE FOR PEDIATRIC AND ADULT CONGENITAL DEVICE PATIENTS

Abstract #120

Lead author: Patrick S. Connell, MD, PhD
Contributing authors: Melissa L. Smith, RN; Melissa A. Domino, RN, BSN, CCDS; Alexandra G. Fantin, BSN, RN; Taylor S. Howard, MD; Tam Dan N. Pham, MD; Wilson W. Lam, MD; Christina Y. Miyake, MD; Jeffrey J. Kim, MD; Santiago O. Valdes, MD
Category: Quality, Cost, Value

Background: Cardiac implantable electronic devices (CIED), such as pacemakers, implantable cardiac defibrillators, and implantable loop recorders, require routine monitoring to ensure early detection of device failure or potentially dangerous clinical conditions. Regular remote monitoring reduces mortality, healthcare utilization, time to clinical decision making, and inappropriate shocks. Guidelines therefore recommend CIED transmission reviewed by a physician at least every 3 months.

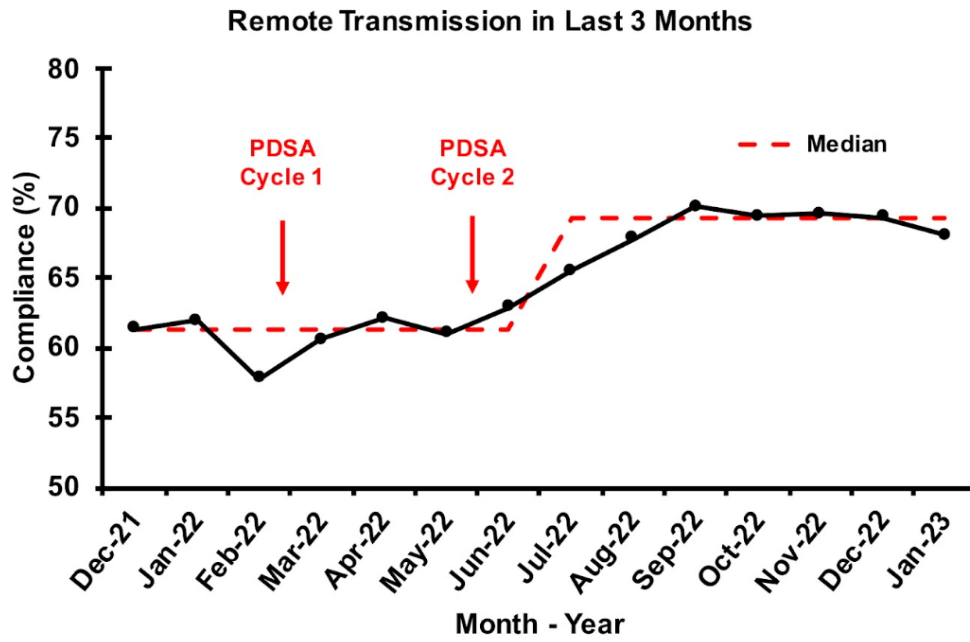
Aim Statement/SMART Goal: Improve remote transmission compliance (at least one transmission in the last 3 months) by 20% by December 2022.

Additional Objectives (optional):

Methods: A single center quality improvement project in the Institute of Medicine quality domain of effectiveness was performed to increase compliance with remote transmissions. We performed two Plan-Do-Study-Act (PDSA) cycles. The first PDSA cycle (March 2022) involved using a remote transmission checklist with outpatient device checks. The checklist noted if patients had a transmission in the last 3 months, identified reasons for non-compliance, and helped patients troubleshoot technological issues. The second PDSA cycle (June 2022) utilized a semi-automated reminder system using Paceart device tracking software and the multi-patient MyChart communication tool in EPIC. A run chart was utilized to track patient compliance over time.

Results: A total of 35 checklists were completed during outpatient device checks between March and April 2022. Only 48% of patients had a transmission sent in the 3 months prior to their visit. The most common reason for non-compliance was a technical issue (55%), and most patients were unaware that they were not sending transmissions (55%). A total of 973 remote transmission reminders were sent between June 2022 - January 2023. Of those reminders, 47.9% were read by patients and 20.1% resulted in a remote transmission. Of those who read reminders, 31.1% sent transmissions while 5.9% of those who did not read reminders sent transmissions. Figure 1 demonstrates an increasing trend of improved compliance beginning with PDSA cycle 2, followed by a shift in the median compliance rate from 61.3% to 69.3%, a 13% relative increase.

Discussion: While unable to meet our goal of a 20% increase in compliance, we were able to achieve a 13% relative increase by using a semi-automated reminder system, which addressed our patient’s most significant issue, lack of awareness of a technical issue sending remote transmissions. By further addressing our patients’ needs, we hope to continue to improve compliance with our remote transmission program.


Remote Transmission in Last 3 Months
Compliance (%)
80
75
70
65
60
55
50
PDSA
Cycle 1
PDSA
Cycle 2
Median
Dec-21
Jan-22
Feb-22
Mar-22
Apr-22
May-22
Jun-22
Jul-22
Aug-22
Sep-22
Oct-22
Nov-22
Dec-22
Jan-23
Month - Year

DOES TRAINING IMPACT DEMENTIA-RELATED OUTCOMES IN PRIMARY CARE?

Abstract #121
Lead author: Joshua Hamer, PhD
Contributing authors: Christine Rizk, Liang Chen, Jennifer Gatchel, Laura Marsh, Kyler Godwin
Category: Quality, Cost, Value

Background: Initiatives that eliminate diagnostic barriers and promote early detection of dementia-related cognitive decline are critical to improving dementia-related prognosis and enhancing patient-centered care. Earlier dementia detection in Primary Care fosters advanced care planning and attention to psychosocial matters that affect quality of life. Validated and effective dementia screening processes and tools have been developed for use in primary care settings. Considering the many demands in a primary care clinic, training primary care teams to use and recognize warning signs of dementia is a value-added pre-screening intervention that improves the identification of primary care patients at high risk for dementia, augments referral rates to screen formally for cognitive impairment, and increase rates of positive cognitive impairment upon formal screening.

Aim Statement/SMART Goal: VA TREAT is an educational training intervention that has been adapted, implemented, and is currently being evaluated to increase the use of dementia warning signs in primary care clinics, improve the screening rates of dementia-related disorders, and augment referrals to specialty dementia care.

Additional Objectives (optional):

Methods: Adaptations to the Dementia Warning Signs (DWS) intervention included: 1) incorporating VHA's DWS note template, 2) providing the training virtually, and 3) implementing an integrated, rapid evaluation protocol by specialty care. Subsequent dementia- related team outcomes (i.e., referrals/requests for cognitive screening, use of the dementia warning signs screening, rate of positive dementia-related diagnoses) were observed at baseline and post-training. Data were extracted from VHA's Corporate Data Warehouse. Descriptive statistics were used to determine the impact of the intervention.

Results: Preliminary results suggest the intervention impacted PACT members' utilization of the dementia warning signs such that they now incorporate the DWS note template into their practice. Additionally, although modest, the incidence of dementia diagnosis amongst the team has increased from baseline (MDiagnosis rate = 0.45%) to present (MDiagnosis rate = 0.85%) for the past three months post-training. Further analyses will include significance testing and chart reviews.

Discussion: Preliminary data support the adapted intervention improves practice and clinical outcomes in PACTs. A continuous improvement approach has informed further adaptations to implement the intervention with subsequent PACTs and support scaling out. We will continue to monitor and report outcomes to improve the system of care for aging Veterans in Primary Care.

MEDICAL SUPPORT ASSISTANTS: AN UNTAPPED RESOURCE FOR QUALITY IMPROVEMENT IN VA PACTS

Abstract #122
Lead author: Jessica S. Castillo, BS
Contributing authors: Richard SoRelle, Pavithr Goli, Sylvia J. Hysong, PhD
Category: Quality, Cost, Value

Background: Medical Support Assistants (MSAs) are essential members of VA Patient-Aligned Care Teams (PACTs) and Veterans' first point of contact in the primary care clinic. VA patient satisfaction data from the 2021 PCMH Trend Report show MSAs to be a recurring source of dissatisfaction among Veterans, yet MSAs are the least studied clinical role in current literature. Despite being the face of the primary care clinic, we know little about how MSAs perceive their role as part of the PACT or their perceived contributions to high-quality team-based primary care. A better understanding of the MSA role from their perspective is needed to improve quality of services in primary care.

Aim Statement/SMART Goal: This exploratory pilot study aims to describe MSAs' perceptions of their role and contributions in PACTs' delivery of high-quality care to Veterans.

Additional Objectives (optional):

Methods: Seven MSAs from one VA medical center and its associated satellite clinics were individually interviewed via Microsoft Teams. Participants answered broad, high-level questions to elicit descriptive responses about perceptions, barriers, and facilitators of their role. We captured responses via automated transcription; transcripts were verified and de-identified by study team members. Four analysts deductively coded and reconciled the transcripts using Okhuysen and Bechky's Coordination Framework (OBCF), which posits three integrating conditions for effective team coordination (predictability, accountability, and common understanding). Code-document and code co-occurrence analysis were then used to compare specific participant quotations and identify common themes.

Results: Participants reported a common understanding of MSAs' basic functions, specifically, checking Veterans in/out and ensuring any additional appointments or labs were scheduled. However, MSAs reported both Veterans and PACT clinicians lack a full understanding of the MSAs role. Commonly overlooked functions include reconciling Veterans' concerns, which commonly stem from lack of communication or action by providers rather than MSAs directly. They also felt their role as a gatekeeper between Veterans and providers was not often recognized or appreciated as they receive less-than-ideal treatment from both groups.

Discussion: Our findings demonstrate MSAs appear to have a common understanding of their own role and functions in PACTs, particularly the often underappreciated role of gatekeeper between patients and clinicians yet feel misunderstood by both groups. Further investigation is required on how MSAs are perceived by Veterans and PACT clinicians to best understand why MSAs' efforts are going unrecognized and improve quality of care.

BARRIERS AND FACILITATORS TO MEDICAL SUPPORT ASSISTANT PERFORMANCE IN PRIMARY CARE TEAMS

Abstract #123
Lead author: Richard SoRelle, BS
Contributing authors: Jessica S. Castillo, Pavithr Goli, Sylvia J. Hysong, PhD
Category: Quality, Cost, Value

Background: Medical Support Assistants (MSAs) are essential members of primary care teams (PACTs) and patients' first point of contact in the primary care clinic. In the Veterans Health Administration (VHA), the 2021 Patient Centered Medical Home Trend Report shows MSAs to be a recurring source of dissatisfaction among Veterans, suggesting potential systemic barriers to delivering high-quality service. However, research on MSAs' role and contribution to primary care clinics is virtually nonexistent. To improve the quality of services provided by MSAs, a better understanding is needed of their role within the context of PACTs, and the corresponding barriers/facilitators to delivering high-quality services in this context.

Aim Statement/SMART Goal: This exploratory pilot study aims to identify barriers/facilitators MSAs face in delivering high-quality medical support services within PACTs.

Additional Objectives (optional):

Methods: Seven MSAs from one VA medical center and its associated satellite clinics were individually interviewed via Microsoft Teams. Participants answered broad, high-level questions to elicit descriptive responses about perceptions, barriers, and facilitators of their role. We captured responses via automated transcription; transcripts were verified and de-identified by study team members. Four analysts deductively coded and reconciled the transcripts using Okhuysen and Bechky's Coordination Framework (OBCF), which captures five mechanisms for team coordination (plans and rules, objects and representations, roles, routines, proximity/familiarity). Code-document and code co-occurrence analyses were used to compare specific participant quotations and identify common themes.

Results: Of the mechanisms in OBCF, the majority of barriers were related to routines. We observed frustration from MSAs as they found their formal training insufficient. Routines taught in MSAs' formal training transferred poorly to routines performed on the job. Participants reported their most effective training was obtained through hands-on experiences with other MSAs and PACT members. However, as different MSAs exhibit different methods or levels of expertise, participants reported receiving conflicting information from these hands-on experiences, resulting in a lack of common understanding about best practices in their role.

Discussion: The current official training provided to MSAs does not adequately prepare them for their role. Although MSAs find hands-on training more useful, lack of ensuing standardization creates inconsistencies in MSAs routines and subsequent quality. Further, more in-depth research is needed to determine exactly which aspects of current formal and informal MSA training contribute most to MSAs delivering and maintaining high-quality care. However, the results of this study begin to show the need for further development of current MSA training to ensure MSAs are well equipped to fulfill their role with confidence and ease.

IMPROVING EFFICIENCY OF THE ECHO LAB: A QI INITIATIVE TO STREAMLINE ECHO REPORTING

Abstract #124
Lead author: Cardiology Fellows 2nd Year Class, MD
Contributing authors: Ryan Bishop, Natalie Craik, Julie Lovin, John Shabosky, John Tadros, Ran Xiao, Shreya Sheth, Anitha Parthiban, Aura Sanchez
Category: Quality, Cost, Value

Background: The Texas Children's Echocardiography (echo) laboratory supports a high-volume pediatric hospital with increasing demands to provide timely turnover of echo requests. This goal is confounded by the lack of clarity in the order template, the widespread geographic location of patients, and the time-intensive nature of completing a full study. Inefficiencies in each step lead to delays in the delivery of the final echo report.

Aim Statement/SMART Goal: By December 2023, we will decrease the time from echo order entry to final report by 20% by introducing modifications to the inpatient echo laboratory workflow (Figure 1: Key Driver Diagram).

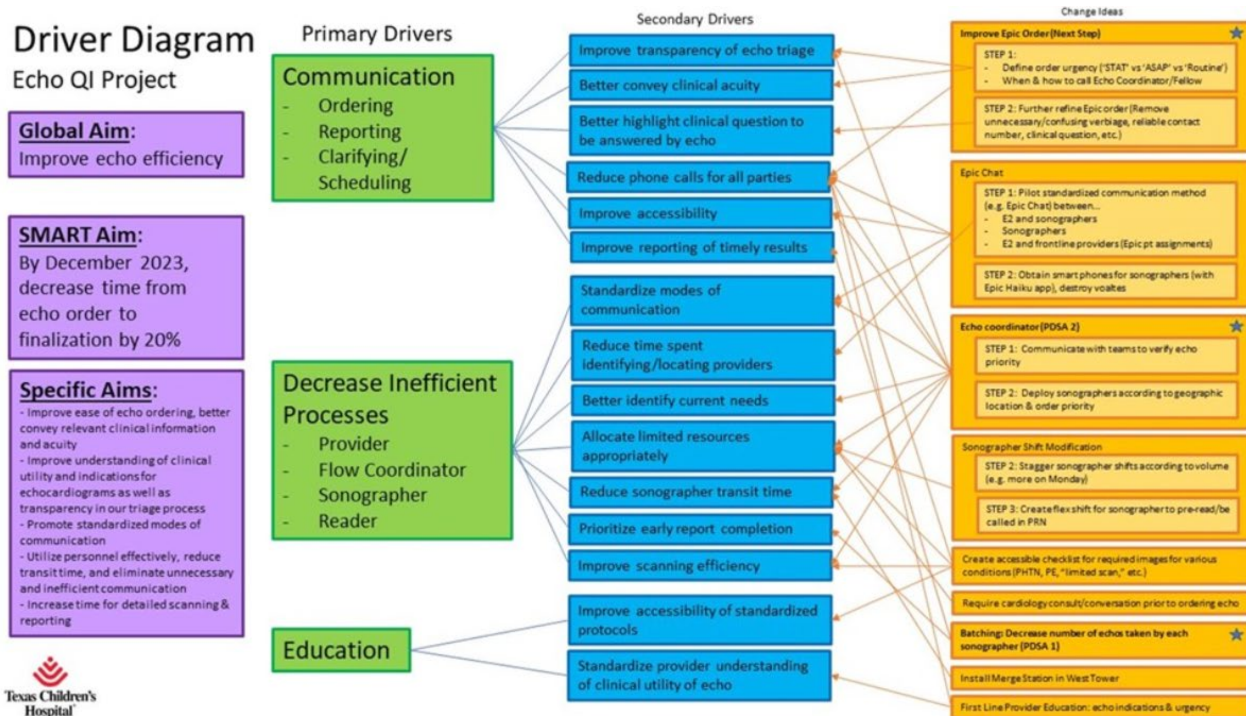


Figure 1) Key driver diagram with project interventions indicated with ★s

Additional Objectives (optional):

Methods: Baseline data was obtained in April 2022. We ran two PDSA cycles. In the first PDSA cycle, launched in May 2022, sonographers were requested to take only two orders at a time before returning for preliminary report generation and marking echos as ready for formal read ("QC"). In the second PDSA cycle, launched in August 2022, echo coordinators were asked to assign priority to echo requests and distribute these orders to the sonographers accordingly. To assess the effect of our interventions, we looked at our process times stratified by order priority.

Results: We reviewed echocardiograms from April (baseline), August (PDSA 1), and September 2022 (PDSA 2). A total of 1643 echocardiographic studies were included. We sub-stratified the study data by order priority: ASAP (n=53), Discharge (n=26), Routine (n=1525), and STAT (n=39). We did not observe a significant change in time from order to finalized study (Figure 2A). However, there was a significant decrease in time from last image to QC of report from April 2022 to September 2022 and across all sub-stratified study types ($p<0.001$; post-hoc April vs. August: $p<0.001$ and April vs. September: $p<0.001$; Figure 2B). As a balancing measure, we noted significant increases in time from order entry to first study image acquisition ($p<0.001$; post-hoc April vs. August: $p<0.001$ and April vs. September: $p<0.001$; Figure 2C).

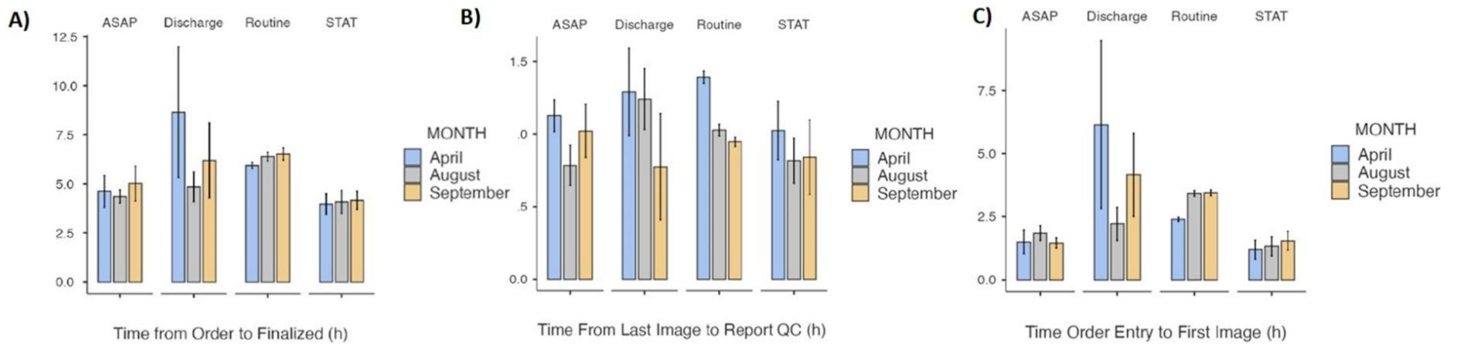


Figure 2A) Mean time from order entry to first image in hours across April, August, and September in ASAP, Discharge, Routine, and STAT studies
Figure 2B) Mean time from last image to report QC in hours across April, August, and September in ASAP, Discharge, Routine, and STAT studies
Figure 2C) Mean time from order entry to first image in hours across April, August, and September in ASAP, Discharge, Routine, and STAT studies

Discussion: While we have not significantly decreased the time from echo order to report finalization, we have improved the efficiency of the preliminary report generation. Reducing the time between order entry and first image acquisition remains a target balancing measure for further improvement. We identified ambiguity of language in the echo order template as a source of provider confusion leading to misclassification of order priority and inefficiencies in workflow. In January 2023, we introduced a more user-friendly echo order which may further streamline these processes.

EVALUATION OF INTERPROFESSIONAL SOCIALIZATION AMONG FELLOWS IN A QUALITY IMPROVEMENT TRAINING PROGRAM

Abstract #125
Lead author: Audrey Mendez, PhD
Contributing authors: Israel Christie, PhD; Jacquelene Shahin, MA; Molly Horstman, MD; Sylvia Hysong, PhD; Anthony Ecker, PhD; Lindsay Vaclavik, MD; Kyler Godwin, PhD; Tracey Rosen, MSPH; Jade Jennings, MPH
Category: Education

Background: Interprofessional collaborative care, or interprofessional socialization (IS), is a critical component of healthcare quality improvement (QI). Few studies have evaluated the impact of participating in a formal interprofessional education program on health professionals' beliefs, behaviors, and attitudes about IS. The VA Quality Scholars (VAQS) fellowship program trains advanced clinicians to be leaders and scholars in healthcare improvement to advance healthcare for the nation and the VA. VAQS has an interprofessional emphasis with physicians, doctoral-trained nurses, clinical psychologists and pharmacists as fellows and faculty.

Aim Statement/SMART Goal: To determine if participation in a two-year interprofessional, quality improvement fellowship impacts self-reported interprofessional socialization (IS) among advanced fellows across fellowship year and profession.

Additional Objectives (optional):

Methods: We measured IS using the Interprofessional Socialization and Valuing Scale (ISVS) among 140 unique VAQS fellows across 9 sites. Between Fall of 2019 and Fall of 2022, IS was assessed at three timepoints: upon entering the fellowship, end of first year, and end of second year. A multilevel model with random intercepts was used to test for change in ISVS scores across the duration of the fellowship. Time was treated as a continuous variable to determine average rate of yearly change and a time x profession interaction was used to test if change in ISVS was moderated by profession.

Results: Despite the fact ISVS scores were quite high at baseline, an average total score of 4.96 (SE = 0.04) on a 6-point scale, fellows showed an average yearly increase of 0.23 (SE = 0.03) points per year ($p < 0.01$) and there was no evidence the rate of increase in ISVS scores varied by profession ($p > 0.3$). The same pattern of results was observed across the three ISVS subscales: ability to work with others, value in working with others, and comfort in working with others.

Discussion: Despite indicating a high level of value with interprofessional socialization at the start of the fellowship program, VAQS fellows demonstrated that participating in a QI training program with an emphasis on an interprofessional curriculum can increase interprofessional socialization. Providing interprofessional care has been shown to optimize healthcare outcomes. It is essential that healthcare training programs incorporate interprofessional curriculum across all professions to foster a culture of teamwork and professional collaboration in healthcare.

TO IMPROVE QUALITY METRICS IN PRIMARY CARE AS A LEADER-STRATEGIES, CHALLENGES AND LESSONS LEARNED

Abstract #126
Lead author: Nagakrishnal Nachimuthu, MD
Contributing authors:
Category: Quality, Cost, Value

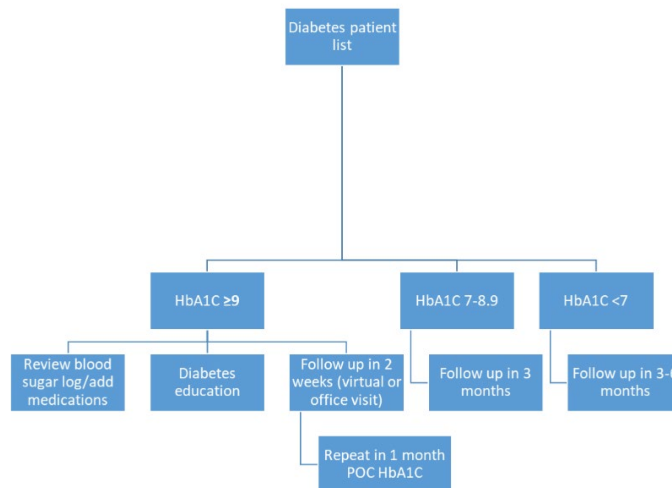
Background: US health care system is constantly evolving from one of fee for service model to one of value-based payment. Quality metrics for each specialty is one such focus of value-based payment models. Hypertension and diabetes control are some of the most important metrics for quality improvement in the primary care realm. I was appointed as the area medical director for Memorial market (East Texas) Baylor St. Luke's medical group in January 2021. As the medical director in the East Texas region which includes Livingston, Lufkin and San Augustine, I provided leadership to 15 primary care physicians and advance practice providers. The clinics are spread out in the above locations which are rural and serve the population.

Aim Statement/SMART Goal: Our goal was to improve diabetes control and hypertension at our clinics in the East Texas region (from year 2020 compared to 2021.

Additional Objectives (optional):

Methods: Educational flowsheets regarding hypertension and diabetes were created. Workflows were created that involved each and every clinic staff. Data was analyzed to evaluate the impact of intervention. Comparison was made from the previous year January 2020- December 2020 to year January 2021 to September 2021 after interventions were made. The data was stratified by year and compared using Wilcoxon rank sum test.

Chart A DIABETES FLOWSHEET



Results: For hypertension the performance in 2021 was significantly better than performance in 2020 (0.78 vs. 0.705, p=0.013). There was no significant difference on performance between 2020 and 2021 for diabetes.

Discussion: Blood pressure and diabetes management is one of the crucial elements of primary care. As noted earlier, impacts of poorly controlled hypertension and diabetes has significant health and financial

outcomes. Our results revealed that with intervention, hypertension control had improved from year 2020 compared to 2021 which was statistically significant. It was noted from this study that blood sugar control in diabetic patients was more challenging in comparison to hypertension. Workflow to improve blood sugar control among diabetes patients did not show any statistically significant improvement in comparison to previous year. Various mediations like lifestyle modifications, compliance to medications, medication adjustments are not reflected on the tests right away. What we learned though was that HbA1c could be checked every month in patients with uncontrolled diabetes. The workflow created for diabetes has helped us set up a framework and emphasized that more innovative endeavors were required to overcome the tough challenge.

IMPROVING HEMATOPOIETIC STEM CELL TRANSPLANT CARE COORDINATION WITH A HEMATOLOGY NURSE NAVIGATOR

Abstract #127
Lead author: Preeya Bhakta, MD
Contributing authors: Itunu Sokale, Rexy Rajan, Monica Arnell, Molly Horstman, Rhonda Williams, Christie Swierenga, Rosa Torres Ramos, Sarvari Yellapragada
Category: Quality, Cost, Value

Background: Effective and timely evaluation for hematopoietic stem cell transplant (HSCT) in hematologic malignancy is critical for patient care. Comorbidity assessment is a fundamental part of the referral process and needs multiple tests and consultations from different departments prior to the initial transplant center evaluation. Our goal is to complete the comorbidity assessment or "transplant evaluation" for veterans with hematological malignancies in need of HSCT in as efficient a time frame as possible. In this project, we assess the time to completion of transplant evaluation after the implementation of a novel healthcare role, the hematology nurse navigator (HNN). The HNN is a professional RN with oncology-specific clinical knowledge who offers individualized assistance to patients to overcome healthcare system barriers and improve care.

Aim Statement/SMART Goal: We aimed to reduce the time to completion of transplant evaluation by 25% for HSCT candidates at the Michael E. DeBakey VA Medical Center (MEDVAMC) over five years, from October 2017 to December 2022.

Additional Objectives (optional):

Methods: Time taken for transplant evaluation including all critical tests and consults (including imaging, laboratory, cardiac and pulmonary evaluation, and subspecialty consultation) necessary for completion of transplant evaluation were assessed from October 2017 to November 2021 as baseline data. During our Plan-Do-Study-Act (PDSA) cycle from December 2021 to December 2022, the HNN kept track of all administrative tasks required for transplant evaluation completion. The same data was collected after implementation.

Results: The average time for transplant evaluation from the date of comorbidity assessment initiation to completion was 128 days (range 8-508) for all patients. Two-sample t-test conducted to compare average time interval to transplant evaluation showed significantly shorter duration among the post-intervention group (n =17) compared to pre-intervention group (n = 27) (pre- intervention: 164.04 days, SD 128.41 days versus post-intervention: 73.07 days, SD=43.00; t= 2.813, p = 0.007 (two-sided). This was a reduction of 44%. Additionally, average time to completion of individual tests, imaging, and consultations also improved.

Discussion: Patient navigation in our cancer clinic significantly deceased time to transplant evaluation. The HNN is able to follow up on the many studies and consultations required for transplant evaluation to ensure completion in a timely manner. Integrating patient navigation into oncology care has been shown to improve patient and provider satisfaction. This study shows that it also improves healthcare efficiency and timeliness. These findings could provide guidance to healthcare professionals and administrators who are interested in developing their own patient navigation programs.

IMPACT OF NURSE-MANAGED LUNG CANCER SCREENING PROGRAM IN MEDVAMC

Abstract #128
Lead author: Rommel Gonzales, RN
Contributing authors:
Category: Quality, Cost, Value

Background: Lung cancer is the leading cause of cancer deaths in the United States. 90% of lung cancers are related to smoking. Rate of lung cancer screening (LCS) across the United States is low (~15%). Mortality from lung cancer is reduced by 20% with annual low-dose computer tomography (LDCT). Before the development of a nurse-managed centralized LCS program in MEDVAMC, lung cancer screening is performed by individual PCP or pulmonologists on an ad hoc basis. Quality assurance review showed poor adherence to US Preventive Service Task Force (USPSTF) guidelines with only 59% patients meets criteria, only 2 % were done with low dose protocol, and lack of shared decision making (SDM) process.

Aim Statement/SMART Goal: Through interprofessional collaboration, implementation of a nurse-managed centralized LCS program improve the adherence to USPSTF guidelines and SDM of lung cancer screening.

Additional Objectives (optional):

Methods: A nurse in the pulmonary department managed the centralized LCS program. This involves interprofessional collaboration between the pulmonary, primary care, and radiology department. The adoption of the national Lung Cancer Screening Platform (LCSP) which utilizes reminders and standardized templates and CPRS based referral system was also added. Created process maps, and protocols, standardized radiology orders, and results. Audit of completed lung cancer screening CT scans were reviewed 6 months after implementation.

Results: During a 6-month timeframe after implementation of our LCS Program (5/1/2021 to 10/31/2021). L a total of 4681 Chest CTs were completed, 1677 of which were ordered from a primary care or pulmonary clinic. We audited 236 (14.1%) of the 1677 scans, and 56/ 236 (23.7%) audited scans listed the ordering reason as "lung cancer screening."55 of the 56 (98%) were done on appropriate candidates according to USPSTF 2021 guidelines. 54 of the 56 (96%) were done with an approved LDCT protocol and reported with a Lung-RADS structured report. All but 2 of these (96%) had a documented shared decision-making process in the EMR by the ordering provider. The comparison of 33/56 (59%) appropriate scans before the centralized LCS, vs 55/56 (98%) after implementation.

Discussion: Implementation of the LCS program is complicated, it requires interprofessional collaboration from different stakeholders. A nurse-managed centralized, consult model lung cancer screening in MEDVAMC resulted in improved adherence to USPSTF guidelines of lung cancer screening.

IDENTIFYING CAREGIVER BURDEN IN HOUSE CALL PATIENTS TO INCREASE REFERRAL TO SUPPORTIVE RESOURCES

Abstract #129
Lead author: Daniyah Elagi, MD
Contributing authors: Anita Major, Kristina Little, Aimee Garcia
Category: Health Outcomes / Services Research

Background: Many House Call patients require significant support from their families and thus, these family members have an elevated risk of caregiver burden. Physicians frequently underestimate caregiver burden. There are community resources for individuals suffering from caregiver burden, but without proper identification of burnout, these resources will not be recommended. It is estimated that there are 48 million caregivers in the United States, with 26% caring for someone with dementia (AARP, 2020). Not only does caregiver burden negatively affect patient care, but also leads to significant caregiver burden-associated symptoms that have measurable deleterious effects on the caregiver's own health and well-being (Adelman, 2014).
Geriatrics is focused on high-quality patient-centered care which aims to improve independence and quality of life. I believe this QI project will allow me to address a meaningful gap in caregiver burden identification and intervention. Also, in building on my prior QI experience will enable me to implement future projects more effectively.

Aim Statement/SMART Goal: Assist 50 caregivers with high caregiver burden to get support from CarePartners by the end of May.

Additional Objectives (optional):

Methods: As a part of patient care during the house calls program with Ben Taub Hospital, my team and I identify caregivers with caregiver burden using Zarit Burden Interview score. We refer those with high caregiver burden to CarePartners to receive support services. After 4-6 weeks after receiving the services, we re-visit patients for care and repeat Zarit Burden Interview and compare the score to see if support services were helpful.

Results: So far, I have 2 out of 19 enrolled individuals who reported that the support services have been helpful. I am still working with the other individuals and waiting for the next home visits to re-evaluate their burden level. By the conference day on 4/25, I will get substantial results since more visits will be done to re-evaluate caregivers burden level.

Discussion: I enrolled in the QI Jump Start program and run several PDSA cycles and with the help of my QI mentor, QI coach and the tools I learned, I was able to develop a strategy for the work that is currently going. I encountered several barriers in October. The Zarit interview burden form was incorporated in the EMR in October. 1- Inefficient visit; some of the providers thinks that implementing the Zarit questionnaire is time consuming and will make the visit even longer. When I joined the Harris House Calls team a month ago, the provider I work with and I started alternating role. For the sake of time, if she is interviewing the patient, I interview the caregiver and introduce the questionnaire. I also have the questionnaire in hard copy in case of any technical issue. 2- Caregiver perception: Some caregivers perceive the interview questions with embarrassment, anger and loss of control. 3-

Community resources; what community resources can be provided to the caregivers with high burden level. An in-depth conversation with the case worker at Ben Taub in needed to find out the resources available and what needs to be done to connect them to the right resources.   4- Low productivity; I started doing house calls every Thursday during my rotation at Ben Taub. I see only 3-4 patients a day on house call visits. some caregivers are unreachable. A significant number of them did not receive support services from CarePartners yet. I encountered some unintended consequences. Caregivers feel that they are heard and their emotions are valid and "reasonable". They may prefer to conduct the Zarit burden interview away from the patient. This way they express their emotions and frustration away from their family member. Some caregivers perceived the interview questions differently. I learned how to effectively approach this sensitive conversation with caregivers. Ideas for next PDSA cycle1) Encourage caregivers to use support resources. 2)Try different ways to reach caregivers 3) Make sure caregivers get the referral packet during the house call visits.

INCREASING UTILIZATION OF AN INPATIENT INSULIN ORDER SET

Abstract #130
Lead author: Angela Rao, MD
Contributing authors: Molly Horstman, Lindsay Vaclavik, Andrew Zimolzak, Shaila Sheth, Son Nguyen, Madhuri Vasudevan
Category: Patient Safety

Background: Optimizing inpatient management of hyperglycemia directly impacts inpatient morbidity, mortality, and length of stay. Historically, providers used correctional insulin alone to manage inpatient hyperglycemia. Growing literature including data from the RABBIT 2 and Basal Plus trials elucidate the superiority of basal-bolus insulin regimen over sliding scale alone to achieve stable inpatient glycemic control. At MEDVAMC, the inpatient insulin order set was updated, providing ease of access to a basal/bolus insulin regimen.

Aim Statement/SMART Goal: The objective of our quality improvement project is to increase the usage of the updated inpatient insulin order set among patients with hyperglycemia by 30% within 3 months at MEDVAMC.

Additional Objectives (optional):

Methods: The insulin order set was modified in 2022. Included in the revised order set are orders for basal, bolus, and correctional insulin, and guidance based on patients' nutritional status and eGFR. A process map was constructed to compare the standard method of ordering insulin with the new method via the inpatient insulin order set. The primary intervention of our project was implementation of a forcing function within the EMR, wherein the insulin order set was linked via multiple order menus. Subsequent interventions included expanding education through in-person and virtual morning report, monthly resident orientation, and hands-on teaching in the medicine team rooms. Retrospective chart review from 6/2022 to 1/2023 evaluated usage of the insulin order set among inpatient general medicine patients. Patients were included in the analysis if they were prescribed subcutaneous long acting insulin, and excluded if the order comments indicated transitioning off insulin drip. Outcome measure: Percentage of inpatient insulin orders ordered via order set Balancing measure: Number of severe hypoglycemia events among patients admitted to acute medicine services

Results: Among patients admitted to acute medicine services, usage of the insulin order set increased from a baseline of 31.6% from 6/2022-9/2022, to 65.1% from 10/2022-1/2023 post- intervention. Data plotted via P-chart confirms statistically significant special cause variation ($p<0.02$). Further data analysis in progress.

Discussion: Increased usage of the inpatient insulin order set at MEDVAMC has enhanced the efficient and safe delivery of diabetes care. By adhering to clinical practice guidelines, our goal is to increase usage of the basal/bolus insulin regimen and expand its clinical application, ultimately to provide safe, standardized, and consistent hospital-wide guidance for optimal inpatient glycemic control.

QUALITY IMPROVEMENT CYCLES TO ACTUALIZE DISTRIBUTION OF THE ADOLESCENT ASSESSMENT OF PREPARATION FOR TRANSITION (ADAPT) SURVEY

Abstract #131
Lead author: David McDonald, BA
Contributing authors: Kristiana Nasto, Kyla Fergason, Mary Robichaux, Bernard Danna, Monique Maher, Alexander Alexander, Ariel Coleman, Anne Dykes, JaLeen Rogers, Miriah Gillispie-Taylor, Tiphanie P. Vogen
Category: Health Outcomes / Services Research

Background: The challenges of transitioning patients with chronic rheumatic diseases from pediatric to adult care can lead to increased morbidity and mortality following transfer.
Therefore, approaches to assess transition readiness are urgently needed, and should ideally be practical and sustainable. The Adolescent Assessment of Preparation for Transition (ADAPT) is a validated survey of patient self-reported transition readiness.

Aim Statement/SMART Goal: Implement a streamlined, low effort strategy by which >90% of transition-eligible patients complete an ADAPT at each visit.

Additional Objectives (optional):

Methods: Transition-eligible patients are age 14 years or older and attending a return clinic appointment. We conducted several Plan-Do-Study-Act (PDSA) cycles using different methods of ADAPT survey distribution to eligible patients. Numbers of surveys distributed, and rates of surveys returned during each PDSA cycle were calculated and compared. Efforts to increase survey return while reducing personnel effort were made while progressing through the PDSA cycles.

Results: Our initial PDSA cycle distributed ADAPT surveys through a Research Electronic Data Capture (REDCap) database using email, requiring moderate weekly personnel effort yet achieving only 8% survey return rate. In cycle 2, in-person coordinators increased the return rate to 30%. In March 2020, pandemic-related clinic closures and transition to telehealth necessitated a return to survey distribution by email (cycle 3). However, we observed an increase in survey return rate from cycle 1 by more than half (12.4%), despite using the same delivery method. We have attributed this finding to increased patient/family familiarity with electronic clinic communications. The launch of telehealth inspired efforts to coordinate survey distribution using the electronic medical record (EMR). In cycle 4, providers could manually assign surveys to eligible patients while in the EMR. Results for returned surveys were obtained by monthly data pull, but did not capture the denominator of eligible patients. In cycle 5, the EMR was adjusted to automatically launch surveys to eligible patients before both in-person and telehealth appointments for completion via electronic clinic check-in. This method requires no personnel effort. Results are provided by monthly data pull and yielded 597/608 (98%) returned surveys in the first 8 months.

Discussion: Using quality improvement cycles, we have created a fully automated method for distribution of patient self-reported transition readiness surveys. Distribution through the EMR prior to appointments is efficient and effective. In the future, the ADAPT survey data we collect will allow us to assess for correlations between patient self-reported transition readiness and successful healthcare transition.

TYPE OF CYCLIN-DEPENDENT KINASE 4 AND 6 INHIBITOR AND BONE METASTASIS PREDICT POOR ADHERENCE IN HORMONE RECEPTOR POSITIVE METASTATIC BREAST CANCER PATIENTS: A RETROSPECTIVE OBSERVATIONAL STUDY

Abstract #132
Lead author: Krista LaBorde, PharmD
Contributing authors: Bilqees Fatima, PharmD, MS; Susan Abughosh, PhD; Rodrigo De La Torre, PharmD, BCOP; Erika N. Brown, MS, PharmD, BCOP; Meghana V. Trivedi, PharmD, PhD, BCOP
Category: Health Outcomes / Services Research

Background: Cyclin-dependent Kinase 4 and 6 (CDK4/6) inhibitors combined with endocrine therapy (ET) are the standard of care in the treatment of hormone receptor-positive metastatic breast cancer (HR+ MBC).1 The addition of CDK4/6 inhibitors nearly double progression-free survival and extend overall survival compared to ET alone in HR+ MBC patients, who otherwise have a median survival time of only 3 to 5 years.2-9 Therefore, it is important for patients to adhere to CDK4/6 inhibitor therapy combined with ET to reduce the likelihood of disease progression. Identifying predictors of non-adherence can also help with designing patient- centered interventions to improve the effectiveness of adding CDK4/6 inhibitors to ET.

Aim Statement/SMART Goal: Our aim was to evaluate medication adherence in patients with HR+ MBC on CDK4/6 inhibitors and to identify predictors of non-adherence at a large system- based hospital.

Additional Objectives (optional):

Methods: A retrospective observational study evaluating HR+ MBC patients from multiple Houston Methodist system hospitals was conducted from October 2019 to March 2021. The primary endpoint was adherence up to 18 months for CDK4/6 inhibitors calculated as mean procession ratio (MPR) from refill records retrieved from EPIC Electronic Health Records. The MPR was calculated for palbociclib and ribociclib for 21 days' supply and for abemaciclib for 28 days' supply in 28-day cycle. Adherence was defined as a MPR of at least 80%. Group difference with patient characteristics were evaluated using student's t-test for continuous variables and chi-squared tests for categorical variables. Predictors of adherence were also determined using a multivariable logistic regression model.

Results: Of 124 patients, 74 patients were included in the adherence analysis. Majority of patients were less than 65 years of age (59%), Caucasian (62%), and non-Hispanic/Latino (84%). About 55% of patients were on palbociclib or ribociclib and 45% on abemaciclib as CDK4/6 inhibitor therapy. More patients were on aromatase inhibitors (70%) than on fulvestrant (30%) as combination ET. Of the 74 patients included, only 27% (n=20) of patients were adherent. Patients on palbociclib or ribociclib compared to abemaciclib (odds ratio: 0.069 [95% CI: 0.012- 0.410], p-value: 0.0033) and those with bone metastasis (odds ratio: 0.1 [95% CI: 0.016-0.609], p-value: 0.0125) were significantly more likely to be non-adherent to CDK4/6 inhibitors.

Discussion: Our study shows critically low adherence rates to CDK4/6 inhibitors therapy in HR+ MBC. Patient-centered interventions that address multifactorial barriers to adherence to CDK4/6 inhibitors are of utmost importance to improve adherence and subsequent outcomes to these important therapies.

IMPROVING TIMELINESS OF OPIOID ADMINISTRATION IN PATIENTS WITH SICKLE CELL VASO-OCCLUSIVE CRISIS IN A PEDIATRIC EMERGENCY CENTER

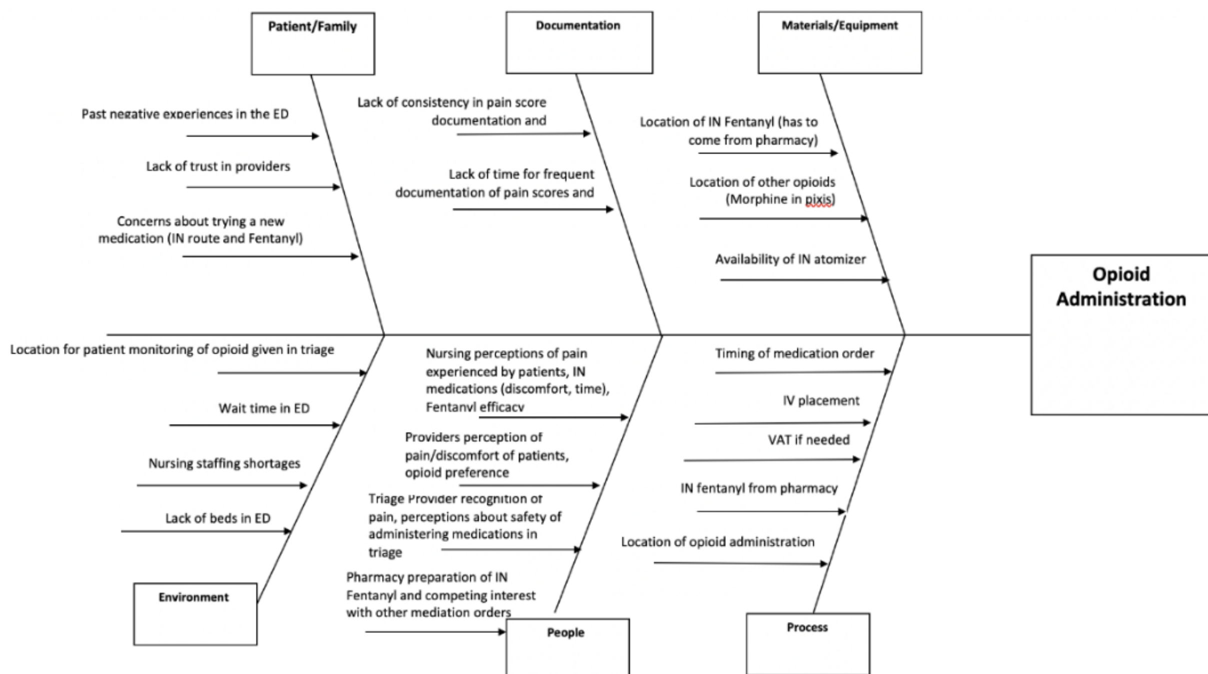
Abstract #133
Lead author: Gina Aloisio, MD, PhD
Contributing authors: Bryan Greenfield, MD, MBA; Katie Guess, MD; Aya Fanny, MD, MPH; Adrienne Smallwood, MD; Theresa Strong, MD, MPH; Shubhada Hooli, MD; Binita Patel, MD
Category: Quality, Cost, Value

Background: Approximately 100,000 people in the United States are affected by Sickle Cell Disease (SCD). The sickling of the red blood cells in SCD causes ischemia and vaso-occlusive pain crises (VOC), the most common reason for SCD patients to present to emergency departments (ED). The American Society of Hematology (ASH) recommends opioid administration for VOC within the patient's first hour after arrival to the ED, but many pediatric emergency departments struggle to meet this metric. At our three urban academic pediatric ED, the median time to opioid administration in patients with VOC is 57 minutes with 48% of patients receiving it within 60 minutes of arrival.

Aim Statement/SMART Goal: The primary goal of this project is to decrease the time to opioid delivery for patients with VOC from a baseline median of 57 minutes to 40 minutes at three urban academic pediatric ED over an 18-month period.

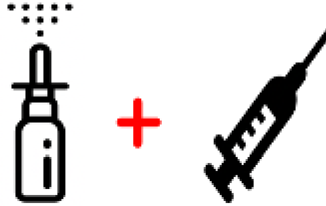
Additional Objectives (optional):

Methods: The root cause for delays in opioid delivery for patients VOC was determined through a fishbone diagram, process map, and stakeholder meeting. The most notable cause included difficulty with establishing IV access. To address this delay, providers were asked to order both intranasal fentanyl and IV opioids upon patient arrival to the ED. Education was provided via e- mail reminders and during departmental meetings.



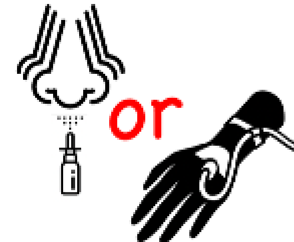
HELP US IMPROVE PAIN CONTROL IN SICKLE CELL PATIENTS

Did you know that 55% of our patients with sickle cell disease vaso-occlusive crises wait more than 1 hour before their first dose of opioids?



You can help decrease that time by ordering both IN Fentanyl and IV morphine in the "EB EC Sickle Cell Disease" order set.

▾ Medications - Pain Management



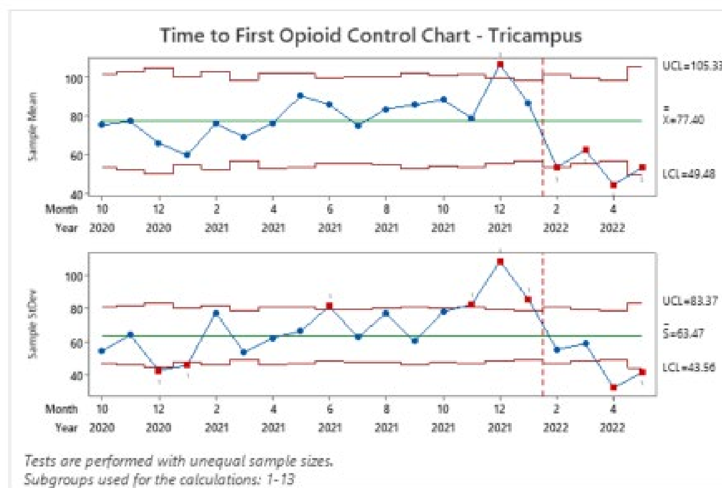
Administer the first available opioid.

Let us know about you and your patients' experience using IN fentanyl.

Email:Bryan.Greenfield@bcm.edu

Results: During the four-month period after implementation, opioid delivery improved from a median time of 57 minutes to 38 minutes for 224 patients. This was statistically significant with a p-value of 0.00 as determined by Mann-Whitney testing. Additionally, the control chart revealed a statistically significant improvement from the baseline data, consistent with special cause variation.

Pilot Control Chart Results



Test Results for Xbar Chart of Tr Complete to Med Given

TEST 1. One point more than 3.00 standard deviations from center line.
Test Failed at points: 15, 17, 19
TEST 5. 2 out of 3 points more than 2 standard deviations from center line (on one side of CL).
Test Failed at points: 18, 19, 20
TEST 6. 4 out of 5 points more than 1 standard deviation from center line (on one side of CL).
Test Failed at points: 20

Test Results for S Chart of Tr Complete to Med Given

TEST 1. One point more than 3.00 standard deviations from center line.
Test Failed at points: 3, 4, 9, 14, 15, 16, 19, 20

Discussion: Standardization of medication ordering to include intranasal fentanyl as the initial pain control option for patients presenting with VOC statistically improved the time to opioid delivery in the pediatric ED . To continue to improve this time further, the next PDSA cycle will focus on improving the availability of intranasal opioids in the EC. Other metrics will also be explored to include reduction in pain score, ED LOS, admission rate, and ED bounce back rate.

ANTIBIOTIC MINIMIZATION WITHIN A QUATERNARY PEDIATRIC LIVER TRANSPLANT PROGRAM

Abstract #134
Lead author: Carrie Smith, BS, RHIA, CPHQ
Contributing authors:
Category: Quality, Cost, Value

Background: The World Health Organization (WHO) recognizes overuse of antibiotics (abx) as the primary cause of multidrug-resistant (MDR) pathogens, one of the world's most urgent public health threats. In addition to high risk of MDR pathogens, transplant patients are also vulnerable to the nephrotoxic and ototoxic adverse effects of IV abx. In 2020, using data from the Pediatric Health Information System® (PHIS) database, our abx stewardship program identified that liver transplant patients at Texas Children's Hospital received a mean of 984 days of therapy (DOT) of IV abx/1,000 patient days vs a mean peer pediatric liver transplant center usage of 583 DOT/1,000 patient days.

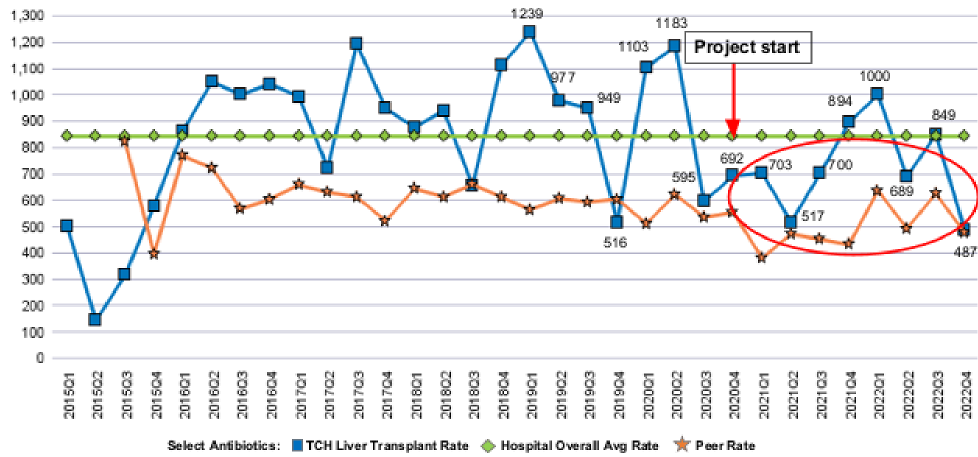
Aim Statement/SMART Goal: Our goal was to reduce the IV abx DOT/1,000 patient days for post-liver transplant patients to <600 DOT/1,000 patient days by the end of fiscal year 2022

Additional Objectives (optional):

Methods: We assembled a multidisciplinary workgroup including providers in transplant and infectious disease, a transplant clinical pharmacist, and data and quality coordinators to identify reasons for prolonged post-transplant abx. All liver transplant candidates had a pre-transplant infectious disease evaluation and assessment with post-operative abx recommendations based on infection history and risk. Finite perioperative abx order sets were created to ensure abx were automatically discontinued at 48 hours post-transplant unless overridden by either the original post-operative abx plan or by real-time clinical assessment and abx justification. Other essential interventions included daily multidisciplinary discussions to assess and narrow abx therapy based on cultures, imaging results and symptoms during inpatient rounds and quarterly abx stewardship education. We established a continuous process beginning in October 2020 to track % discontinuation of IV abxs within 48 hours while recording new or recurrent infections within 10 days of discontinuation as a balancing measure. Results were reviewed and analyzed regularly at Quality Assessment Performance Improvement (QAPI) meetings. This process has spanned the last 27 months.

Results: From 10/2020 – 12/2022, 86 patients underwent liver transplantation. Data analysis from the intervention period revealed a mean of 631 DOT/1,000 patient days (Figure 1). Overall, this was a 32% reduction in DOT/1,000 patient days. Approximately 47% of the transplanted patients had post-transplant IV abx discontinued within 48 hours. Detailed evaluation of patients receiving >48 hours of therapy post-transplant found that objective clinical concerns for infection justified prolonged abx use. No patients developed infection within 10 days after abx discontinuation.

Figure 1. Mean Antibiotic Days of Therapy (DOT) / 1,000 Patient Days of Liver Transplant Patients at Texas Children's Hospital for Selected Antibiotics



Select Antibiotics: Piperacillin, Tazobactam, Cefepime, Ciprofloxacin, Levofloxacin, Meropenem & Vancomycin

Discussion: We did not meet our aim to reduce IV abx use post-liver transplant to <600 DOT/1,000 patient days at Texas Children's Hospital. Overall, we reduced our abx usage by 32% during this time period, thus reducing the risk of MDR infections and other adverse effects of prolonged abx exposure without an increase of infections. Introducing finite peri-operative order sets, abx stewardship team education and focused discussions on abx selection and duration during rounds and in QAPI meetings were all integral steps for process improvement.

IMPROVING COLORECTAL CANCER SCREENING IN AMBULATORY CLINICS

Abstract #135
Lead author: Carolyn Rebecca Risinger, MD
Contributing authors: MerryAnn Corzo, MD; Nyajuok Wur, MD; Andrew Herndon, MHA, CSSGB
Category: Population and Public Health

Background: The Colorectal Screening rate in our Ambulatory Clinic was 23% well below the national goal of 60% and our Community Based Clinic goal of 40%. Some of the clinics were below the 40% goal as well and the Marina Bay was chosen for a Rapid Improvement Event to determine which interventions could improve the screening rates. Colorectal cancer (CRC) ranks second only to lung cancer in mortality, with roughly 50,000 deaths annually. Both incidence and death rate have fallen over the past 3 decades, with evidence suggesting that is largely because of increase screening rates and early detection of both pre-cancers and curable -stage CRC. CRC is the 3rd most cancer among men and women. It is the most preventable, yet least prevented form of cancer.

Aim Statement/SMART Goal: CBC Clinic Marina Bay will increase completed Colon Cancer screenings from 23% to 30% by December 15, 2022.

Additional Objectives (optional):

Methods: 1) Colonoscopy offered as screening, but if declined, Cologuard and FIT offered. 2) Brochures used to highlight the need for Colorectal Cancer Screening 3) Care gap determined and if patient had a cap gap, the MA gave the brochure to discuss with clinician 4) Target: all patients being seen, not just those for wellness visits 5) EMR reports run 6) Weekly metrics for progress shared

Results: The clinic improved from 22.91% to 44% by November 11th.

Discussion: A positive Cologuard results appears to have a beneficial impact on the diagnostic yield and quality of subsequent colonoscopy. The number of polyps detected correlated with withdrawal time. All staff are much more cognizant of when to search, what to search for and how to satisfy the Health Maintenance topic if found. With the Sticky Note workflow, we are all able to see and update our team if we call a patient for reasons other than Health Maintenance reasons (i.e., calling with lab results but giving a gentle reminder to send stool specimen in). FIT test is an excellent resource for Self-pay patients. (Cost $9-$15) Any screening is better than no screening.

IMPLEMENTATION OF ARTIFICIAL INTELLIGENCE DURING COLONOSCOPY AT BEN TAUB HOSPITAL

Abstract #136
Lead author: Anthony Xu, MD
Contributing authors: Vanessa Catania; Peter Nguyen MD; Shivani Kastuar MD; Loan Ho; Robert Sealock, MD
Category: Quality, Cost, Value

Background: Colon cancer is currently the second leading cause of cancer-related deaths worldwide. Colonoscopy is an effective screening and intervention technique used by physicians to both prevent and detect colon cancer. The incorporation of artificial intelligence in colonoscopy is an emerging tool to increase the adenoma detection rate (ADR) and polyp detection rate (PDR). It may also help identify a subset of polyps, sessile serrated lesions (SSLs), which are notoriously more difficult to visualize.

Aim Statement/SMART Goal: Improve the ADR, PDR and SSL detection rate during screening and diagnostic colonoscopies at Ben Taub Hospital by 10% by the end of June 2023

Additional Objectives (optional):

Methods: We acquired the GI Genius platform and implemented it into the Ben Taub endoscopy center in November 2022. We compared baseline ADR, PDR, and number of SSLs detected before and after the GI Genius was implemented at Ben Taub. The majority of colonoscopies at Ben Taub are performed by gastroenterology fellows whose skills/technique presumable improve with time. We decided to define our baseline data by matching months to account for endoscopic skill variability. We collected baseline data from a retrospective analysis of a cohort of 594 colonoscopies from November 2021 to February 2022. We also collected a distinct cohort of 635 colonoscopies from November 2019 to Feb 2020 (pre-pandemic). This was compared to the cohort of 338 total colonoscopies from November 2022 to January 2023.

Results: Based on run chart analysis there seems to be a trend towards a significant increase in ADR, PDR, and number of SSLs detected after implementation of the GI Genius platform compared to last year (November 2021 through February 2022). There was a trend towards a significant increase in ADR, PDR but no significant change number of SSLs detected compared to pre-pandemic (November 2019 through February 2020) baseline data.

Discussion: Artificial intelligence is an exciting and emerging field in medicine. We know that ADR is an important quality metric in screening and diagnostic colonoscopy. Previous studies have shown that the rates of interval colorectal cancer declined with increasing ADR. There are varied efforts to improve ADR, and one emerging technique is using artificial intelligence platforms during colonoscopy. Our preliminary results suggest that the implementation of artificial intelligence technology during colonoscopy in an endoscopy center where the majority of colonoscopies are performed by gastroenterology fellows may improve ADR, PDR, and number of SSLs detected.

USING HUMAN-CENTERED DESIGN TO DESIGN A STAKEHOLDER AND USER- INFORMED INTERVENTION FOR VETERANS EXPERIENCING FOOD INSECURITY

Abstract #137
Lead author: Laura Witte, DrPH, MPH
Contributing authors: Nipa Kamdar, PhD, RN, FNP-BC
Category: Health Outcomes / Services Research

Background: Human-Centered Design is a participatory method that can be used to tackle complex issues for health care quality improvement. Human-centered design (HCD) provides step-by-step guidance to integrate user and stakeholder needs and perspectives to design interventions that are acceptable to patients and stakeholders. Here, we describe the application of HCD to address the complex issue of food insecurity (FI) among veterans, which is incompletely addressed by existing programs.

Aim Statement/SMART Goal: The aim of this project is to use HCD to design a stakeholder and user-informed intervention for veterans experiencing food insecurity in Houston, Texas.

Additional Objectives (optional):

Methods: The HCD approach is an iterative process with four phases: 1. Discovery, 2. Design, 3. Deliver, and 4. Measure. The current project builds on insights from Discovery completed in a previous study and describes the Design phase in which a Design Team meets to develop a solution, a prototype, and eventually a pilot intervention. Here, the Design Team consists of six veterans, seven frontline Veterans Affairs staff and 12 community partners who meet for one hour biweekly and collaborate virtually using the software Mural.

Results: The Design process is in progress with seven of 20 meetings completed. Meetings started in a hybrid format but transitioned completely to virtual to maximize participation on Mural, which allows for the replication of many paper-based participatory research methods. Meetings accomplished the following objectives, respectively: 1. Reviewing insights from Discovery and setting initial design criteria, 2. Reframing the problem of FI among veterans, 3. Moving from insights to brainstorming solutions, 4. Brainstorming solutions, 5. Improving the current design, 6. Narrowing down potential content for intervention sessions, and 7. Presenting a general blueprint of the intervention so far. In the remaining 13 meetings, the team will finalize details and create and explore a prototype of the intervention using flowcharts and live roleplay.

Discussion: The participatory approach of HCD incorporates insights from veterans and stakeholders so that the FI intervention has a greater likelihood of being acceptable, feasible, and viable compared to an intervention developed without their input. Challenges in the Design process include the time commitment, cognitive load of activities, attrition of team members, and the need for internet access for participation. However, virtual meetings also reduce the need for childcare and transportation. The HCD process can be replicated for a wide range of health care challenges from patient experiences to staff retention.

ASSESSING POTENTIAL BENEFITS OF ROUTINE VISUAL IMPAIRMENT SCREENINGS IN ADULTS: PERSPECTIVES FROM A LARGE PRIMARY CARE HEALTH CENTER

Abstract #139
Lead author: Kristiana Nasto, BS
Contributing authors: Jacqueline Hirth, Indumathi Kuncharapu
Category: Population and Public Health

Background: Visual impairment impacts over 20 million Americans and significantly affects patients` quality of life. It is one of the leading causes of loss of independence in adults over the age of 65 and it is associated with an increased risk of unintentional injuries and falls. The main causes of vision loss in the United States (US) are age-related macular degeneration (AMD), cataracts, diabetic retinopathy, and glaucoma. The US Preventative Task Force does not recommend impaired visual acuity screenings due to insufficient evidence, while the American Academy of Ophthalmology recommends examinations every 1-2 years in patients over 65 years. In the Harris Health System (HHS) Strawberry primary care clinic we refer patients with diabetes for annual retinal scan exams that often result in diagnoses other than diabetic retinopathy, which would have otherwise been missed. This prompted us to investigate the utility of screening eye examinations and ultimately correlate screening interventions to long-term health outcomes.

Aim Statement/SMART Goal: Assess the prevalence of AMD, cataracts, and glaucoma diagnosed from retinal scans in adults over the age of 40 over 12 months in a primary care clinic and identify high-risk populations that could benefit from visual impairment screening referrals

Additional Objectives (optional):

Methods: Through retrospective chart review and using Epic's Clarity database, we collected demographic and diagnostic data from patients 40 years and older who received a screening retinal scan at Strawberry HHS clinic between January 1, 2022-February 1, 2023. Descriptive analysis, logistic regression, and correlation analysis is utilized to analyze the association between demographic characteristics and AMD, cataracts, or glaucoma diagnosis.

Results: We have collected 2106 retinal scans from patients over 40 years (range 40-88 years). Most patients were female (57%), aged over 65 (61%), white (84%), and Hispanic (78%). The prevalence of AMD, cataracts, and glaucoma among retinal scans will be reported in aggregate and by age group (40-65 and 65+ years old), sex, race, and ethnicity. Logistic regression results will be represented to indicate the direction and association strength, if any, between demographic features and the three diagnoses of interest.

Discussion: We will correlate results to the utility and potential benefit of recommending routine visual impairment screenings in all adults over the age of 40 or specific high-risk populations. In the future, we aim to expand our research to multiple HHS clinics and also evaluate the effects of referrals by primary care providers for comprehensive eye examination.

IMPROVING AWARENESS REGARDING HIV PRE-EXPOSURE PROPHYLAXIS AMONG INTERNAL MEDICINE RESIDENTS IN THE OUTPATIENT SETTING

Abstract #140
Lead author: Larissa Andrade, MD
Contributing authors: Ritodhi Chatterjee, MD; Allen Hu, MD; Lauren Comer, MD; Sidrah Shah, MD; Ruiyang Yi, MD
Category: Education

Background: The Centers for Disease Control and Prevention (CDC) estimates only 25% of individuals who met indications for HIV pre-exposure prophylaxis (PrEP) were prescribed it in 2020. The American Board of Internal Medicine (ABIM) includes HIV PrEP indications and treatment as topics that all Internal Medicine (IM) trainees should be familiar with. Despite these requirements for trainees in the primary care setting, HIV PrEP is commonly prescribed by Infectious Disease (ID) specialists in the Harris Health system instead.

Aim Statement/SMART Goal: The aim of this quality improvement (QI) project is to increase the self-reported number of residents at Smith Clinic comfortable with prescribing Truvada for HIV PrEP by 20%, utilizing educational flyers over a time span of 6 weeks, with the ultimate goal of increasing total number of HIV PrEP prescriptions for at-risk patients in the same time span.

Additional Objectives (optional):

Methods: Residents in their first through third years of training who provided primary care at Smith Clinic were surveyed regarding their knowledge and attitudes towards HIV PrEP. The questionnaire contained 5 questions with a Likert scale to assess attitudes toward PrEP, and 5 multiple-choice questions to assess baseline knowledge of PrEP. After initial data collection, the QI intervention was implemented by posting an informative and educational flyer in resident workrooms as well as distributing via online communication channels. Six weeks following implementation of the flyers, an identical post-intervention survey was disseminated.

Results: Twenty-three residents responded to the initial survey, and seven have responded to the post-intervention survey so far. Initial results are displayed in Figure 1 below. Some improvements were seen in resident awareness regarding HIV PrEP eligibility and comfort level prescribing. There was no statistically significant difference in resident knowledge regarding HIV PrEP before or after intervention. Regarding prescription of PrEP at Smith clinic, Truvada was ordered just once in the two months preceding intervention—though this order was subsequently canceled—and once in the two-month window following intervention thus far.

	Pre-Intervention				Post-Intervention			
Question	PGY-1	PGY-2	PGY-3	Total	PGY-1	PGY-2	PGY-3	Total
N	3	12	8	23	0	5	2	7
I can define pre-exposure prophylaxis (PrEP) and understand its purpose	3.33	3.92	4.25	3.96	--	4.60	4.00	4.43
I am familiar with the eligibility criteria for PrEP	2.67	2.58	4.00	3.09	--	3.40	4.00	3.57
I feel comfortable prescribing PrEP to my patients in clinic	3.33	2.50	3.00	2.78	--	2.80	3.50	3.00
IM house staff should receive training on how and when to prescribe PrEP during residency	5.00	4.67	5.00	4.82	--	4.60	5.00	4.71
PrEP is an important and highly effective public health intervention	4.67	4.75	5.00	4.82	--	4.80	5.00	4.86

	Pre-Intervention				Post-Intervention			
Question	PGY-1	PGY-2	PGY-3	Total	PGY-1	PGY-2	PGY-3	Total
N	3	12	8	23	0	5	2	7
Which of the following is always necessary for a sexually active adult to be eligible for PrEP?	33.3%	41.7%	62.5%	47.8%	--	40.0%	50.0%	42.9%
Which of the following is NOT one of the eligibility criteria for PrEP in persons who inject drugs?	66.7%	83.3%	87.5%	82.6%	--	60.0%	100.0%	71.4%
Which of the following regimens is available to prescribe as HIV-PrEP at Smith Clinic?	66.7%	41.7%	75.0%	56.5%	--	40.0%	100.0%	57.1%
Which of the following is a baseline lab patients need prior to PrEP initiation?	66.7%	58.3%	62.5%	60.9%	--	80.0%	100.0%	85.7%
How frequently do HIV/STI studies need to be monitored while on PrEP?	33.3%	50.0%	75.0%	56.5%	--	40.0%	50.0%	42.9%

Discussion: Clinically significant conclusions regarding resident awareness and knowledge of HIV PrEP are difficult to ascertain, given the limited response seen in the post-intervention survey so far. Limitations of the initial intervention include difficulty reaching the target audience due to inconsistent or intermittent clinic schedules, time constraints during appointments, and difficulty identifying eligible patients. Future interventions may be considered, including electronic templates to automate screening criteria and determining eligibility, order panels to streamline prescriptions, and note templates to improve documentation.

GROUP-BASED TRAJECTORY MODELING TO IDENTIFY PATTERNS AND PREDICTORS OF ADHERENCE TO ORAL ENDOCRINE THERAPIES IN UNDERSERVED POPULATION OF GREATER HOUSTON AREA

Abstract #141

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Category: Medication adherence

Background: Breast cancer (BC) is the second most common cause of cancer deaths among women in the United States. Oral endocrine therapy (OET) reduces the risk of recurrence and mortality among patients with hormone receptor positive (HR+) BC, which constitutes ~80% of BC diagnoses. Poor adherence to OET results in higher risk of recurrence in HR+ BC patients. Despite this, the OET adherence is suboptimal especially among low socioeconomic minority patients.

Aim Statement/SMART Goal: This study was conducted to evaluate longitudinal patterns of OET adherence using group-based trajectory modeling (GBTM) and identify predictors associated with each adherence trajectory among patients seen at Harris Health System, a county hospital in Houston, Texas.

Additional Objectives (optional):

Methods: A single-center, retrospective study was conducted from June 2019 through December 2020. The dispense history from June 2019 through September 2019 was the baseline for adjustment of medication use. Monthly OET adherence was measured using proportion of days covered (PDC). A logistic GBTM was modeled to identify the distinct patterns of adherence. The trajectory model was estimated using 2–5 adherence groups considering the Bayesian information criteria, clinical relevance, and a 5% minimum membership requirement. Group differences in patient characteristics between trajectories were evaluated using chi-square and ANOVA tests. Multinomial logistic regression was used to assess the predictors of adherence trajectories with high adherence as the reference group.

Results: A total of 496 patients were included in adherence analysis. Majority of patients were Hispanic (62.50%) or African American (15.12%) and <65 years of age (82.66%). Four distinct adherence trajectories were identified: constant high adherence (41.4%); constant PDC at ~0.6 (32.6%); rapid decline (14.6%); low adherence with gradual decline (11.5%). Patients with diabetes (OR: 1.714 [1.042-2.820], p-value 0.0388) and ≥4 years on OET (OR: 1.966 [1.141- 3.388], p-value 0.0149) were more likely to have constant PDC at ~0.6. On the other hand, patients with hypertension were less likely to have constant PDC at ~0.6 (OR: 0.459 [0.274- 0.769], p-value 0.0031) or low adherence with gradual decline (OR: 0.416 [0.201-0.860], p-value 0.0179). The African American patients (OR: 2.462 [1.149-5.276], p-value 0.0205) and ≥4 years on OET (OR: 2.463 [1.266-4.793], p-value 0.008) had higher likelihood of rapidly declining.

Discussion: OET non-adherence rate was high (~60%) in the low socioeconomic minority patients. Predictors identified can be used to develop culturally appropriate patient-centered interventions to enhance adherence among minority populations. Future studies evaluating OET adherence among patients with comorbidities like diabetes and hypertension in underserved patients are warranted.