


Teaching in Clinics

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UTHealth Quality Symposium 2023 Abstracts-2

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Bridging the Gap: Improving Communication in the Hematology Clinic

Anjali Lankford*, Ugochi Ebinama, Akshar Dash, Athira Jayan, Hina Khan, Modupe Idowu

Introduction:

Literature shows that effective communication within the healthcare team leads to improved safety, more effective interventions, enhanced employee morale, and increased patient and family satisfaction. Our study aims to improve communication between referring providers and hematologists in the outpatient Benign Hematology Clinic (BHC) of Memorial Hermann Cancer Center. First, we assessed the frequency the referring provider and the hematologist communicated. The second phase of the study entails an intervention to improve communication at the BHC.

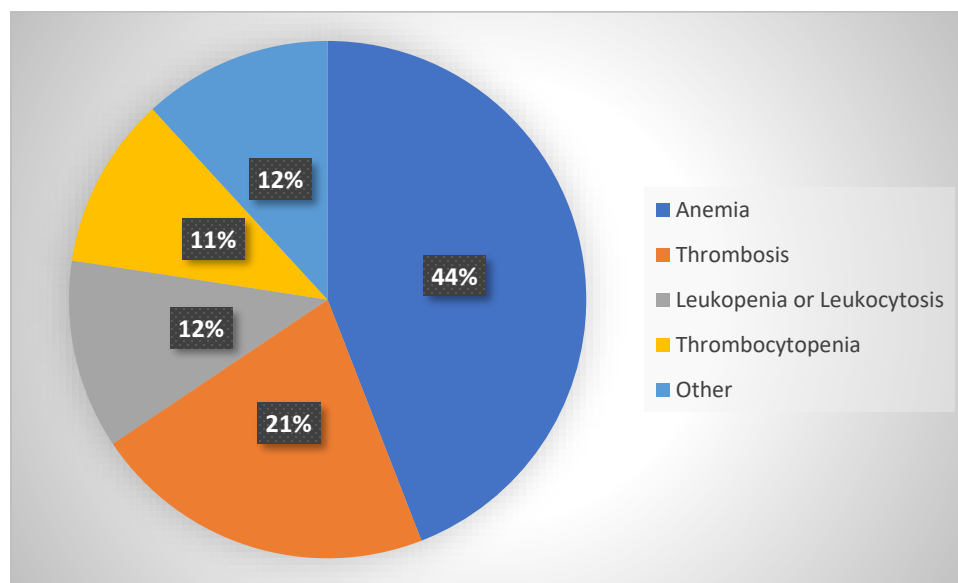
Methods:

We performed a retrospective chart review to identify new adult patient referrals to the BHC from January 2022 - July 2022. Demographics, referral reason, show vs no-show rate, time from referral to first visit, and if recommendations were communicated were assessed. Recommendations were considered communicated if there was documentation of communication in the electronic medical record.

Results/Conclusion:

217 new patients were referred to BHC aged 18-94, with 43% of patients seen in clinic and 56% no-shows. Primary referral reasons were anemia (44%), thrombosis (21%), and leukocyte abnormalities (12%). The average time between referral date and first visit was 95 days. Of the 43% (n = 93) patients seen in clinic, 55% (n = 51) had a referring provider’s name listed, and only 3% (n = 3) had documented communication. We have identified a communication gap at the BHC. The next phase of this study is an intervention to improve inter-physician communication. If our intervention is successful, we recommend adoption of our intervention by other clinics to enhance their communication flow.

Figure 1: Primary Reasons for Referral to BHC



**Direct Versus “Incident To” Billing for Nurse Practitioners and Physician Assistants at
UTPhysicians: Understanding of Billing Knowledge and Options**

Maureen Beck, DNP, APRN, GNP-BC

Nurse practitioners (NP) and physician assistants (PA) can bill for primary care appointments in two ways: incident-to or direct billing. Billing choices can impact the provider, the patient, and the organization. Incident-to credits care to the physician, rather than the NP or PA who saw the patient. The NP or PA remains invisible to insurances and organizations which impacts quality and practice history. Incident-to limits the visits to established patients. To reduce spending, Medicare may eliminate the incident-to option.

The purpose of this project was to assess UTPhysician NP and PA primary care billing practices and knowledge concerning “incident-to” and direct billing and to determine if billing education would change billing choices.

NPs and PAs at Bellaire Station were surveyed about their billing knowledge and current practice. An information PowerPoint was embedded in the survey with a pre and posttest on billing rules and likely billing choices. There was a 48% increase in correct responses concerning billing rules. The respondents indicated that going forward, they were likely to bill directly.

When NPs and PAs practice with direct billing, they have a positive impact not only for their professional record, but for the institution. Direct billing allows them to see new patients which reduces appointment wait time and increases revenue streams. Direct billing will clearly indicate which provider saw the patient and allows the work of NPs and PAs to be visible to their institution for RVUs and to insurances for quality measures.

Characterizing Needs of Consulting Providers Caring for Geriatric Cardiovascular Patients

Courtney McNeely MD*, Min Ji Kwak MD

Background:

Patients hospitalized in the acute cardiac care unit have high prevalence of various geriatric syndromes such as frailty, delirium, dementia, and polypharmacy. Comanagement by geriatricians and cardiologists may offer optimal management of these complex patients, as has already been shown in studies looking at hospitalized geriatric orthopedic patients. This preliminary study aimed to identify specific needs of inpatient cardiologists from geriatric consultants.

Methods:

Using an 8-item Qualtrics survey, we questioned cardiologists in the HVI at Memorial Herman Hospital regarding how geriatric consultants can better assist in management of geriatric patients and used descriptive statistics to analyze results.

Results:

6 responses were analyzed (see Table 1). 66.6% reported consulting the geriatric service $\geq 50\%$ of geriatric cases. On a 5-pt likert scale, 83.3% found the geriatric consult service's input helpful. The most common clinical conditions or questions being consulted on were polypharmacy, delirium, cognitive impairment, frailty, and goals of care discussions. Interestingly, when asked which issues cardiologists found consultants most and least helpful with, polypharmacy and goals of care discussions were identified frequently in both questions. When asked how else geriatric consultants could better assist, 100% of responses requested more aid in disposition, specifically transfers to the ACE unit.

Conclusion:

This study identified the most common issues cardiologists consult the geriatric service on and highlighted inconsistencies on how helpful consultant's input can be, specifically with polypharmacy, and goals of care. Additionally, disposition planning was of particular interest to the cardiologists. Future investigations should target these specific topics for interventions to improve care.

Table 1: Survey Responses

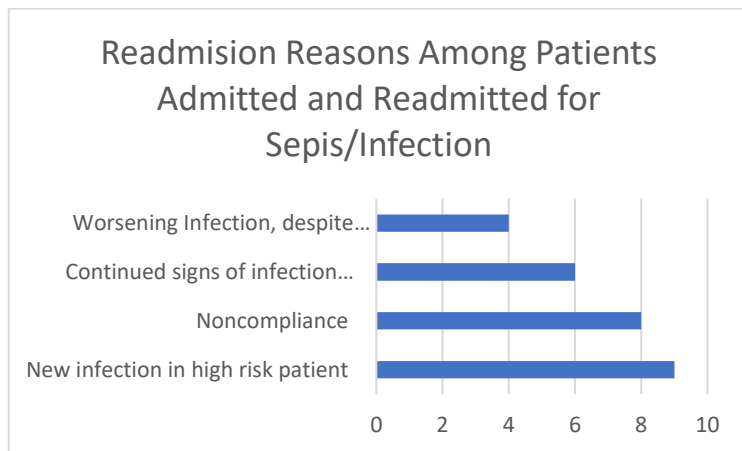
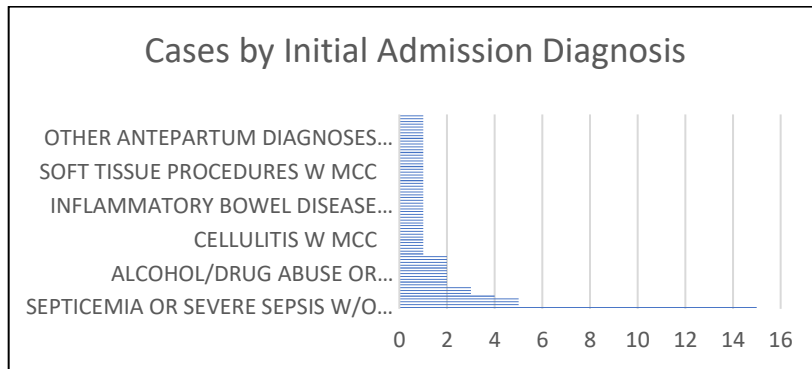
Survey Items	Response rate (n=6)
When consulting the geriatric service for your hospitalized older patients, what issue(s) do you often need help with? (Please check all that apply)	
Polypharmacy	5
Delirium	5
Cognitive impairment	4
Goals of care discussions	4
Frailty	4
Comprehensive geriatric assessment	3
Emotional disturbances	2
Socio-economic/disposition planning	2
Managing multiple comorbidities	2
Physical impairments	1
Other	0

After consulting the geriatric service for your hospitalized older patients, with what issue(s) did you find the geriatric service MOST helpful? (Please check all that apply)	
Polypharmacy	3
Delirium	3
Cognitive impairment	3
Goals of care discussions	2
Emotional disturbances	2
Frailty	1
Comprehensive geriatric assessment	1
Managing multiple comorbidities	0
Physical impairments	0
Socio-economic/disposition planning	0
Other	0
After consulting the geriatric service for your hospitalized older patients, with what issue(s) did you find the geriatric service LEAST helpful? (Please check all that apply)	
Polypharmacy	3
Goals of care discussions	2
Physical impairments	2
Socio-economic/disposition planning	1
Managing multiple comorbidities	1*
Other	0
Delirium	0
Cognitive impairment	0
Emotional disturbances	0
Frailty	0
Comprehensive geriatric assessment	0
Approximately how often do you consult the geriatric service for your hospitalized older adults with cardiovascular diseases (Aged 65 years and older)?	
>75% of cases	1
51-75% of cases	2
50% of cases	1
<25% of cases	2
Never	0
How helpful do you find the geriatric consult service's input in your hospitalized elderly patients?	
Very helpful	2
Somewhat helpful	3
Neutral	1
Somewhat unhelpful	0
Not helpful at all	0
*Free text response: "Difficult to specify 'Least Helpful'"	

Reducing 0-7 Day Hospital Readmissions Through Standardizing Patient Discharge Instructions

Samuel Mackoff, MD

Hospital readmissions traditionally focus on 30-day readmissions. However, given their negative impact on patient care, 7-day readmission should be considered null. A retrospective chart review of patients admitted to MHH TMC academic medicine teams between May and October 2021 revealed 115 such events. This project aims to reduce these events by 50% within six months. Initial case analysis focused on identifying common factors among these patients that could have contributed to readmission. The most common characteristic was the diagnosis of sepsis in infection during the initial admission (40, 34.7%). Among this subset of patients, the most common diagnosis at time of readmission was sepsis or infection (27, 67.5%). Further evaluation revealed that the most frequent reason for readmission was the development of a new infection (9, 33.3%) and noncompliance (29.6%). Using this data, the leadership from hospitalist medicine, internal medicine residency, and case management collaborated on an intervention to standardize patient discharge instructions to improve patient compliance and reduce variation in post-discharge instructions. The project is underway and post-intervention data will be evaluated in six months.



Evaluating Hospital Length of Stay and Delays in Discharge from July 2022 to October 2022 Related to Subspecialty Care at Memorial Hermann Hospital

Heather Johnson, MD*, Eric Fris, MD, Curtis Lee, MD, Sarika Ziemann, DO, Eric Yoon, MD, Bela Patel, MD

Problem Statement:

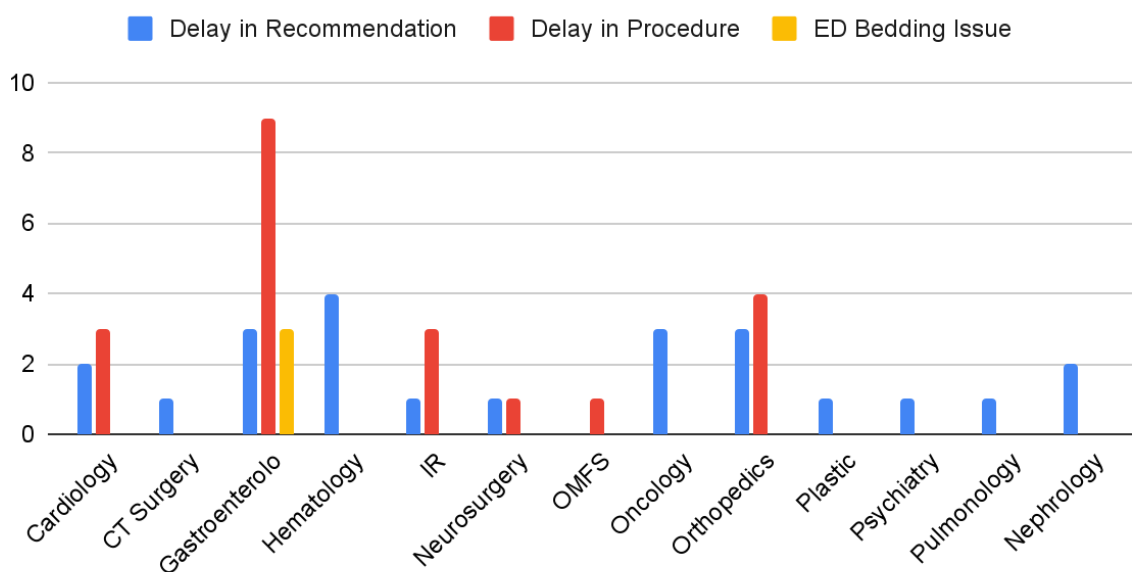
Healthcare costs in the U.S. exceed those of any other country, nearing 18% of the gross domestic product. The Institute of Medicine and Berwick and Hackbarth has identified six waste domains in health care: failure of care delivery, failure of care coordination, over-treatment or low-value care, pricing failure, fraud and abuse, and administrative complexity. Approximately 30% of health care expenditures may be considered waste, equating to 760 to 935 billion in dollars spent, or 25% of total U.S. health care spending. The goal of this project is to identify failures of care coordination at Memorial Hermann Hospital, specifically when consultant recommendations delay discharge and increase length of stay.

Methods:

Each month, residents on teaching services received a waste identification tool. During daily rounds, teams identified patients whose discharge was delayed due to consulting teams. These delays were categorized into delays in procedures, recommendations, or bedding issues.

Results:

Delays in Discharge Related to Subspecialty Care From July 2022 to October 2022



Conclusions :

We identified patients admitted to internal medicine resident teams whose discharges were delayed due to consulting specialists. These were categorized by delays in recommendations, procedures, or due to bedding issues. Our review showed that a large portion of delays were related to timing of procedures. As this is a small sample size, more extensive data collection from multiple departments will better elucidate trends throughout the hospital. Identifying failures of care coordination leading to prolonged length of stay allows us to promote high quality health care delivery and reduce waste.

Improving physician confidence in diagnosing and treating acquired thrombotic thrombocytopenic purpura (TTP) and hemolytic uremic syndrome (HUS) with education and incorporation of an order set

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Background:

Thrombotic microangiopathies (TMA) such as TTP and HUS are rare, life-threatening hematologic diseases requiring high suspicion for prompt diagnosis. Patients with TTP/HUS often present with nonspecific symptoms, leading to a delay in diagnosis and poor patient outcomes. Patient outcome significantly improves with timely intervention and treatment. We found no integrative order set available at our institution for diagnosing and managing TTP/HUS. Our quality improvement (QI) project aims to implement our modified TTP/HUS order set at our hospital to improve efficiencies in diagnosing and treating TTP/HUS.

Methods:

We prepared an interactive educational presentation on the diagnosis and management of TTP/HUS for all internal medicine residents (n = 140) at our institution. A pre- and post-conference survey assessing physician confidence in the management of TTP/HUS was obtained from residents. The survey included questions regarding one's confidence in diagnosing, initiating appropriate workup, differential diagnosis, and treatment options for TTP/HUS in facilities with and without plasmapheresis. We subsequently formulated a TTP/HUS order set presented at a similar conference. A survey was obtained assessing the impact and future likelihood of adoption of the order set in the clinical practices.

Results:

Amongst all residents, 43 participated in the conference. A numerical improvement across all categories was noted in the pre- versus post-conference surveys. 40% versus 53% of residents post-conference were comfortable ordering the appropriate diagnostics for TTP/HUS. 28% versus 51% of the residents were comfortable discussing treatment options for TTP/HUS. 42% versus 58% post-conference were comfortable treating thrombotic microangiopathies. 23% versus 49% of residents were moderately comfortable managing TTP/HUS in a facility without plasma exchange capabilities. The pooled survey data from before and after the conference demonstrated a statistically significant ($p < 0.005$) increase in all parameters of interest, including the comfort level in dealing with thrombotic microangiopathies across all categories. In addition, on a scale of 1-5, representing "not at all likely" to "extremely likely," participants were 4.07 times more likely to use an order set to help guide the standardization of the approach to TMA in the hospital.

Conclusion:

Focused education and incorporation of a diagnostic and treatment-focused order set for thrombotic microangiopathies can help standardize and improve the timely treatment of this medical emergency.

TTP/HUS Pre and Post-Educational Conference Survey	Pre-Survey	Post-Survey
How comfortable are you with treating microangiopathies?	42%	58%
How likely is it that you would be able to list five differential diagnoses?	46%	53%
How comfortable are you in ordering the initial appropriate diagnostic workup for TMA?	40%	53%
Would you know how to treat TMA in a facility without plasmapheresis?	23%	49%
How comfortable are you discussing treatment options for TMA?	28%	51%
How likely are you to use an order set optimized for TTP/HUS?	67%	58.1%

Improving Resident Involvement in Variance Reporting

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Purpose for Study:

Few residents submit safety reports (Variances). We aspire to encourage long-standing identification and discussions of safety events, thereby increasing reports.

Methods:

- Educational sessions (11/2021), (1/31/22, 2/4/22), educational cards in workrooms (2/2022-3/2022)
- Surveyed residents regarding Variance submissions (1/2022)
- Obtained epidemiologic data on Variance reports (1/2021 - 3/2022)
- Education during Intern Orientation (6/2022)
- Recruited hospitalist services to discuss safety events weekly at the end of rounds, (4/2023-10/2023)
- Coordinated to embed session regarding Variance reporting within clerkships (5/2023)

Results:

Previously reported:

Intro Survey: Only 34% of 119 respondents have submitted a variance.

Barriers to submission: Knowing where to submit, lengthiness of submission form, time needed to submit, fear of retaliation, and unclear outcomes

Variance report data: Over 18 months (01/2021 - 06/2022) mean, Physician submissions $\mu= 4.5\%$. Figure 1 reflects increase in average submissions after interventions between 11/2021-5/2022.

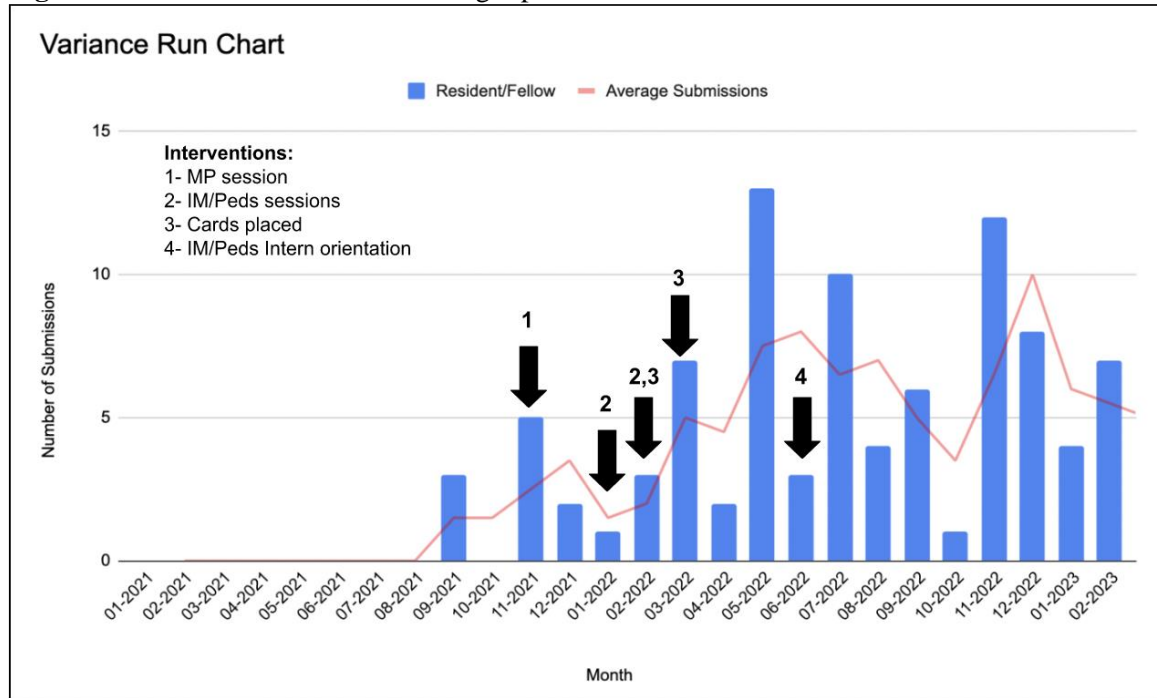
2023 Updates:

We educated interns (June 2022) and observed continued submissions of Variance events from those who identified as residents. We noted that there was significant variability. Lowest submissions were seen in October.

Conclusions:

As previously presented, our interventions educated residents on Variances and subsequently led to increased resident/fellow reporting. After our June 2022 Intern Orientation, submissions increased. The increase was variable, with a down-trend over the academic year. We plan to foster discussion of safety events by medical teams, including medical students, to improve physician involvement in a Culture of Safety.

Figure 1: Variance Run Chart, including reports from 9/2021 to 2/2023



The Impact of Chronic Care Management in the Primary Care Setting at UT Physicians

Tiffany Cunningham

Without proper tools and personnel, managing multiple chronic illnesses remains a challenge. Chronic Care Management (CCM) is an essential tool for primary care providers to best serve Medicare and dual eligible Medicare and Medicaid recipients, a known vulnerable high-risk patient population.

CCM is defined as the care coordination that occurs outside of the primary care follow up visit for patients with two or more chronic conditions expected to last >12 or until death. Centers for Medicare and Medicaid Services (CMS) acknowledged this care delivery takes time and created separate billing codes for reimbursement.

Older adults with multiple chronic conditions often require additional support from their primary care provider to effectively manage chronic illnesses and achieve desired healthcare outcomes that require extra time outside the scheduled appointments. Once the patient is identified, a patient is referred to the Geriatric Nurse Case Manager (GNCM).

The aim of this project was to successfully implement a CCM process in the Center for Healthy Aging that utilized GNCM to support the geriatric care providers practice, improve care coordination efforts, best support patient adherence and efficacy, improve patient satisfaction, and successfully bill for CCM services.

The GNCM created an electronic health record documentation process/protocol for outreach and follow up. To date, CCM services have been implemented and successfully billed monthly since July 2022 (54.20 RVUs) for 7 patients, using one Geriatrician and one GNCM. This process will eventually include all of the providers.

Transitional Care Management at Center for Healthy Aging
Patel, Mona

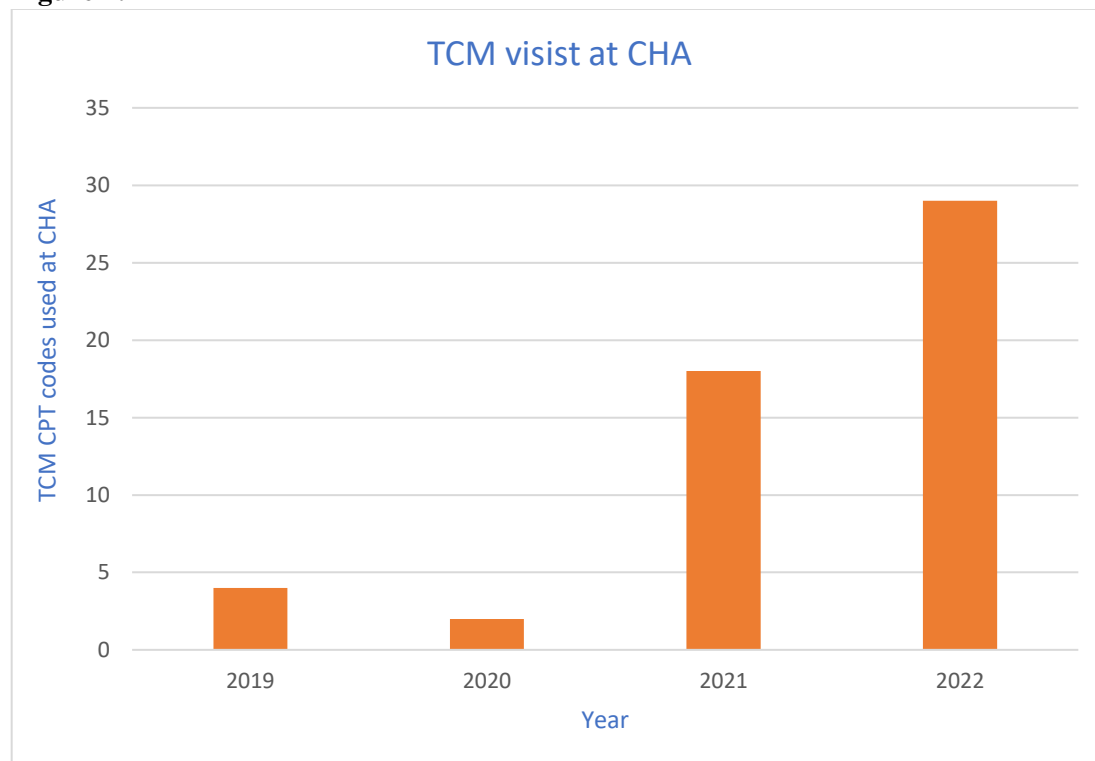
Background: The Transitional Care Management (TCM) services address the hand-off period between the in-patient and community settings. The goal is to enable better patient health and decrease readmissions during these 30 days of critical time for patients with moderate or high-complexity medical issues to improve Quality of Care. This TCM project involves the development and implementation of continuity of care processes that best serves patients 65 years and older post in-patient discharges at UT Physicians Center for Healthy Aging (CHA), Bellaire, TX.

Methods: A “TCM Staff Education Session” was developed and presented during a CHA staff meeting on 3/29/22. A Pre-Survey was conducted for CHA staff and providers. The TCM Process Map for CHA was used to guide the workflow. “TCM staff smart phrase” and “TCM provider smart phrase” are utilized to cover all components and improve charting efficiency for the initial telephone contact and in-person visit.

Results: Data was collected for TCM CPT Codes 99495 and 99496 used in the study period from March 2022 – March 2023. Comparative analysis of the same billing codes for last 4 years demonstrated 37% increased rate of TCM visits during the study period (see Figure 1).

Conclusion: Our analysis demonstrated successful development and implementation of a TCM process at UT Physicians Center for Healthy Aging to improve quality of care for geriatric patients post in-patient discharge. Our future plan is to further improve the process of TCM in order to capture more post-discharge patients and streamline the workflow more efficiently.

Figure 1:



Improving Recombinant Zoster Vaccination Rate in the Immunocompromised Population

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Introduction: Herpes Zoster, or Shingles, is caused by reactivation of the latent varicella-zoster virus and can cause substantial morbidity. Immunocompromised patients are at higher risk for more severe and disseminated disease. In October 2021, the Advisory Committee on Immunization Practice (ACIP) recommended the recombinant zoster vaccine (RZV/Shingrix vaccine) for the immunocompromised adults aged 19 or older. Several reviews have shown good vaccine efficacy and improved quality-adjusted life-year for immunocompromised patients.

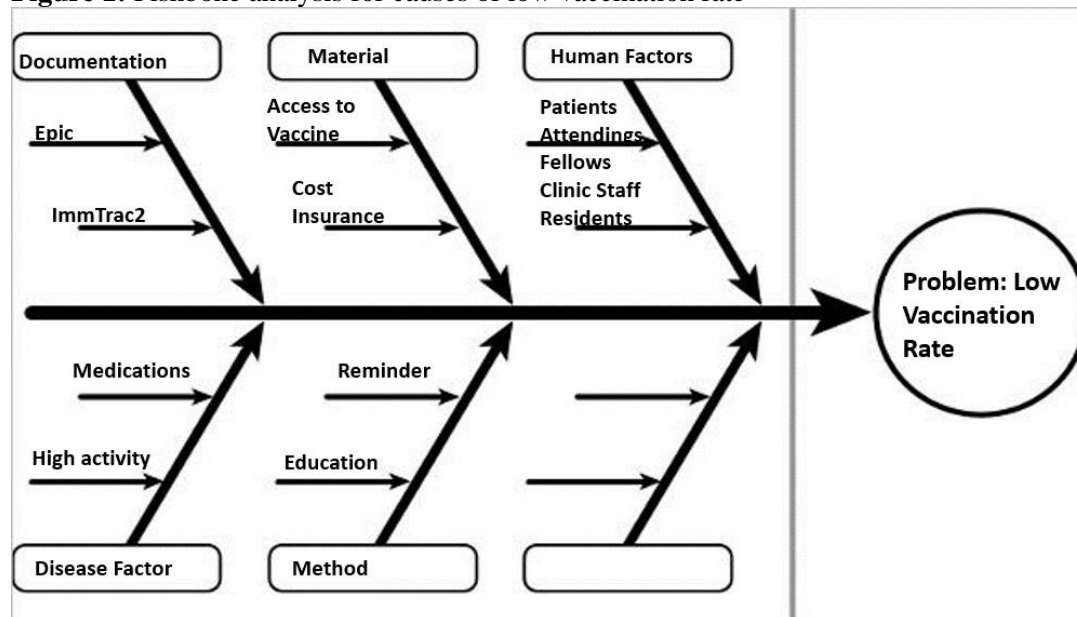
Aim: Our goal is to increase RZV vaccination rate among the immunocompromised patients seen at the UTP Rheumatology Clinic.

Methods: We define the immunocompromised population based on diagnoses and current medications. Our pre-intervention consists of chart review of patients seen in April 2022 to identify patients meeting the above criteria and their RZV vaccination status. Our first PDSA cycle entailed sending Epic messages to immunocompromised patients with information regarding Shingrix vaccine to discuss with their physicians at upcoming appointments. Post-intervention will consist of chart review of patients seen during the intervention period to assess RZV vaccination status.

Results: Pre-intervention chart review screens a total of 488 patients, with 292 meeting inclusion criteria. 41 (14.0%) received one dose of RZV vaccination and 27 (9.3%) received two doses. Our first PDSA cycle resulted in patient-initiated messages regarding vaccine status in 8.4% of patients contacted.

Conclusion: Pre-intervention data suggests that RZV vaccination rate is low among our immunocompromised patients. We anticipate that the intervention will strengthen patients' vaccine awareness and increase vaccination rate.

Figure 1: Fishbone analysis for causes of low vaccination rate



Improving the Survivorship of Older Adults with Cancer Using Geriatric Assessment

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Background: Older cancer survivors often have late effects of cancer and its treatment, resulting in disabling symptoms that impair normal functioning. Assessing older cancer survivors to include changes in the functional status, cognition, nutrition, and psychosocial status is essential and can guide survivorship care. A quality improvement initiative was proposed to review the use of geriatric assessment and the geriatric assessment guided interventions during cancer survivorship.

Methods: We retrospectively reviewed the medical charts of 25 older cancer survivors seen in Geriatrics Clinic at the University of Texas Physicians, Center for Healthy Aging, 2021-2022. Patient information collected included: age, cancer type, number of comorbidities, number of medications, cognitive impairment, depression, need for assistance with instrumental activities of daily living (IADLs), and type of intervention recommended. The prevalence of these factors was calculated using descriptive statistics.

Results: The mean age of the participants was 84.4 ± 6.6 years. Patients with a variety of cancer diagnoses were included, with most common being breast cancer (44%). There was an average of 4.5 comorbidities per patient, 22% needing assistance with their IADLs. About 72% of patients had polypharmacy, 16% had depression, and 20% had cognitive impairment. Most common geriatric assessment guided interventions were medication management (33% dose adjustment, 5% deprescribing), physical therapy consult (20%) for balance/strength training, fall prevention and assist device evaluation, occupational therapy (12%), and nutrition consult (16%).

Conclusions: Geriatric assessment during cancer survivorship can be used to identify patients who will benefit from geriatric interventions to improve survivorship care for older adults.

Goals of care discussions in the ICU: analysis of patient and hospital centered factors

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Background: In the intensive care unit, clinicians often initiate discussions with families about code status when patients are critically ill. These discussions often occur before a cardiac arrest due to clinician assessment of poor prognosis. The impact of socioeconomic and medical factors on code status changes is unclear.

Methods: This retrospective study included adult patients admitted to the intensive care unit of a multihospital center between 5/1/2010-5/1/2020 who had goals of care (GOC) discussions with their medical team before cardiac arrest. Socioeconomic data, demographics, medical comorbidities, and hospital course information were collected.

Results: We identified 279 patients, of which 170 (60.9%) did not have a change in code status. Patients who had a change in code status were older (72.61 vs 63.55, $p<0.01$). Additionally, patients with a change of code status had a higher incidence of stroke (18.35% vs 8.82%, $p=0.0255$) and COVID infection (38.53% vs 25.29%, $p=0.0234$). The presence of supportive medicine consultants in family meetings and requirement of a medical interpreter (27.52% vs 11.76%, $p<0.01$) more frequently led to a change in code status (54.13% vs 29.41%, $p<0.01$). Patients without a change in code status had more frequent use of vasopressors (74.12% vs 49.54%, $p<0.01$).

Conclusions: Approaching GOC discussions in a critically ill patient requires an integrated approach. In our study, patients who had a change in code status were likely to have prior comorbidities such as stroke and COVID and were more likely to undergo aggressive therapy with vasopressors. Supportive medicine consult aided in code status change.

Treatment and Prevention of Spontaneous Bacterial Peritonitis: A Quality Improvement in The Harris Health Gastroenterology Clinic

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Introduction:

Spontaneous bacterial peritonitis (SBP) is a complication seen in 7-30% of hospitalized cirrhotic patients and is associated with high mortality. The estimated survival of SBP is approximately 30-50% at one year and 25-30% at two years. The 1-year probability of recurrence of SBP is 40-70%, due to which antibiotic prophylaxis is recommended. A lack of adherence to guideline-directed therapy for SBP is associated with high recurrence and mortality rates. Our quality improvement study aims to evaluate the rate of SBP antibiotic prophylaxis in cirrhotic patients who meet the criteria and improve the prescription rates of antibiotic prophylaxis in these patients.

Methods:

We retrospectively evaluated 214 cirrhotic patients in the Harris Health (HH) GI clinic from March 2022 to February 2023. We assessed the patients who met the criteria for SBP prophylaxis and the rate of SBP prophylaxis in these patients.

Results:

42 met the criteria for SBP prophylaxis. Of these 42 patients, only 18 (43%) received SBP prophylaxis, less than 50%. Study characteristics are summarized in Table 1.

Of the 12 patients with a history of SBP, 10 received prophylaxis (83%). 19 patients had ascitic fluid protein < 1gm/dl, of which only 7 received prophylaxis (37%). Only 1 of the 11 patients (9%) with ascitic fluid protein <1.5 with hepatic failure or impaired renal function received prophylaxis. The adherence to SBP prophylaxis, especially in the last two groups, is lacking, necessitating further awareness among the providers.

Conclusions:

Our study shows a lack of adherence to SBP prophylaxis (<50%) in cirrhotic patients in the HH GI clinic, of which the least adherence was among the patients having ascitic fluid protein <1 gm/dl (37%) and ascitic fluid protein <1.5 gm/dl with hepatic failure or impaired renal function (9%) which necessitates further education of the providers about the three criteria for SBP prophylaxis. Our next step is identifying the barriers and implementing clinical practices to reach national standards.

Table 1: Study Characteristics

AGE	55+/- 9
SEX	Male – 127 (59.3%) Female – 87 (40.7%)

ETHNICITY	Caucasian- 32 African American – 12 Hispanic – 167 Other – 3
CAUSE OF CIRRHOSIS	Alcohol – 105 (49%) NASH - 31 Alcohol and NASH - 6 Hepatitis C - 11 Primary biliary cirrhosis - 10 Cryptogenic - 8 Other - 43
MELD SCORE	14.5 +/- 6.47
PATIENTS WHO MET SBP PROPHYLAXIS CRITERIA	Yes - 42 No - 172
SBP PROPHYLAXIS CRITERIA AND NUMBER OF PATIENTS IN EACH GROUP	History of SBP – 12 Ascitic fluid protein <1 gm/dl – 19 Ascitic fluid protein < 1.5 gm/dl along with either impaired renal function or liver failure - 11
PATIENTS ON SBP PROPHYLAXIS (OF THE 42 PATIENTS WHO MET THE CRITERIA)	On prophylaxis – 18 (43%) Not on prophylaxis – 24 (57%)
SBP PROPHYLAXIS RATE IN THE PATIENTS WHO MET DIFFERENT CRITERIA	History of SBP – 10/12 (83%) Ascitic fluid protein <1 gm/dl – 7/19 (37%) Ascitic fluid protein < 1.5 gm/dl along with either impaired renal function or liver failure – 1/11 (9%)

Hearing Amplifiers for Hospitalized Older Adults

Amira Dalmazio, Keziah Thomas*

Presbycusis or age-related hearing loss affects many older adults. However, even with a prevalence of 55%, the use of hearing aids falls short. Utilizing amplifiers have been associated with significant improvement in patient's perceived and reported cognition. Our goal was to assess the feasibility of hearing amplifiers for hospitalized older adults under academic teams in Memorial Hermann Hospital. Each team was given two amplifiers that they provided to an older adult patient with hearing impairment for the duration of the patient's stay. The house staff were then evaluated with a pre- and post-intervention survey. The questionnaires examined perceived utility, effect on communication and overall patient interaction, and practicality of managing the amplifiers from patient to patient on a 5-point scale. Survey results were then analyzed using median satisfaction scores. Our initial cohort included 16 house staff. Pre-intervention surveys showed residents agreed that amplifiers are useful, and can improve communication and patients' involvement in care. However, 60% of residents believed keeping track of the amplifiers will be difficult. We expect our post-intervention survey to showcase high patient-physician relationship satisfaction.

Improvement of Chemical DVT Prophylaxis in Hospitalized Patients with Inflammatory Bowel Disease

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Studies show that IBD patients are at a 2-3-fold higher risk of developing DVT compared to the general population. From 2000 to 2018, the rate of DVTs in this population increased; now 295 in every 10,000. We analyzed 124 inflammatory bowel disease patients hospitalized at Memorial Herman and their rate of DVT prophylaxis. 53 patients had a diagnosis of Ulcerative Colitis and 71 had Crohn's. We found that 45% (56) of patients did not receive DVT prophylaxis during admission. We further looked into those who were admitted for an active IBD flare and those who were not, accounting for any patients who had other contraindications to DVT prophylaxis. We found that 51% (29) did not receive DVT prophylaxis were admitted for non IBD related issues. Amongst those, 75% (22) had no contraindications to DVT prophylaxis. Amongst patients who were admitted for active IBD flare, 29 % (8) had no signs of bleeding on admission. We hope to highlight the trend of patients with IBD not receiving the gold standard of care, even for non IBD related admissions. Our goal is to create an improvement in the standard of care of DVT prophylaxis offered to patients with IBD admitted to the hospital. We will create an informational flyer that can be emailed to providers. It will highlight the national trends and our in-hospital data analysis, both of which show a misconception that patients with IBD should not be anticoagulated, when in fact, they are higher risk for developing DVTs than other patients.

Implementation of a Standardized Discharge Checklist for Select Cardiac Patients

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Introduction:

Memorial Hermann Hospital-Texas Medical Center (MHH-TMC) has a high volume of patients admitted with chest pain. In 2022 alone, there were 153 STEMI patients, 339 NSTEMI patients, 18,770 unstable angina patients, and 8,186 low-risk chest pain patients. Hospitals are evaluated based on a number of composite performance metrics for cardiac patients that are vital for their care. The goal of this project was to implement a checklist on discharge incorporating documentation of, and reasons for, omission of ASA, P2Y12, BB, high-intensity statin, ACE/ARB for LVSD (prescribed for at least 90 days), and cardiac rehabilitation prescribed on discharge) in the resident run teams at the Heart and Vascular Institute (HVI) at MHH-TMC to reduce the discharge error rate by at least 25% by February 2023. The secondary objectives that the project aims to achieve over a longer term are improvement in patient outcomes for ACS which include a reduction in readmission rates and increased continuity of care in outpatient settings.

Methods:

Data from patients admitted to HVI, specifically floors and units where CCU and CIMU teams cover patients, were collected and analyzed for errors in discharges. A discharge checklist went into effect for the resident-driven teams in February 2023, thus discharge error rates from January, prior to any intervention, were utilized as a control. The main areas of focus were specifically errors in medication prescriptions and cardiac rehab phase II. The average discharge error rate in February 2023 was compared to that of January 2023, and statistical analysis was completed by using a 2-tailed z test for the comparison of the proportion of discharge errors in February compared to January.

Results:

In January 2023, approximately 270 patients were discharged from areas covered by CCU and CIMU teams, with a discharge error rate of about 18.5%. In February 2023 after the intervention using the discharge checklist, about 315 patients were discharged from the same areas with a discharge error rate of approximately 10%. After completing the 2-tailed z test at a significance level of 0.05, the *p*-value result was 0.00634.

Discussion:

Results of this study demonstrated that the intervention using the discharge checklist resulted in a statistically significant decrease in discharge error rates. This is encouraging data, as it proves that standardizing the discharge process improved outcomes and led to less frequent errors. As many of these patients are admitted with diagnoses of heart failure exacerbations or ACS (acute coronary syndrome) requiring stent placement, medications to ensure long-term benefit are vital, and should be properly prescribed, both in terms of the correct medications as well as the amount of refills to carry the patients to their follow-up appointment. For patients who require stent placement, cardiac rehab is of great benefit to them to ensure that the patients are able to safely continue rehabilitation in hopes to reach their original baseline level of activity. Continued collection of data will prove to be beneficial to monitor for improvements in discharge error rates.

Utility of Follow Up MRI After Treating Foot Osteomyelitis and Pelvis Osteomyelitis

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Chronic osteomyelitis (COM) results from bony exposure in the setting of an open wound usually lasting longer than a month. In the spectrum of diabetic foot infections, COM results from preceding skin and soft tissue infections. Similar pathophysiology underlies the pelvic bone chronic osteomyelitis among patients suffering from chronic decubitus ulcers. While in hematogenous (acute) spinal osteomyelitis there is data regarding the use of follow up images, this has not been established for COM. We investigated if among the patients treated with antibiotics for their COM in our hospital diagnosed using MRI of the affected bone in the right clinical context, a follow up MRI were ordered, what its findings were if so, and if those findings led to management change (retreatment, bone biopsy, surgery including debridement and amputation). We collected information from electronic medical records of patients with the diagnoses of COM of the foot, calcaneus, toes, trochanter, or sacrum from Jan 1st, 2015, to December 31st 2021.

Of 1670 patients detected using the ICD10 identifiers for the area-specific COM, 494 (30%) were studied. The remainder were excluded due to absence of a baseline MRI or incomplete records. Table 1 shows their characteristics.

Information regarding treatment after the diagnostic MRI was available for 485 (98%) patients. They received treatment for 52 ± 42 days. Information about clinical outcomes after the first treatment was available for 437 (88%) patients. Pre-treatment erythrocyte sedimentation rate (ESR) was 63 ± 32 mm/h while post-treatment ESR was 43 ± 31 mm/hour.

A total of 63 (13%) patients had a follow-up MRI 203 ± 256 days after the diagnostic one. In 35 patients (7%), the patients' condition was deemed clinically improved whereas in 28 (6%), that was not the case.

Among the 35 patients looking clinically better, only 3 had reportedly normal follow-up MRI (1 of them received another course of antibiotics), 22 had findings consistent with soft-tissue infections, and 28 with bone infections. Among those with abnormal follow-up MRI, 22 received more antibiotics, 4 required a bone biopsy, 4 received incision and debridement, and 4 required some amputation.

Among the 28 patients not looking clinically better, only 5 had reportedly normal follow-up MRI (2 of them received another course of antibiotics), 15 had findings consistent with soft-tissue infections, and 20 had bone infections. Among those with abnormal follow-up MRI, 20 received more antibiotics, 6 required a bone biopsy, 1 received incision and debridement, and 5 required some amputation.

In conclusion, the follow-up MRIs found abnormalities in patients deemed clinically improved. However, the indication for more treatment seems to depend on the clinician or surgeon decision-making. Appropriateness-criteria for the use of follow-up MRIs in COM are still lacking.

Table 1:

Characteristics of 494 patients with chronic osteomyelitis	
Age	55 ± 10 years
Sex, male, n (%)	366 (74%)
Affected bone, n (%)	
Feet, non-specified	240 (49%)
Toes	181 (37%)
Calcaneus	43 (9%)
Sacrum	20 (4%)
Femoral head or trochanter	10 (2%)
Clinical improvement	340 (69%)
Follow up MRIs	63 (13%)
Normal results	8
Abnormal results	55
More antibiotics	45 (82%)
Bone biopsy	10 (18%)
Incision/Debridement	5 (9%)
Amputation	9 (16%)

Quality improvement initiative to improve Venous Thromboembolism (VTE) prophylaxis rates among hospitalized patients with Inflammatory Bowel Disease (IBD)

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Background:

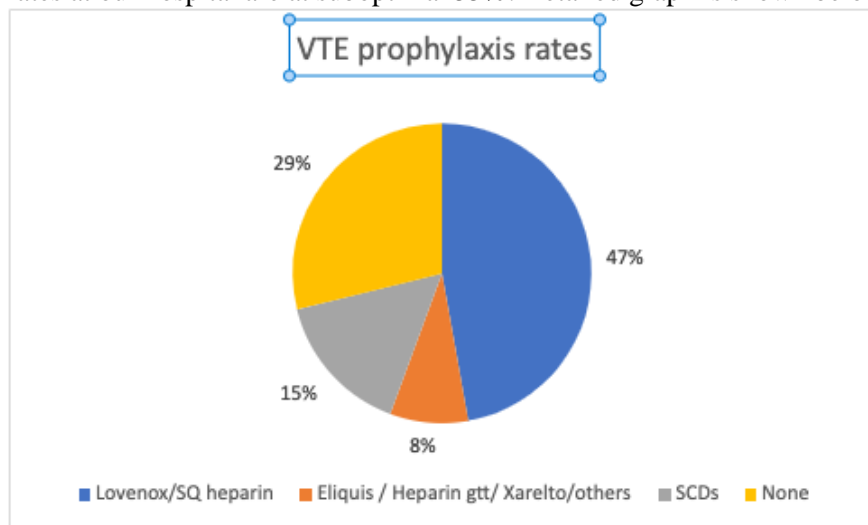
IBD comprising of ulcerative colitis and Crohn's disease patients are at two-threefold increased risk of VTE. Current society guidelines strongly recommend administration of chemical VTE prophylaxis to all hospitalized IBD patients without severe bleeding (i.e., hemodynamic instability). However, chemical VTE prophylaxis rates among hospitalized patients with IBD remains suboptimal. Hence, we created a QI initiative to (a) Study VTE prophylaxis rates in our hospital, and (b) Make appropriate interventions to improve VTE prophylaxis. We present preliminary results from the first phase of our study.

Methods:

We performed a retrospective analysis of all adult patients with a history of IBD who were hospitalized between January 2022 and December 2022 at MHH-TMC hospital. Data collected include patient characteristics, VTE prophylaxis rates, severe bleeding at admission, and VTE rates at 90 days. Prophylaxis adherence was determined by documentation of VTE prophylaxis at admission. Exclusions criteria were age < 18 years, presence of severe bleeding at admission.

Results:

After applying exclusion criteria, there were 142 hospital admissions for patients with IBD during the study period. Both IBD and non-IBD related admissions were included in the analysis. VTE prophylaxis rates at our hospital are at suboptimal 55%. Detailed graph is shown below.



Conclusions:

VTE prophylaxis rates in adult hospitalized patients with IBD is suboptimal at our institution based on our preliminary analysis. Our next steps are to (a) perform statistical analysis to identify factors associated with low VTE prophylaxis rates in IBD patients, and (b) conduct education-based interventions for our providers based on PDSA (Plan-Do-Study-Act) cycles.

Increasing percentage of patients with TSH obtained prior to Thyroid Nodule Evaluation at UT Physicians Bellaire and UTPB Endocrinology Clinic

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Background: Thyroid nodules are identified via physical exam or imaging. The American Thyroid Association recommends next steps to evaluate nodules including TSH measurement and Thyroid ultrasound. Treatment is based on TSH level, nodule size, and characteristics on thyroid ultrasound.

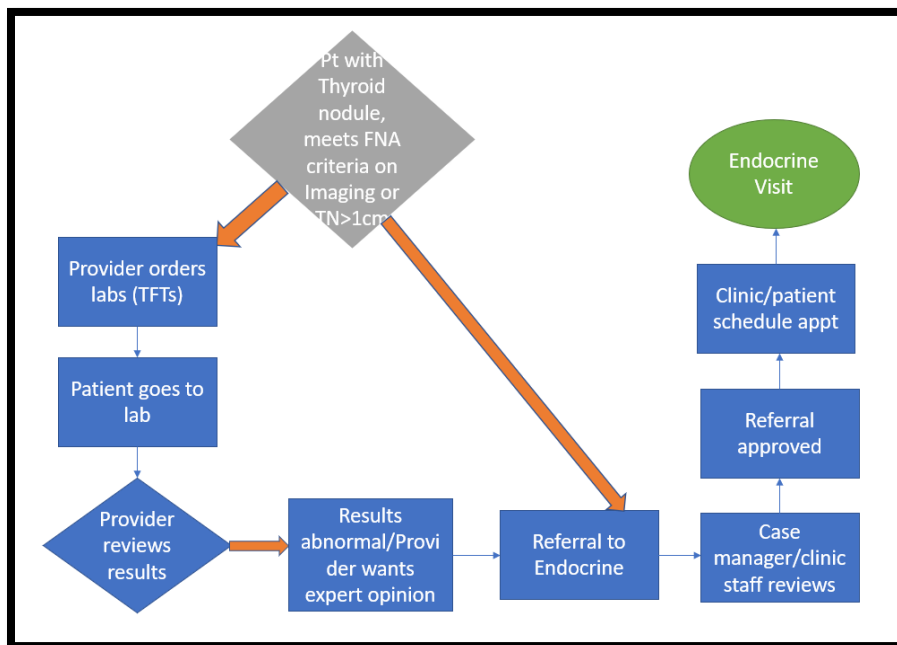
Aim: (1) Investigate current trends in thyroid nodule referrals and TSH level obtained prior to visit, (2) Review the referral process and identify targets for intervention, and (3) Increase the number of patients with TSH level obtained prior to Endocrine visit to 80% of all referrals placed.

Methods: Chart reviews of UTPB and Bellaire clinic patients (ages ≥ 18 years old) were conducted to determine the number of patients evaluated for a new thyroid nodule and whether the patient had TSH level obtained within the past year. To increase the percentage of in-house referrals of thyroid nodules with pre-obtained TSH level, our intervention plans to add a pop-up within EPIC that requests TSH level prior to referral to Endocrine clinic.

Results: Initial results show that 31% of thyroid nodule patients referred to UTPB and Bellaire Endocrinology clinics who were referred in-house had no TSH value within one year. We will re-assess once our in-house intervention is implemented.

Anticipated conclusions: Interventions within the EMR will assist with improving the percentage of patients with TSH values obtained prior to initial visit with Endocrine. We hope to meet a target of 80% of referrals from within the UT system with pre-obtained TSH levels.

Figure 1: Process Map of Thyroid Nodule Referrals to Endocrine Clinic



Part II: Promotion of Resident Education on Penicillin Drug Allergy Labeling

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Patients with a listed penicillin drug allergy suffer inferior health outcomes. Reports of penicillin allergy seldom reflect tested allergy. 10% of the U.S. population report a penicillin allergy – of these patients, 90% can ultimately tolerate penicillin. Part I of our quality improvement project last year corroborated completed studies and established a statistically significant difference in proportions of C. diff, MRSA, and VRE infections ($p < 0.001$) between patients with penicillin allergy label ($n = 49,166$) and without penicillin allergy label ($n = 4,180,134$) from 2010-2022. Furthermore, reaction types were analyzed – the most common reaction subtype was an undocumented/unknown reaction (36%). ~1,500 reactions were non-immunologic (i.e., headache, fatigue, cough, n/v) likely representing adverse reactions that may be de-labeled after patient education. Our data demonstrates a need for awareness regarding improper drug allergy labeling. The objectives of our part II study are to:

1. Educate residents to promote accurate drug allergy history/assessment.
2. Utilize the Penicillin Allergy History Algorithm (J Allergy Clin Immunol 2018) to teach management of penicillin allergy-labeled patients in inpatient & outpatient settings.
3. Decrease inaccurate drug allergy labels and identify patients without IgE-mediated allergy that may be safely de-labeled and benefit from a referral to Smith Clinic (SC) Allergy Clinic.

Primary outcome measures of this study are resident accuracy/scores in a drug allergy survey via pre- and post-surveys after incorporation of the Penicillin Allergy History Algorithm (PAHA) in clinical curriculum. Secondary outcome measures will be impact on number of necessary referrals completed to the SC Allergy Clinic.

Figure 1. Penicillin Allergy History Algorithm. Ramsey & Staicu, J ALLERGY CLIN IMMUNOL PRACT JULY/AUGUST 2018.

