

# **2019-2020 REFLECT Program**

## **Residents and Fellows Leading Interprofessional Continuous Improvement Teams**

- Adolescent and Young Medicine Fellowship
- Allergy and Immunology Fellowship
- Anesthesia Critical Care Fellowship
- Anesthesiology Residency
- Cardiology Fellowship
- Child Psychiatry Fellowship & Psychiatry Residency
- Dermatology Residency & Micrographic Surgery and Dermatologic Oncology (Mohs) Fellowship
- Emergency Medicine Residency
- Endocrinology Fellowship
- Gastroenterology Fellowship, GI Transplant Hepatology Fellowship, GI Advanced Endoscopy Fellowship, and GI Advanced IBD Fellowship
- General Surgery Residency
- Gynecologic Oncology Fellowship
- Hematology and Oncology Fellowship
- Hematopathology Fellowship
- Hospice and Palliative Medicine Fellowship
- Internal Medicine Residency
- Maternal-Fetal Medicine Fellowship
- Neonatology Fellowship
- Nephrology Fellowship
- Neurological Surgery Residency
- Neurology Residency
- Obstetrics and Gynecology Residency
- Orthopedic Surgery Residency
- Otolaryngology Residency
- Pathology and Laboratory Medicine Residency
- Pediatric Anesthesia Fellowship
- Pediatric Cardiology Fellowship
- Pediatric Critical Care Fellowship
- Pediatric Endocrinology Fellowship
- Pediatric Gastroenterology Fellowship
- Pediatric Hematology Oncology Fellowship
- Pediatric Infectious Diseases, Pediatric Allergy/Immunology, Pediatric Residency, and Pediatric Hospital Medicine
- Pediatric Rheumatology
- Plastic Surgery Residency
- Radiation Oncology Residency
- Radiology Residency
- Reproductive Endocrinology and Infertility Fellowship
- Rheumatology Fellowship
- Urology Residency

## 2019-2020 UCSF Resident and Fellows Leading Interprofessional Continuous Improvement Teams

Program	Target/Goal
Adolescent and Young Adult Medicine Fellowship	By June 30th 2020, 20% of clinical encounters with a 24 or 25 yo patient will include documentation of counseling on or instructions for transitioning care to an adult primary care provider.
Allergy & Immunology Fellowship	50% of obstetrics patients referred to Allergy Clinic for beta-lactam allergy will complete penicillin skin testing during the prenatal period
Anesthesia Critical Care Fellowship	Increase Comfort Care huddle documentation prior to initiating comfort care for 66% of dying patients in ML and MB ICUs, cumulative from Oct 2019-June 2020.
Anesthesiology Residency	Improve the use of multimodal analgesia by 10% during the upcoming academic year (i.e. July 1, 2019 – June 30, 2020). To be considered a successful outcome, patients must have received at least two non-opioid analgesics, one of which must be administered or initiated intra-operatively by the anesthesia provider (e.g. right hand column: one of the “Regional/Neuraxial Techniques” or one of the medications under “Intra-op Medications”). (additional details on A3)
Cardiology Fellowship	Increase the documentation for inpatients assessed for appropriate procedural sedation from 0% currently to >50% (for TEE)
Child Psychiatry Fellowship	80% of Inbasket messages will be responded to within 3 business days, cumulative over the 2019-20 academic year
Dermatology Residency	90% of internal referrals will include a photograph for site identification, and 75% of photographs meet required criteria
Emergency Medicine Residency	increase the percentage of hip fracture eligible patients that receive fascia iliaca nerve blocks by 15% from June 2019-June 2020, for a total of 46% of fascia iliaca nerve blocks performed in eligible hip fracture patients.
Endocrinology Fellowship	Assess for Diabetes Distress using the validated T1-Diabetes Distress Scale in patients with T1D who are seen by UCSF Diabetes Center Pump Clinic (Friday mornings) over the span of 9 months. Goal is to screen for DD in at least 50% of patients with T1D who attend this specific clinic.
Gastroenterology Fellowship	Improve documentation of recommended follow-up guidelines (<3 months for medium/large varices or EVL, <2 years for small varices, or NSBB initiation) to the higher of 75% or 10% above the current baseline by 4/2020, cumulatively from Oct-June.
General Surgery Residency	Increase to 50% the percentage of patients who have diet orders placed before 8am among those with a diet order placed at all from 5am-5pm (reduce the time between morning rounds and diet advancement orders)
Gynecologic Oncology Fellowship	In patients with ovarian cancer, increase rate of genetic testing to 90% (goal is % patients with testing completed).
Hematology and Oncology Fellowship	Document Performance Status in a structured format for at least 75% of their new patient encounters for patients with solid or hematologic malignancies.
Hematopathology Fellowship	Issue a monthly bone marrow biopsy adequacy report 100% of the time (12/12 months) compared to the current rate of 0%. In this report, we will report the rate of suboptimal biopsies (current baseline = 30%, and no feedback is given). Our ultimate goal is to measure a sustained 50% decrease in the rate of suboptimal bone marrow biopsies from 30% to 15%.
Hospice and Palliative Medicine Fellowship	Increase the overall rate of ACP documentation by providers in targeted cancer center clinics by 50% (relative increase) over baseline by June 2020.
Internal Medicine Residency	Increase inpatient ACP documentation through the ACP Navigator (.ACP dotphrase or ACP note completed) on each hospitalization from 15% to 30% in hospitalized patients who are >75yo or have advanced illness. (*This % increase reflects the expectation that the ACP documentation encouraged by this project will consist of meaningful care-forwarding discussions, and discourage the use of the ACP
Maternal-Fetal Medicine Fellowship	At least 70% of specimens for genetic testing will be collected correctly and arrive in the lab within 2 days.
Micrographic Surgery and Dermatologic Oncology (Mohs) Fellowship	Combined, see Dermatology Residency
Neonatology Fellowship	Improve rate of oral colostrum within 24h for VLBW infant from 60% to > 80%

<b>Program</b>	<b>Target/Goal</b>
Nephrology Fellowship	To increase the percentage of labs drawn at dialysis for first-shift dialysis non-ICU patients from 30% to 70%
Neurological Surgery Residency	Decrease urine cultures to q72 hours when the only infectious sign is fever. Specifically, among Neurosurgery-Vascular who only exhibit fever, urine culture will be not be sent more frequently than q72h in 70%, cumulative from Oct 2019-June 2020
Neurology Residency	70% of current tobacco users on the inpatient ward or neurovascular services will be referred to outpatient smoking cessation resources
Obstetrics and Gynecology Residency	75% of women who qualify for anticoagulation who are prescribed it postoperatively (post-Cesarean VTE prophylaxis)
Orthopedic Surgery Residency	On 75% of the days, each orthopedic surgery service and the charge nurse will together review patients on 7L and 7E with anticipated discharge the following day to increase communication to all members of the healthcare team.
Otolaryngology Residency	90% of patients with HNSCC undergoing oncologic surgery requiring free tissue transfer reconstruction (advanced cases) at UCSF Mission Bay from July 2019 through May 2020 will be screened for current or recent (within last 90 days) tobacco use, and current/recent will be placed on an inpatient smoking cessation pathway.
Pathology-Anatomic Residency	Increase compliance in reporting required cancer protocol elements to at least 85% over the next academic year
Pediatric Anesthesia Fellowship	Improve assessments for pediatric emergence delirium, as measured by documenting at least 1 PAED score during the duration of a patient's PACU stay to 72% of cases, from Oct 2019-June 2020.
Pediatric Cardiology Fellowship	80% of babies with congenital heart disease will get appropriate testing (which includes the right test for the right patient and elimination of duplication), cumulatively from Oct-June
Pediatric Critical Care Fellowship	Increase the ratio of mobilization activities to "bedrest" in our nursing flowsheet documentation for patients in the PICU by 20%. Achieve this by decreasing the time from ICU admission to first PT/OT session for all of our patients and ensure that all patients, depending on activity status, are receiving appropriate rehabilitation therapies (turning in bed, passive range of motion, out of bed to chair, ambulating, etc).
Pediatric Endocrinology	Ensure that at least 90% of patients with insulin-dependent diabetes in PACU for scheduled procedures have orders for prn glucose labs prior to PACU arrival.
Pediatric Gastroenterology Fellowship	Increase oral zofran prescription for AGE at the MB emergency room and China Basin pediatric clinic from current rates (13% and <1% respectively) to at least 65% of eligible patients, cumulative over the 2019-20 academic year
Pediatric Hematology Oncology	Fellows will call PCP upon discharge for 50% of all admissions, excluding scheduled admissions for chemotherapy/procedures, cumulative from Oct 2019-June 2020.
Pediatric Hospital Medicine Fellowship	Combined - Peds Hospital Medicine, Peds Infectious Disease, Peds Residency
Pediatric Infectious Disease Fellowship	Among patients with a documented beta-lactam allergy at the time of admission, 60% will receive one of the following: Inpatient allergy consult placed in Apex, Outpatient allergy referral placed in Apex, beta-lactam allergy added to problem list, or beta-lactam administered during the hospitalization.
Pediatric Rheumatology	By June 2020 we will have documented start of appropriate pneumococcal vaccine sequence in 50% of our patient with SLE
Pediatrics Residency	Combined - Peds Hospital Medicine, Peds Infectious Disease, Peds Residency
Plastic Surgery Residency	75% compliance with a standardized post-operative addendum to our brief operative notes, providing initial post-operative recommendations and appropriate contact information
Psychiatry Residency	80% of Inbasket messages will be responded to within 3 business days, cumulative over the 2019-20 academic year
Radiation Oncology Residency	At least 50% of patients treated for palliative bone metastases will be followed up by telephone by the resident involved in his or her treatment within 2-8 weeks following palliative radiation treatment to assess treatment response, adverse effects/treatment toxicity, need for additional radiation and need for ancillary supportive care services.

Program	Target/Goal
Radiology Residency	70% of final reports for routine CT Abdomen/Pelvis studies with or without intravenous contrast which describe an incidental renal lesion will use the standardized reporting template which clarifies those that are definitely benign lesions and assures appropriate follow-up for indeterminate or suspicious renal lesions.
Reproductive Endocrinology & Infertility Fellowship	Reduce the frequency of urgent calls and nursing messages related to pharmacy questions by 25% over the course of the next 6 months. This will be achieved through more clear delegation of responsibilities in terms of medication ordering, training on rigorous prescription writing, and expectations for timing of prescription order sign off would be reasonable ways to improve the work-flow.
Rheumatology Fellowship	Increase rate of indicated pre-immunosuppression screening for LBTI to 90%
Urology Residency	Introduce formal discharge instructions regarding opioid disposal for 70% of patients who are discharged with opioids.

## Background

- Transitioning adolescent patients' to adult primary care medicine is a national and AYA clinic priority, yet our clinic previously had no particular policy or strategy in place for counseling/assisting young adult patients with this transition prior to aging out of our clinic at 26 years old
- Based on chart review prior to our QI initiative, only 9% of clinic encounters with a 24 or 25 yo patient included documentation of counseling or instructions regarding transition to adult primary care.

## Project Goals

**By June 30th 2020, 20% of clinical encounters with a 24 or 25 year old patient will include documentation of counseling on or instructions for transitioning care to an adult primary care provider.**

### PROBLEM STATEMENT:

Prior to our project, on average (based on chart review from May-July 2019), only 9% of clinic encounters with a 24 or 25 yo patient included documentation of counseling or instructions regarding transition to adult primary care.

**WE INCREASED THE AVERAGE PERCENT OF 24 & 25 YO PRIMARY CARE PATIENTS WHO RECEIVED COUNSELING OR INSTRUCTIONS ON TRANSITION TO ADULT CARE FROM 9% TO 50%.**

## Project Plan and Intervention(s)

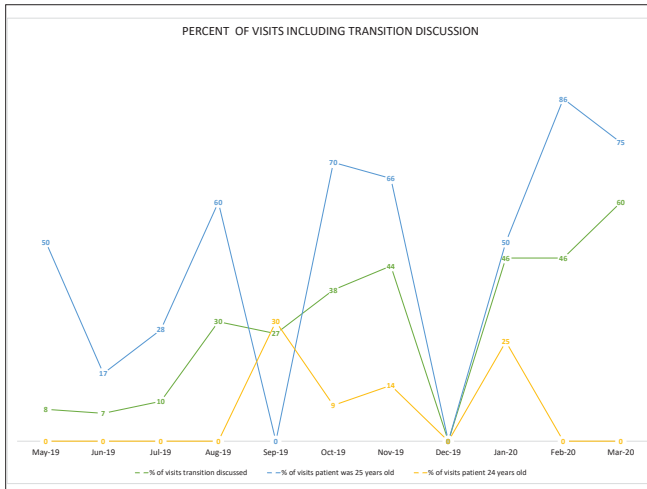
### PDSA Cycle #1 (August 2020): Transition Readiness Questionnaire (TRAQ)

- Intervention: Administration of transition readiness surveys to 24 and 25 yo primary care patients prior to seeing provider
- Hypothesis: Questioning patients about transition would prompt discussion with providers
- Root Causes/Barriers Addressed: previous lack of tools available to assess transition readiness, time constraints for provider to ask these questions during visit

### PDSA Cycle #2 (October 2020): Transitions After-Visit Summary (AVS) Dot-Phrase

- Intervention: Creation and dissemination of a AVS dot-phrase with instructions for patients to transition to adult primary care
- Hypothesis: Availability of an easily accessible dot-phrase would encourage providers to discuss and provide instruction on transition to adult care
- Root Causes/Barriers Addressed: time constraints on provider to create or find transition guidelines for patients

## Project Evaluation & Impact



## Lessons Learned & Next Steps

### Lessons Learned:

- The ease of a pre-completed dot phrase is helpful in assisting providers in discussing transition, but we did not approach 100% utilization
- Discussion seems to occur less frequently at follow-up visits vs physical exams (particularly for those that follow up frequently)
- Difficulty in discussing transitions with patients with multiple problems (despite the fact that these patients typically need transitional care even more)
- Difficulty in/appropriateness of discussing transition for 24 and 25 yo who are scheduled as new patients

### Next Steps:

- Creation of a transitions policy with assistance from our clinical faculty and division leadership to be distributed to all patients
- Collaboration with other UCSF pediatric specialty clinics to share best practices
- Collaboration with UCSF Primary Care Clinics to track actual patient transition to adult care

Lulu Tsao, Karen Anstey, Iris Otani  
 Allergy/Immunology  
 In collaboration with Roxanna Irani & the OB department

## Background

- 10-15% of patients in the US report a history of penicillin allergy (PA).
- At UCSF, over a 3-month-period, 182 patients seen in prenatal clinics had a documented PA.
- **Over 90% of patients with a PA label can tolerate penicillins.**
- **Penicillin antibiotics have a variety of first-line indications in pregnancy, including for Group B Strep prophylaxis.**
- **Unaddressed PA is associated with adverse outcomes in pregnancy,** including higher rates of C-section, post-caesarean wound complications, and adverse effects associated with alternative antibiotic use.

## Project Goals

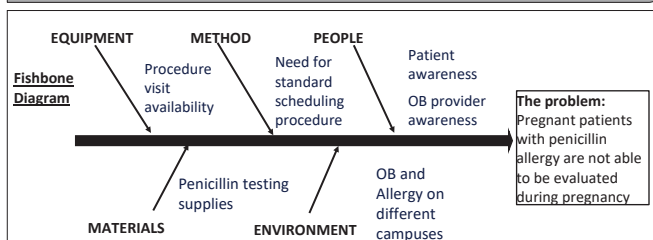
Prior to our project, there was no clear pathway for penicillin testing as part of routine obstetric care at UCSF. The recently developed Ambulatory Referral to Penicillin Testing Clinic combined evaluation by an allergist and penicillin testing into a single visit, but was not yet being used for prenatal patients.

**Target state:**  
**50% of obstetrics patients referred to Allergy Clinic for penicillin allergy will have their allergy appropriately evaluated and updated during pregnancy.**

**PROBLEM STATEMENT:** The problem we were trying to solve was the **lack of a streamlined pathway for timely evaluation of pregnant patients with penicillin allergies.** Penicillin allergy testing is safe in pregnancy and was recently endorsed by ACOG as “beneficial for all women who report a penicillin allergy, particularly those that are suggestive of being IgE-mediated, or of unknown severity, or both.”

**WE CREATED ACCESS TO PENICILLIN ALLERGY EVALUATION FOR PRENATAL PATIENTS BY IMPLEMENTING A NOVEL REFERRAL SYSTEM. WE EVALUATED 50% OF REFERRALS AND WERE ABLE TO REMOVE THE PENICILLIN ALLERGY LABEL IN >75% OF PREGNANT PATIENTS EVALUATED.**

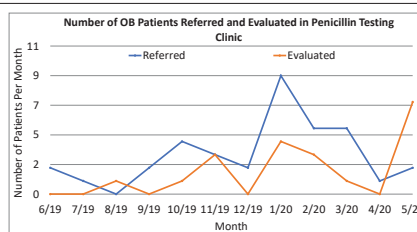
## Project Plan and Intervention(s)



### Interventions

- **Provider education:** Allergy fellow presentation on penicillin allergy during OB Operations meeting
- **Patient education:** after-visit summary about penicillin allergy for OB visits
- **Improved access:**
  - Triage referrals by estimated delivery date (EDD) to evaluate pregnant patients more quickly
  - Dedicated penicillin testing clinic
- **Pre-visit communication:** penicillin allergy handout sent via MyChart

## Project Evaluation & Impact

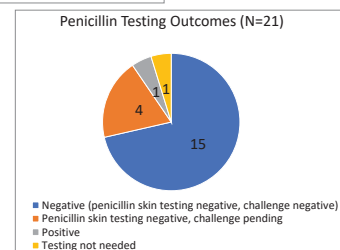


Of 42 patients referred between June 2019 and May 2020, 21 were evaluated (50%).

Median time to evaluation was 28 days.

Penicillin allergy evaluation involves penicillin skin testing and amoxicillin challenge.

16 of 21 patients had their penicillin allergy label removed (15 with negative skin testing and challenge, 1 where testing was not needed.)



## Next Steps, Dissemination & Lessons Learned

### Next Steps:

- **Patient education:** we are developing a handout on penicillin allergy for the prenatal booklet given to all pregnant patients.
- **Improved access:** we are working on scheduling decision trees for referrals and sending a pre-visit penicillin allergy questionnaire for patients.

### Lessons Learned:

- **Multidisciplinary collaboration** was crucial to generating awareness among OB providers and increasing referrals of pregnant patients.
- It was important to specifically **address safety concerns** for patients and their babies in our education materials, and to be flexible in our evaluation algorithm of pregnant patients depending on trimester.



Project Leads: Aleksandras Cizas, MD & Danielle Laufer, MD  
 Faculty Coach: Linda Liu, MD  
 Team Members: ICU fellows, ICU nurses, ICU NPs  
 Programs: Anesthesia Critical Care Medicine Fellowship

## Background

End of life care is a critical time in ICU care. As ICU doctors, it is our job to make this often stressful and emotional time run as smoothly as possible. Transitioning to comfort care is not always straight forward either, especially when patients are dependent on multiple life-sustaining interventions. Nevertheless, we are trained to make this transition with the patient's and family's comfort as our main priority. Given this, in the past few years we have tried to implement a "comfort care huddle" at the bedside prior to initiating comfort care for a dying patient. The purpose of this huddle is to bring together multiple members of the treatment team: ICU nurse, ICU provider, primary team provider, palliative care team, spiritual care, and respiratory therapist to review a checklist and solidify a plan before transitioning to comfort care. This huddle was not always happening, and if it was, it was often not documented.

## Project Goals

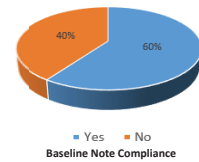
Prior to initiating our project, of the patients transitioning to comfort care in the ML + MB Adult ICUs, only 59.6% had a documented comfort care huddle note in their chart.

Comfort care huddle note compliance =

$$\frac{\# \text{ pts with comfort care huddle notes}}{\# \text{ pts with comfort care initiation in the ICU}} \times 100$$

Therefore, we set a goal of a relative 10% increase to 66% cumulative (9 month) compliance in comfort care huddle documentation.

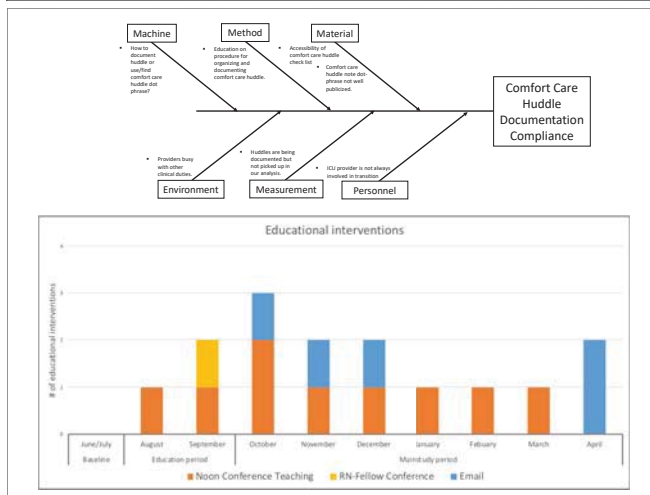
Comfort Care Huddle Documented?



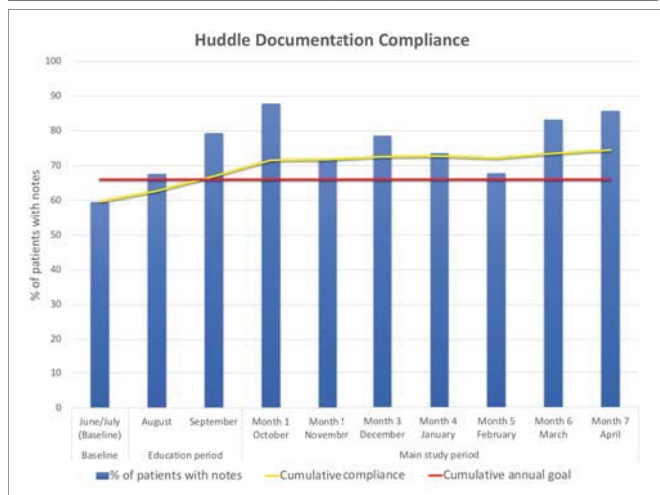
**PROBLEM STATEMENT:** In June/July 2019, only 59.6% of the patients transitioning to comfort care in the ML + MB Adult ICUs had a documented comfort care huddle note. Standardized comfort care huddles allow the care team to create a personalized plan for the transition to comfort care. Without a detailed and agreed-upon care plan, our patients are exposed to a risk of discomfort and their families may experience emotional trauma and difficult bereavement.

# WE IMPROVED DOCUMENTATION OF COMFORT CARE HUDDLES IN UCSF Adults ICUs FROM 59.6% TO A CUMULATIVE 74.5% FROM AUGUST 2019 TO APRIL 2020

## Project Plan and Intervention(s)



## Project Evaluation & Impact



## Next Steps, Dissemination & Lessons Learned

**Next Steps:** We hope to continue the comfort care huddle process for years to come. Although we will graduate from fellowship, our project will live on through the Critical Care Nurse Practitioner (NP) group who continues to be present in many of the ICUs. Additionally, some of our education and reminder tools will be continued in future years. For example, we have edited the comfort care huddle checklist (right) to include a reminder about documenting the huddle.

**Lessons Learned:** Our project would not have been so successful without the teamwork of a multidisciplinary group of ICU nurses, NPs, RTs, residents, and fellows. When working together, we can provide outstanding care to our patients and families especially during emotional and stressful times such as end-of-life care.

**Checklist for Comfort Care - 400 words (October 2019) (10/19)**

Item	Completed
1. Have the patient's goals of care been discussed with the patient and family?	
2. Have the patient's goals of care been documented in the chart?	
3. Have the patient's goals of care been discussed with the ICU nurse and respiratory therapist?	
4. Have the patient's goals of care been discussed with the palliative care team?	
5. Have the patient's goals of care been discussed with the spiritual care team?	
6. Have the patient's goals of care been discussed with the pharmacist?	
7. Have the patient's goals of care been discussed with the social worker?	
8. Have the patient's goals of care been discussed with the chaplain?	
9. Have the patient's goals of care been discussed with the dietitian?	
10. Have the patient's goals of care been discussed with the physical therapist?	
11. Have the patient's goals of care been discussed with the occupational therapist?	
12. Have the patient's goals of care been discussed with the speech therapist?	
13. Have the patient's goals of care been discussed with the music therapist?	
14. Have the patient's goals of care been discussed with the art therapist?	
15. Have the patient's goals of care been discussed with the recreation therapist?	
16. Have the patient's goals of care been discussed with the occupational therapist?	
17. Have the patient's goals of care been discussed with the physical therapist?	
18. Have the patient's goals of care been discussed with the occupational therapist?	
19. Have the patient's goals of care been discussed with the physical therapist?	
20. Have the patient's goals of care been discussed with the occupational therapist?	

# Improving Rates of Perioperative Multimodal, Non-Opioid Analgesia in the Peri-operative Period

**Project Leads:** Genevieve Manahan (PGY-3), Anthony Little (PGY-3), **Faculty Advisors:** Dr. Linda Liu, Dr. Andrea Olmos  
**Team Members:** Hai Pham, Man-Cheung Lee, Shikha Sharma, Kaveh Hemanti, Michelle Wang, Christine Choi, Russell-Romano-Kelly, Adam Daoud-Gray, Jonathan Kim, Stephanie Gilbert  
**Programs:** Anesthesiology

## Background

- As anesthesia providers we can impact pre-operative and intra-operative pain management. The use of multimodal analgesia focuses on reduction of pain through non-opioid mechanisms that affect nociceptive pathways.
- While the exact downstream effects of reduced intra-operative opioid administration on the current opioid epidemic remain unstudied, it is clear that a reduction in perioperative opioid use decreases perioperative opioid side effects and post-operative opioid use.
- Thus, our project is specifically targeting the UCSF True North Pillar of reducing harm.

## Project Goals

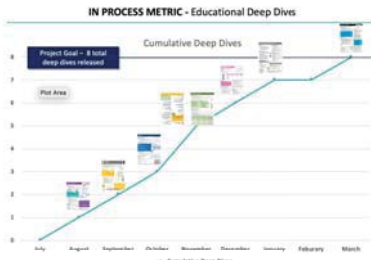
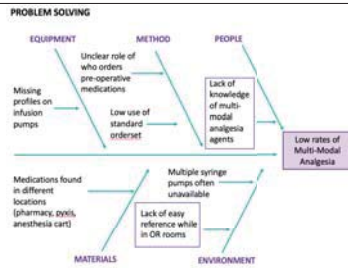
- Based on the initial data collected over 2019-2020 for surgeries meeting our criteria, approximately 52% out of a total of over 10,000 cases involved use of at least 2 non-opioid analgesics.
- Our target state is a cumulative 10% increase over 12 month, for a final use percentage of at least 62%.

**PROBLEM STATEMENT:** Our primary problem was a low use of non-multimodal analgesia by anesthesia providers in the per-operative period.

# WE IMPROVED USE OF MULTIMODAL ANALGESIA BY 15% AND IMPROVED PROVIDER EDUCATION REGARDING NON-OPIOID PAIN MANGEMENT IN THE PERI-OPERATIVE PERIOD

## Project Plan and Intervention(s)

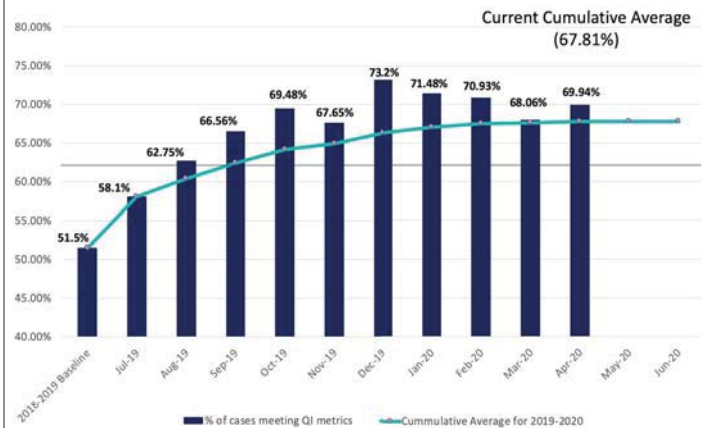
- Our initial problem solving tactic identified multiple areas for improvement.
- While we ultimately addressed all of these issues, we primarily focused on both the PEOPLE and ENVIRONMENT.



- We hypothesized that concentrating our efforts on education and reinforcement of that education with easy-to-access reference cards, discussions at our department meetings, and email reminders would increase our rates of multi-modal analgesia the most.

## Project Evaluation & Impact

2019-2020 Resident QI Project: Increasing Rates of Multi-Modal Analgesia



## Next Steps, Dissemination & Lessons Learned

### Next Steps:

Our next steps include completing our analysis of the data for the final months of AY 19-20. As more data emerges about these new multi-modal interventions, we plan to continue updating our "deep dive" references, and have them stored on our residency wide box folder for incoming classes to access. Over the course of the year, we have seen how important reducing opioid use pre-operatively is, and future ideas include adapting some of these therapies in conjunction with our surgical colleagues for post-operative pain control.

### Lessons Learned:

Our most unexpected challenge with this project was certainly the rapid changes we had to make in response to COVID-19. In March, our anesthesia case volume was reduced by 50%, and many of the pathways our elective patients usually follow were altered. However, despite these changes, our department continued to think about multi-modal analgesia use and our percentage of use remained higher than baseline. We learned an important lesson about continuing to strive for improvement, despite difficult circumstances.



## Background

Cardiology performs transesophageal echocardiograms with either moderate procedural sedation supervised by the cardiologist or with monitored anesthesia care under the supervision of anesthesiologists. In spring of 2019, we had a near miss where a patient nearly had a cardiac arrest in the setting of a TEE performed in the operating room with anesthesia support. We nearly did the procedure with moderate sedation, and we presented the case at our first cardiology morbidity & mortality conference. Cardiology fellows are responsible for assessing patients, but we did not have formal training to assess patients nor a formal system for documenting our assessment.

## Project Goals

Increase the documentation for inpatients undergoing transesophageal echocardiogram performed by cardiology (ie not by anesthesia for perioperative management) assessed for appropriate procedural sedation from 0% as of July 2019 to >50% by June 2020.

**PROBLEM STATEMENT:** The problem we were trying to solve was a lack of standardized sedation assessment and documentation, which in turn could result in adverse events such as our near miss if patients are not triaged to the appropriate level of sedation.

**WE IMPROVED TEE SEDATION ASSESSMENT DOCUMENTATION FROM 0% TO 100% IN 3 MONTHS, WITH 100% OF CARDIOLOGY FELLOWS PARTICIPATING.**

### Sedation Assessment

#### IF PATIENT HAS

- Airway issues  
 hypoxia (>2L NC)  
 orthopnea  
 severe OSA  
 severe asthma/COPD  
 difficult airway
- Hypotension
- Severe right heart dysfunction/pulmonary hypertension
- Lack of patient cooperation
- Low pain tolerance or active opioid/benzodiazepine/alcohol abuse
- Lengthy procedure planned or anticipated



And is not already intubated in an ICU

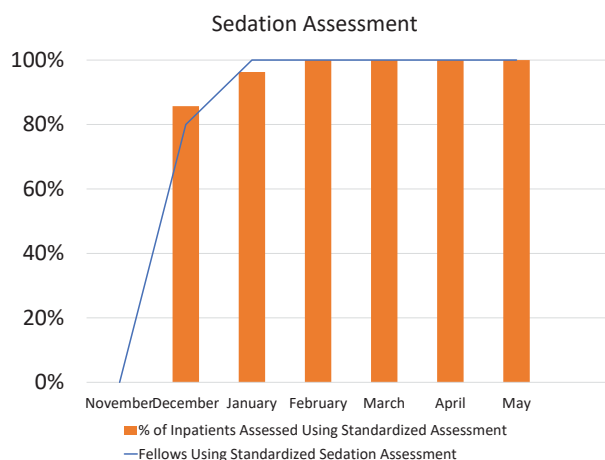
**CONSIDER ANESTHESIA**

\*Can still discuss with attending if think moderate sedation may still be appropriate  
 Please use **TEENOTE** to get credit for Cardiology Housestaff Incentive Project!

## Project Plan and Intervention(s)

- Lack of educational curriculum about assessment for sedation
  - Creation of new core curriculum lecture
  - Educational posters
- Lack of standardized sedation assessment
  - Training in sedation assessment with echocardiography fellows teaching first year core fellows during their echo rotations
  - Posters to reinforce standardized approach
- Lack of documentation of assessment of sedation
  - Creation of dot-phrase for standardized documentation, which the fellows felt improved daily workflow
- Lack of ability to track sedation assessment
  - Requested creation of Apex Report through IT (still pending)
  - Delays in Apex Report catalyzed increased collaboration with NPs to collect monthly data
- Variation across sites
  - Implemented same assessment and dot phrase at Zuckerberg San Francisco General

## Project Evaluation & Impact



## Next Steps, Dissemination & Lessons Learned

### Next Steps:

We plan to expand this project to the cardiac catheterization laboratory, which has a much higher volume of procedures compared to the number of transesophageal echocardiograms performed.

### Lessons Learned:

Working with the multidisciplinary leadership team to find synergies with existing priorities and projects helped our project mesh with the ongoing quality improvement work within noninvasive cardiology.

## Background

One of UCSF's Quality and Safety True North goals is to Achieve Zero Harm. For the psychiatric ambulatory services, timely responses to critical lab values, patient questions or concerns, and medication refill requests are one important facet to minimizing harm (e.g., harm caused by missed lab values, worsening of symptoms, adverse effects, or iatrogenic lapses in medication adherence).

For example, in FY19, adult psychiatry residents received 14,707 InBasket Pt Advice Requests, Rx Requests, Telephone Encounters, and Lab Results. **31% were not addressed within 3 days, and 25% not within 10 days.** Patient-initiated refill requests took an unacceptable average 10.5 days to address.

## Project Goals

The UCSF Medical Center goal is 90% of InBasket messages are completed within 3 business days.

After determining each of our clinical programs' baselines, FY20 goals for percentage of InBasket messages completed in 3 business days were developed and are shown in the chart to the right.

Clinical Program	FY19 Baseline	FY20 Goal
Resident Clinics	68.5%	80.0%
All Adult Outpatient	78.5%	85.0%
All Child Outpatient	61.9%	75.0%
Partial Hospital Program	21.0%	60.0%

**PROBLEM STATEMENT:** At the UCSF Langley Porter Psychiatric Hospital and Clinics, delays in responding to InBasket messages leads to delays in patient care.

## WE SIGNIFICANTLY REDUCED THE TIME TAKEN TO ADDRESS PATIENT ADVICE REQUESTS, TELEPHONE CALLS, MEDICATION REFILL REQUESTS, AND LAB RESULTS.

Administrative and clinical support staff spent less time generating unnecessary InBasket messages, clinicians were required to review fewer InBasket messages overall, and the average time taken to resolve InBasket messages was reduced.

## Project Plan and Intervention(s)

We convened a monthly meeting inviting representation from all relevant stakeholders: adult psychiatry residents, child psychiatry fellows, psychiatry faculty, medical assistants, nursing leadership, outpatient clinic coordinators, scheduling administrators, front desk staff, and quality improvement specialists.

We began with **value-stream mapping** to ascertain how each category of InBasket message moves from being created through being resolved. Stakeholders identified where along the value-stream they interfaced with the InBasket message and we identified areas of inefficiency, including dead-ends where some messages would never be resolved (e.g., a clinician leaving the department). We engaged in **genba walks** to see how different disciplines encountered confusion or inefficiencies. These included meeting with scheduling center staff as they routed telephone encounters, medical assistants as they routed refill requests, and meeting with clinicians who were identified as particularly poor performers, to discover what obstacles they encountered.

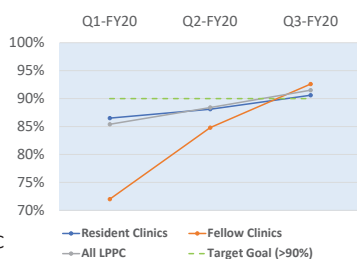
Major root causes uncovered included the **unnecessary creation of Telephone Encounters by scheduling staff**, this workflow was altered to shift to "Staff Messages" on a need-to-know basis only. Another was a **lack of education of clinicians on InBasket best practices** including how to "Done" and "Complete" messages: many clinicians were fearful of completing messages in case they could not retrieve or reference them again; this was corrected by developing an APeX Tip Sheet. Another identified cumbersome workflow had **clinic coordinators defaulting to routing all lab results, abnormal or not, including those ordered by other departments, to psychiatrists**; at the next academic transfer the default will be that no external results will be forwarded. By eliminating many unnecessary InBasket messages, the total number of messages to respond to was decreased, and we hypothesized this should improve response rate for all messages.

## Project Evaluation & Impact

We engaged in **monthly plan-do-check-act (PDCA) cycles** as we made adjustments to our workflows to address each root cause as it was uncovered.

A run chart tracking quarterly performance is displayed (right). By Q3-FY20, the adult psychiatry residents, and child psychiatry fellows, as well as the entire LPPC InBasket response rates **have met the UCSF Medical Center goal of 90% InBasket messages completed within 3 business days.**

For the FY20 year-to-date each individual clinical program has **also met its cumulative year goals** and is displayed (right).



Clinical Program	FY20 YTD	FY20 Goal
Resident Clinics	90.6%	80.0%
All Adult Outpatient	88.6%	85.0%
All Child Outpatient	84.5%	75.0%
Partial Hospital Program	67.5%	60.0%

## Next Steps, Dissemination & Lessons Learned

**NEXT STEPS:** Despite our department meeting its overall goals, **some individual clinicians showed minimal or no improvement in their response times.** It is possible that patient harms could come if we are blinded by the overall improvement numbers; and these individual InBaskets not reviewed. Another consideration is that new clinicians join our department regularly including residents every academic year. A PDCA cycle to test a standardized on-boarding process, might prevent our progress from eroding over time. Publically publishing APeX dashboards so that clinicians can compare their performance, or using monetary incentives may be another consideration. **Sharing our root cause analysis and workflows with other ambulatory clinics across UCSF may also help the entire health system meet this goal and reduce patient harms.** Other clinic teams might consider engaging in genba walks of our services to observe our workflows.

**LESSONS LEARNED:** As InBasket management is widely seen as a clinician task (i.e., ultimately, each message must be Done/Completed by a clinician) it was assumed by many stakeholders in our early meetings that penalizing clinicians would be the primary solution. Unhelpful discussion of data included statements like **"residents take too long to respond to messages"** when InBasket management is actually a task shared by the entire clinic. Changing our language with statements like **"InBasket messages are created and resolved in greater than 3 days"** helped all stakeholders appreciate a shared goal. By using **value-stream mapping**, we were able to identify the roles that many different stakeholders had in generating and resolving InBasket messages.

**Background**

Two wrong-site procedures occurred in our department between 2016 and 2018.

- Neither case used a biopsy-site photo for site identification.
- Evidence shows that photographs are key for correct surgical site identification in dermatology.

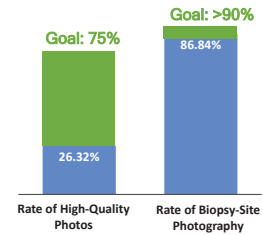
Our baseline rate of high-quality biopsy-site photos was only 26%--inadequate to prevent wrong-site procedures.

**Project Goals**

To prevent wrong-site surgery by improving the quality and the rate of biopsy-site photography.

Target conditions by June 2020:

- Increase the rate of high-quality photos from 26% to 75%
- Increase the rate of biopsy-site photography to >90%



**PROBLEM STATEMENT:** Inadequate biopsy-site photography rates and low-quality photos are resulting in wrong-site procedures.

**WE INCREASED THE RATE OF HIGH-QUALITY BIOPSY-SITE PHOTOS BY 50% AND HAD ZERO WRONG-SITE SURGERIES SINCE LAUNCHING BLSi.**

**Project Plan and Interventions**

We identified the following as causes of poor biopsy-site photography:

- Lack of guidelines regarding photography of biopsy sites
- Lack of knowledge and training about best practices
- Inaccessibility of necessary tools

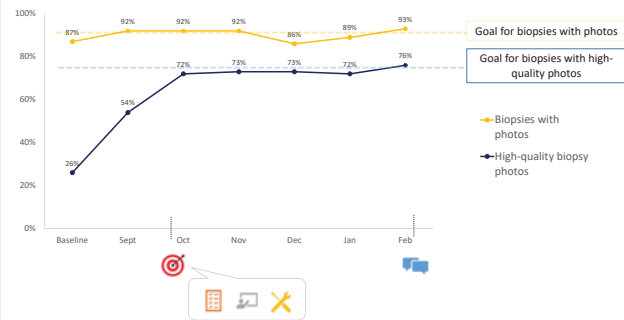
**INTERVENTIONS**

- Development of guidelines
- Teaching for clinicians and staff
- Education tools for clinic spaces
- Individualized feedback
- Eliminating barriers: pen placement



**Project Evaluation & Impact**

**Biopsy-Site Photography Performance**



Number of Wrong-Site Surgeries: 0

**Next Steps, Dissemination & Lessons Learned**

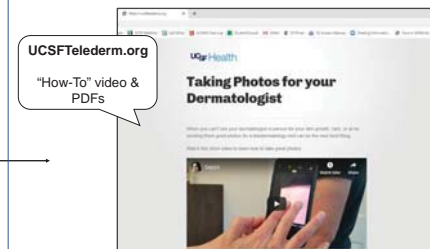
**Next Steps:**

- Expansion of BLSi to referring providers outside of UCSF
- Adaption of high-quality photo criteria to patient home photography to improve teledermatology during COVID via development of DePICT
- Broadening our impact via dissemination of resources under Creative Commons

**Lessons Learned:** Department wide buy-in is key for success

**DePICT**

Dermatology Photography Instructions Complementing Telemedicine



## Background

Hip fractures are frequently seen in the ED, especially within the geriatric population. The pain associated with these fractures, as well as the medications used to treat pain, are a primary cause of morbidity. When analgesics such as acetaminophen are insufficient, opiate medications are often utilized; however, opiates can lead to significant adverse effects such as nausea, constipation, respiratory depression, tolerance, and addiction.

**Regional anesthesia is an alternative pain management option for many patients with hip fractures and can help avoid many of the adverse effects of opiate pain medications.** One commonly used technique is the "Fascia Iliaca Block". In this approach, the nerves that supply sensation to the femoral neck are bathed in anesthetic to decrease pain. From February 2018 – February 2019, only 31% of eligible patients with hip fractures received a fascia iliaca nerve block.

## Project Goals

- **Current state:** From February 2018 - February 2019, 31% of the 111 hip fracture patients who were eligible received fascia iliaca nerve blocks.
- **Project Goal:** Increase the percentage of hip fracture eligible patients that receive fascia iliaca nerve blocks by 15% from June 2019-June 2020, for a total of 46% of fascia iliaca nerve blocks performed in eligible hip fracture patients.
- **Goal Tracking:** The goal will be tracked as one cumulative annual goal. Patients who are not eligible will not be counted toward the overall goal but will be reviewed to determine why they were not eligible.

### PROBLEM STATEMENT:

We are working to improve pain management in patients with hip fractures through the utilization of fascia iliaca nerve blocks for eligible patients with hip fractures.

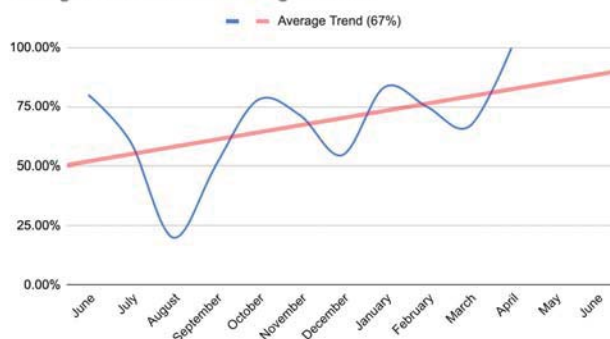
**We increased the utilization of fascia iliaca nerve blocks in eligible patients with hip fractures from 31% to 67%**

## Project Plan and Intervention(s)

- **EM QI Leads worked with** representatives from Orthopedics, Pain Management, and Anesthesia to determine an appropriate protocol.
- **EM Providers were trained** on how to screen hip fracture patients to determine eligibility, as well as how to perform the fascia iliaca block. Exclusion criteria to a fascia iliaca block included:
  - Patient refusal
  - Coagulopathy, Anticoagulant Use
  - Allergy to local anesthetic
  - Pre-existing peripheral neuropathy
  - Combative patient
  - Signs of overlying infection
- **Additional interventions included:**
  - Creation of flyers and quick-reference materials
  - Quarterly recognition of providers who performed the most nerve blocks
  - Development of a portable "Nerve Block Pack" with all supplies needed for the procedure (as well as quick-access reference materials)

## Project Evaluation & Impact

% Eligible Patients Receiving FI Block



Since the time of project implementation, there has been a steady increase in the percentage of eligible patients with a hip fracture receiving a fascia iliaca block (53 patients received a block of 79 eligible patients, increasing compliance to 67% from our baseline of 31%)

## Next Steps, Dissemination & Lessons Learned

### Next Steps:

- Reconvene with Orthopedics, Pain Management and Anesthesia to see how we can further refine the process
- Continue to train attending physicians to improve comfort with supervising the procedure
- Incorporate additional skills workshops into didactics and lab sessions

### Dissemination:

- All emergency providers

### Lessons Learned:

- It is important to maintain rapid PDSA cycles and respond quickly to roadblocks to maintain momentum.



Tejaswi Kompala, MD; Polly Fu, MD

Muriel Babey MD; Andrew Folick, MD PhD; Eileen Koh, MD; Paras Mehta, MD; Myat Soe, MD; Susan Shey, MD, Umesh

Masharani MD, Lawrence Fisher, PhD, Aaron Neinstein MD

UCSF Diabetes, Endocrinology, and Metabolism Fellowship

## Background

- Diabetes distress (DD) refers to the feelings of stress, worry, and fear related to living with diabetes, and is a commonly unrecognized experience.
- Although greater DD is modestly associated with higher hemoglobin A1c, DD is common even among patients with A1c at goal.
- Despite its prevalence, regular assessment for DD in clinical care is not standard.
- At UCSF Diabetes Center, we did not routinely assess for DD in our patients with type 1 diabetes (T1D). Our discussion of DD was ad hoc and typically only for patients with the most severe symptoms.

## Project Goals

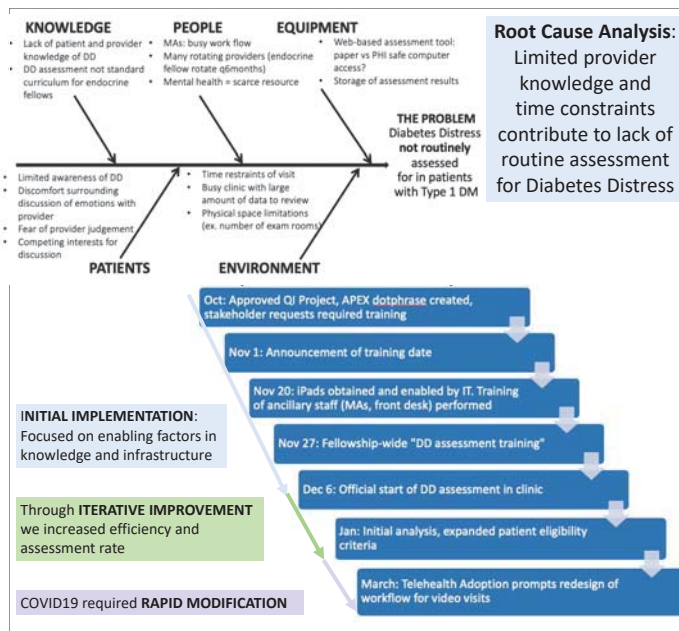
- Our aim is to assess for DD using the validated T1-Diabetes Distress Scale (T1-DDS) in patients with T1D who are seen at UCSF Diabetes Center Pump Clinic on Friday mornings.
- Our objective is to **assess for DD in at least 50% of patients with T1D** who attend this specific clinic. We aim to:
  - Develop workflows to integrate DD assessment in to standard previsit process
  - Train clinicians to conduct brief assessment and counseling
  - Measure and document completion of the scale within EHR

### PROBLEM STATEMENT

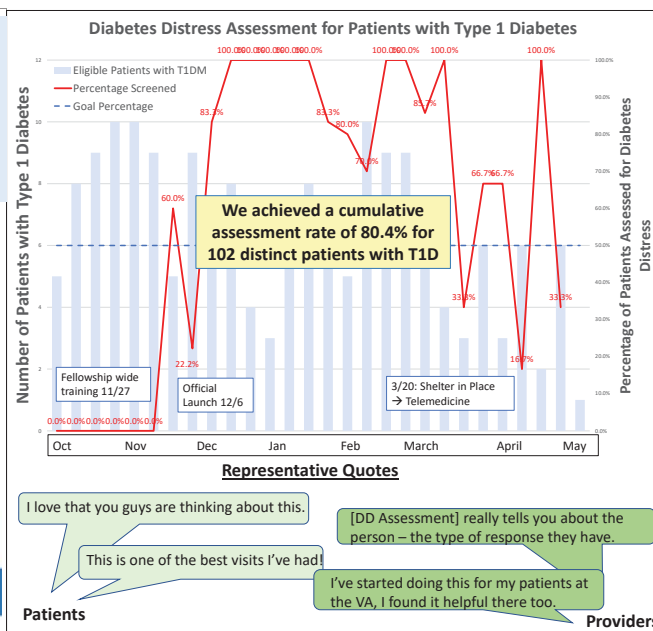
Diabetes distress (DD) is prevalent amongst patients with Type 1 Diabetes. Identification and management of DD leads to improved health outcomes. Yet, DD is underrecognized because assessment for DD is not routinely performed at UCSF Diabetes Center.

**WE ASSESSED FOR DIABETES DISTRESS IN 80% OF OUR PATIENTS WITH TYPE 1 DIABETES, IMPROVING OUR ABILITY TO PROVIDE HOLISTIC DIABETES CARE**

## Project Plan and Intervention(s)



## Project Evaluation & Impact



## Next Steps, Dissemination & Lessons Learned

### Next Steps:

- Introduce formalized curriculum on Diabetes Distress into fellowship orientation for upcoming academic year
- Offer updated training session to all fellows and interested faculty
- Expand routine assessment to additional clinic days

### Dissemination

- Locally, will share best practices with UCSF Pediatric Endocrinology and Diabetes in Pregnancy clinics
- Findings to be presented at American Diabetes Association national meeting

### Lessons Learned:

- Discussion of diabetes distress enriches patient and provider experience of clinic visit
- Patient identification for pre-visit planning can be time intensive; durable solutions for querying appropriate patients are needed
- Rapid transition to telehealth unmasked our dependence on in-person work flows. Successful pre-visit planning for virtual care visits hinges on a digitally supported patient and active patient outreach.

## Background & Baseline Data

- Background:** practice guidelines for esophageal varices follow-up are complex and variable among different gastroenterology and hepatology societies due to evolving data on the benefits of band ligation vs pharmacological therapy with non-selective beta blockers (NSBB)
  - The Association for the Study of Liver Disease (AASLD) and the American Society for Gastrointestinal Endoscopy (ASGE) have variable recommendations (Table 1)
  - In addition, there are variable practice/recommendations among gastroenterology and hepatology attendings and fellows
- Baseline Data:** among 2,363 esophagogastroduodenoscopies (EGD) performed in 2018, there was a total of 218 EGDs that demonstrated esophageal varices
  - Of those 218 EGDs, appropriate size documentation and/or endoscopic variceal ligation (EVL) was performed in 127 EGDs, however, only 63% (or 81 EGDs) had appropriate follow-up recommendations

Table 1. Esophageal Variceal Follow-up Guidelines

	AASLD	ASGE
<b>Variceal hemorrhage - secondary prophylaxis</b>		
Initial EGD	1-4 weeks	1-8 weeks
Follow up - not obliterated	1-4 weeks	1-8 weeks
Follow up - obliterated	1-3 months	3-6 months
<b>Medium/large varices - primary prophylaxis</b>		
Banding	2-8 weeks	1-8 weeks
No banding + beta blocker	None	-
Obliterated	1-3 months	1-3 months
<b>Small varices - primary prophylaxis</b>		
Compensated cirrhosis	1-2 years	1-2 years
Decompensated cirrhosis	1 year	1 year
Beta blocker	None	-
High-risk stigmata	-	1 year
<b>No varices</b>		
Compensated cirrhosis	2-3 years	2-3 years
Decompensated cirrhosis	1 year	1 year
Alcoholic cirrhosis	-	1 year

## Project Goals, Plan, & Interventions

- Goal** is to improve overall adherence with AASLD/ASGE guidelines for endoscopic follow-up of esophageal varices through several interventions:
  - Discuss/share recommendations from AASLD/ASGE Guidelines among fellows/attendings (Table 1)
  - Surveyed fellows/attendings to identify potential barriers in knowledge and implementation of recommended Guidelines
  - Construct clinical tool using automated template in EndoPro (endoscopy reporting software) for uniform evidence-based recommendations for follow-up and treatment initiation (Figure 1) via Quality Improvement flyer posted throughout Endoscopy Unit (Figure 2)
  - Less than 3 months for medium/large varices or EVL, or less than 2 years for small varices, or initiation of NSBB
- Target** adherence rate: 80% overall compliance for last three quarters of the academic year (October to June 2020)

Figure 1. EndoPro Documentation Template

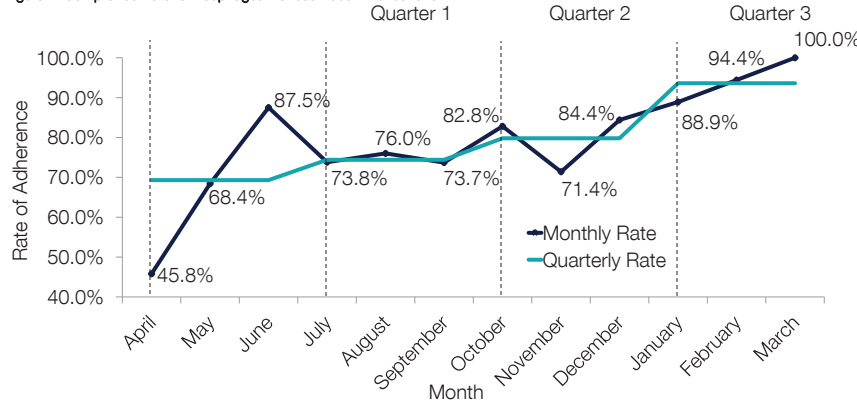


Figure 2. Quality Improvement Poster



## Project Evaluation & Impact

Figure 2. Compliance Rate of Esophageal Varices Recommendations



Month	Monthly Rate	Quarterly Rate
April	45.8%	69.3%
May	68.4%	69.3%
June	87.5%	69.3%
July	73.8%	74.4%
August	76.0%	74.4%
September	73.7%	74.4%
October	82.8%	79.8%
November	71.4%	79.8%
December	84.4%	79.8%
January	88.9%	93.6%
February	94.4%	93.6%
March*	100.0%	93.6%

- Improved overall rate of adherence to guideline directed recommendation for follow-up of esophageal varices, meeting target adherence rate of 80% (Figure 2)
  - \*Low number of EGD (n=11) during 3/2020 due to COVID-19

## Lessons Learned & Next Steps

- Lessons Learned:**
  - The majority of EGDs with esophageal varices are conducted by a subset of attendings and fellows within the division, mainly transplant hepatology attendings and fellows, thus, the success of this project may be disproportionately impacted
  - Emergent cases performed in the inpatient setting are often marked as non-compliant due to different EndoPro templates used along with recommendation(s) dependent on the overall clinical course
- Next Steps:**
  - Conduct post-intervention survey
  - Evaluate implementation of recommended follow-up interval
  - Recruitment of incoming first-year gastroenterology fellows for the next phase of the project

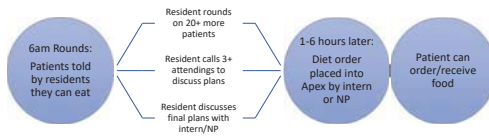
## Acknowledgement

- Bilal Hameed** (Divisional Coach, Division of Hepatology)
- Aparajita Singh** (Medical Director of Quality and Safety, Division of Gastroenterology)
- Jonathan Lee** (Faculty Coaching, Division of General Internal Medicine)





**Background**



- Potential Problems:
- Patient dissatisfaction
  - Delays in discharge

**Project Goals**

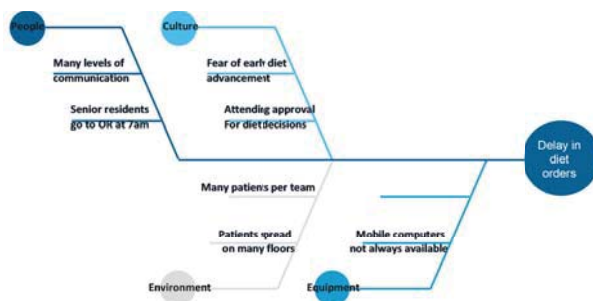
**Current state:**  
 On average only 29% of diet advancement orders were placed before 8am on the colorectal surgery from Jul 2018-Jun 2019.

**Goal:**  
 Improvement by 10% (from the same quarter of the previous year) in the # of diet orders placed before 8am on the colorectal surgery service by January 2020.

**PROBLEM STATEMENT:** Due to the current structure of rounding, formalizing plans, communicating with the team, and placing orders, the time between morning rounds and the order for diet advancement is too long, likely reducing patient satisfaction.

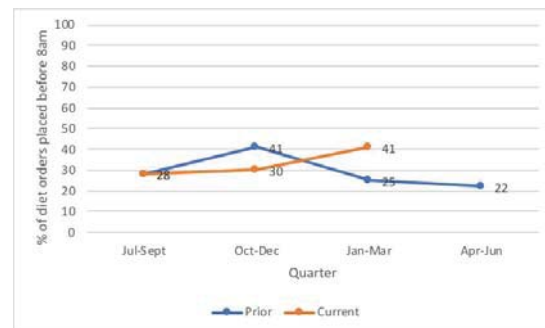
**WE INCREASED THE # OF DIET ORDERS PLACED BEFORE 8 AM BY 13% ON THE COLORECTAL SURGERY SERVICE**

**Project Plan and Intervention(s)**



- Interventions:**
- Attending support for resident decision making on diet advancement (in appropriate scenarios)
  - Round with mobile computer
  - Bi-monthly communication with residents on colorectal surgery service re goals and progress
  - Collaboration with service advance practice providers

**Project Evaluation & Impact**



**Next Steps, Dissemination & Lessons Learned**

- Next Steps:**
- Continue resident education and feedback
  - Utilize already created Tableau Dashboard
  - Expand to additional surgical (and non-surgical) services

- Lessons Learned:**
- Culture changes are challenging and faculty buy in is critical
  - Understanding root causes will help ensure goals are attainable/within resident control



**Background**

The NCCN recommendation is for patients with ANY type of ovarian/peritoneal/fallopian tube cancer (grouped as ovarian cancer for this poster) to have germline genetic testing

- Knowing if a patient has a germline mutation can
  - lead to improved/targeted treatment
  - screening and prevention for other malignancies
  - counseling at risk family members

Despite the NCCN recommendations, germline genetic testing for patients with ovarian cancer remains low, <70% at UCSF  
 \*\*\* Discuss TNB, I forget which pillar we put it under.

**Project Goals**

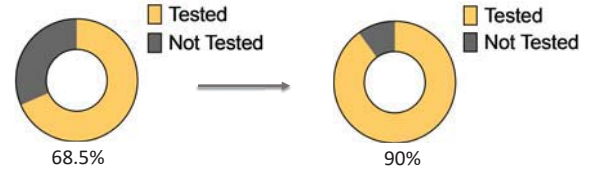
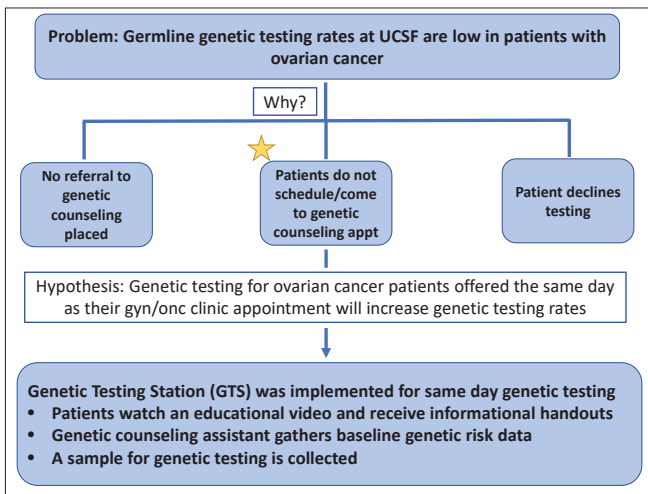


Figure 1: Our goal is to improve germline genetic testing rates for patients with ovarian cancer to 90%

**PROBLEM STATEMENT:** The problem we are trying to solve is low germline genetic testing rates in our ovarian cancer patients

**WE INCREASED GERMLINE GENETIC TESTING RATES BY 10% WITH THE IMPLEMENTATION OF A SAME DAY GENETIC TESTING STATION**

**Project Plan and Intervention(s)**



**Project Evaluation & Impact**

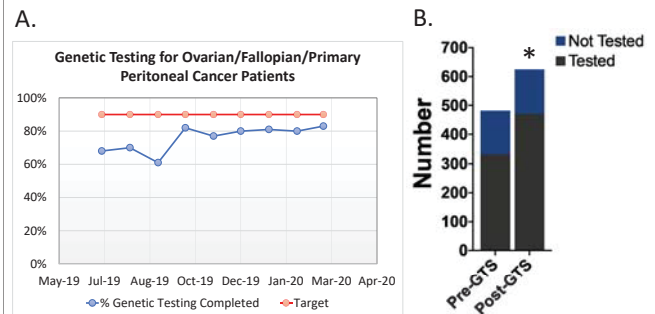


Figure 2. Genetic testing rates for patients with ovarian cancer increased after implementation of the GTS (A) Genetic testing rates of ovarian cancer patients increased over quarter 1 to 3 of the 2019 to 2020 REFLECT period (B) Overall genetic testing rates increased following the implementation of the GTS when comparing the pre-GTS (Nov 2017 to Nov 2018) to the post-GTS (Dec 2018 to March 2020) time periods (68.5% and 75.4%, respectively; \*p = .01)

**Next Steps, Dissemination & Lessons Learned**

**Next Steps:**

- Evaluate data to determine other barriers that exist (e.g. language, race, socioeconomic status)
- We have requested a best practice alert (BPA) pop-up to be created in APEX to remind providers to refer patients for genetic testing
- Same day genetic testing could be expanded to patients who are found to be high-risk for other cancer types based on family history, current malignancy, or pathologic markers found at time of biopsy or surgery (such as mismatch repair protein deficiency in uterine or colon cancer)

**Lessons Learned:**

We learned frequent education of faculty, trainees and staff is necessary. Our challenges included patients being unable to find the GTS, no referral to the GTS placed by a physician, and a GTS appt not being created by clinic staff. This education allowed us to have increased rates of > 80% of patients being tested in Q3

# Improving Performance Status Documentation among Hematology-Oncology Patients

## Background

- Oncology providers do not consistently calculate or document performance status (PS) for their patients in a structured manner.
- Poor PS is a strong predictor of treatment-related toxicity.
- The American Society of Clinical Oncology lists the avoidance of chemotherapy administration to cancer patients without documented PS as a 'Top 5' QI priority for oncology practices.
- True North values within UCSF Patient Experience and Learning Health System Pillars are affected by (1) failure to clearly incorporate PS into clinical decision-making and (2) to document PS in a standardized, structured format amenable to extraction for research purposes

## Project Goals

### Goal statement:

- Between 12/2019 and 6/2020, UCSF hematology/oncology fellows will assess and document performance status (PS) at least 50% of the time for new patient visits (NPVs) seen in person.
  - Cumulative goal: 50% (near two-fold increase from Dec-19 baseline rate of 27%)

### Process measure:

- # of project-specific reminder emails to fellows per month

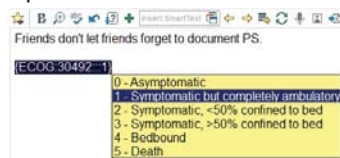
### PROBLEM STATEMENT:

UCSF hematology / oncology fellows failed to document PS in a quarter of their new patients evaluated in February 2019. Despite development of a PS documentation tool, PS was documented in a structured format amenable to data extraction and research utilization 27% of the time as of December 2019. PS is an important predictor of treatment-related toxicity, and structured PS documentation is important for patient care and clinical research.

# WE DOUBLED OUR RATE OF STRUCTURED PERFORMANCE STATUS DOCUMENTATION FOR NEW HEMATOLOGY ONCOLOGY PATIENT VISITS

## Project Plan and Intervention(s)

### Development of a standardized PS smart data element (SDE) tool:



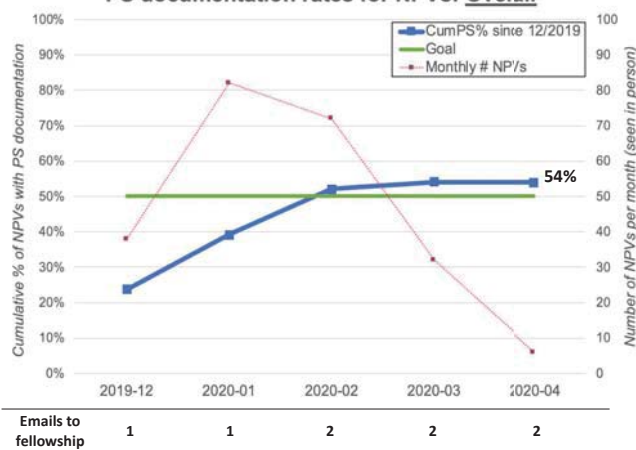
### Adoption and establishment of structured PS documentation as a priority for hematology/oncology clinics:

- Promotional flyers placed within clinic workrooms
- Biweekly email communication with outpatient fellows to remind them to complete PS documentation
- Individual feedback emails to low and high performers
- In-person discussion of the project, challenges, and future directions during fellowship-wide round-table meetings.
- Division wide email communication (faculty, APPs, and scribes) promoting and discussing project goals.
- Ongoing:
  - In-person discussion of the project at disease-specific site committees.



## Project Evaluation & Impact

### PS documentation rates for NPVs: Overall



## Next Steps, Dissemination & Lessons Learned

### Next Steps:

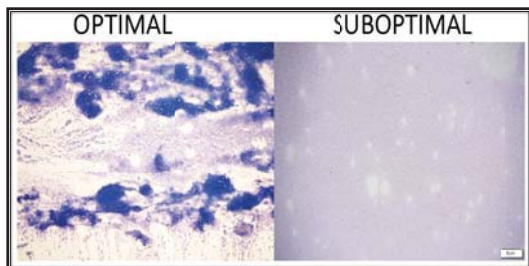
- Division-wide reporting and discussion of disease specific clinic performance and in-person discussion at site committee meetings.
- Ongoing fellow engagement and feedback to low and high performers.
- Integration of incoming fellows and video-based visits.

### Lessons Learned:

- Promotional flyers have transient effects in fellow engagement, frequent communication and email reminders led to increased engagement.
- Challenges with accurate data gathering and reporting.
- External challenges and barriers have a significant impact in fellow engagement and bandwidth to proactively participate in *non-essential* initiatives:
  - Relocation of oncology practices to the new UCSF Bakar Precision Cancer Medicine Building.
  - Dramatic decrease in new patient visits and number of patients seen by fellows during the COVID-19 pandemic.

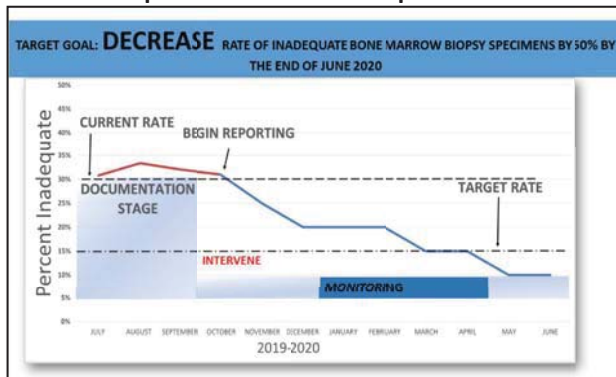
**Background**

- Inadequate bone marrow biopsies impact quality of care rendered by Hematology and Hematopathology providers (delayed care/inaccurate diagnosis, excess cost)
- The true rate of inadequate bone marrow biopsies at UCSF has not been formally assessed



**Project Goals**

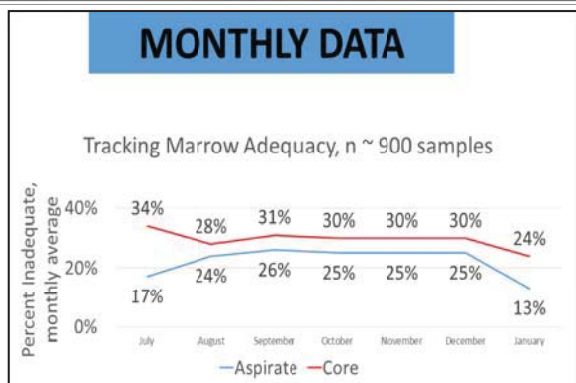
- The Departments of Hematology and Hematopathology agreed to measure frequency of and factors associated with inadequate bone marrow biopsies



**PROBLEM STATEMENT: WE SOUGHT TO DECREASE THE RATE OF INDEQUATE BONE MARROW BIOPSIES BY 50% OVER THE ACADEMIC YEAR 2020**

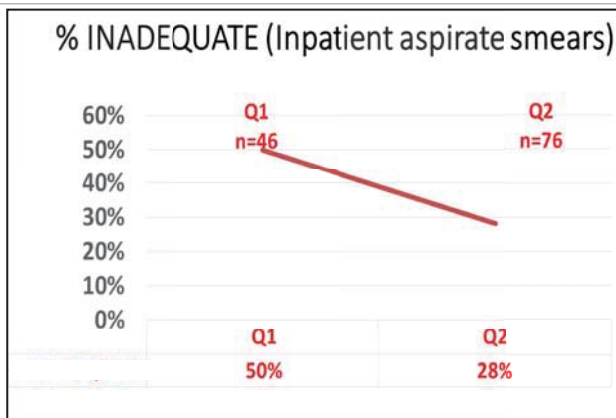
**WE IMPLEMENTED A SYSTEM TO MONITOR ADEQUACY OF BONE MARROW BIOPSIES AND SHARED OUR FINDINGS WITH HEMATOLOGY PROVIDERS: INADEQUATE BIOPSIES (INPATIENTS) DECREASED BY 50% FROM Q1 TO Q2 OF 2019**

**Project Plan and Intervention(s)**



- Baseline: ~25-30% inadequate (50% of inpatient aspirates)
- Adequacy data shared with Hematology providers
- Adequacy criteria shared as a supportive educational guide
- Inadequacy rates measured to assess changes in real time

**Project Evaluation & Impact**



- Inpatients had the highest initial inadequacy rate (~50%) and decreased to 28% in Q2
- This change may partly reflect effect of sharing adequacy data and adequacy criteria

**Next Steps, Dissemination & Lessons Learned**

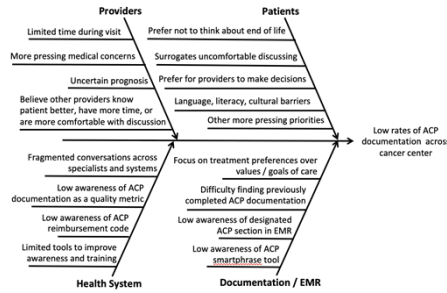
**Next Steps:** Intermittent monitoring of inadequacy rate to determine if changes are sustained; A cost analysis may be performed to assess the financial impact of inadequate biopsies

**Lessons Learned:** Data sharing between departments was a useful tactic to identify possible approaches to improve adequacy of bone marrow biopsies.



## Background

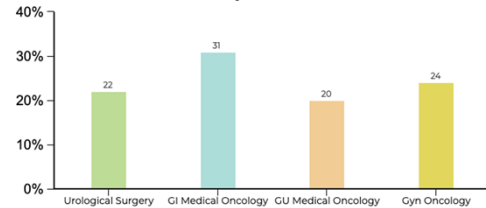
Advance care planning helps adults understand and share their personal values, goals, and preferences regarding future medical care. The ACP navigator in APEX includes a dot phrase to simplify provider documentation. Overall ACP documentation remains low in our outpatient cancer center, and varies significantly between clinics. We analyzed organizational root causes, constraints and barriers to use of the ACP navigator in the cancer center to inform pilot programs to test strategies to improve ACP documentation.



## Project Goals

### Our Starting Point

Clinically Meaningful ACP Documentation May 2019

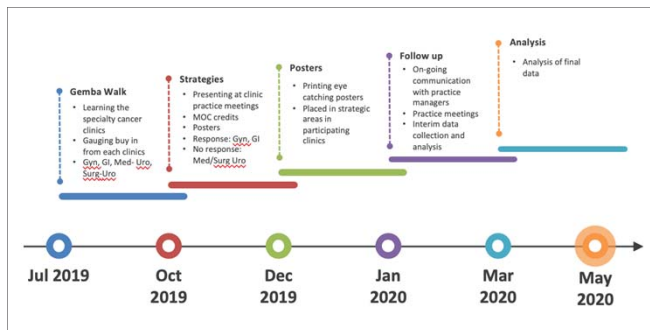


Primary goal: increase overall rate of ACP documentation by 20% over baseline by May 2020  
 Reach goal: increase overall rate of ACP documentation by 30% over baseline by May 2020

**PROBLEM STATEMENT:** Rates for clinically meaningful ACP documentation across the Mission Bay cancer center SMS and specialty oncology clinics are low and may negatively impact measures for patient satisfaction with care, quality of life, and delivery of medical care aligned with patients' wishes.

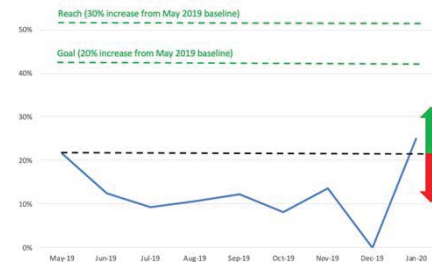
## PARTNERED WITH SPECIALTY ONCOLOGY CLINICS TO DEVELOP RELEVANT TRACKING METRICS AND TARGETED PRACTICE-SPECIFIC INTERVENTIONS.

## Project Plan and Intervention(s)



## Project Evaluation & Impact

Changes in data collection limited our ability to track meaningful change over the duration of the project, but trends were positive.



## Next Steps, Dissemination & Lessons Learned

### Next Steps:

- Tracking and dissemination of Advance Care Planning Navigator usage data allowing comparison at provider and practice levels

### Lessons Learned:

- Challenge of effecting and measuring change across multiple stakeholders in organization
- Benefit of using multiple interventions tailored to individual stakeholder needs
- Value of data individualized by provider (rather than just practice) to allow comparison with practice averages

**Background**

- **Advanced care planning (ACP)** discussions ensure that the care patients receive is aligned with their goals.
- Nationally, **only 34%** of patients with serious illness leave the hospital with ACP clearly documented.
- UCSF's Apex EHR features the **ACP Navigator**, which makes it easy to identify ACP notes from the patient chart (*example on right*).

Bozo, F Test  
 Legal: Anybody Test  
 Female, 50 y.o., 1/1/1970  
 MRN: 43276859  
 Preferred Language: English  
 AD, POLST: Click to View, No  
 ACP Notes: Yes

**Project Goals**

UCSF inpatient providers documented ACP in the ACP Navigator for **only 15%** of patients age ≥ 75 or with advanced illness.

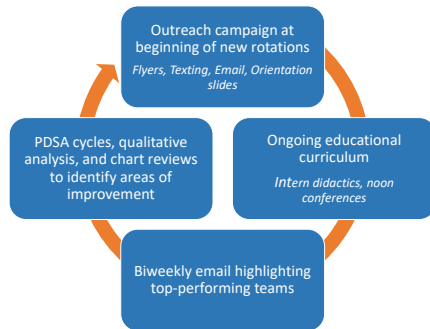
***Our goal was to raise ACP documentation to 50% within 12 months.***

**Problem Statement:** Patients are at risk for goal-discordant care when ACP discussions are not documented and readily accessible in the electronic health record.

**By March 2020, we quadrupled ACP documentation rates to over 60% among admitted patients with advanced age or illness.**

**Project Plan and Intervention**

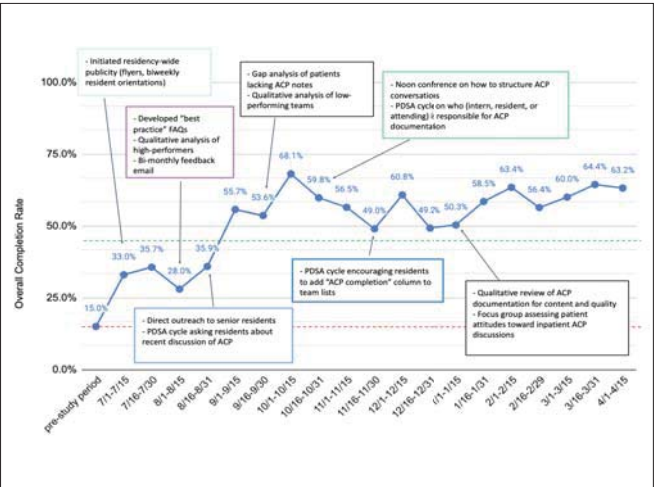
Our intervention was iterative, with the following recurring elements:



**Challenges:**

- Residents change every month and rotate at three sites with different documentation
- Lack of familiarity with ACP Navigator in Apex

**Project Evaluation & Impact**



**Next Steps, Dissemination & Lessons Learned**

**Lessons Learned:**

- Residents are having ACP conversations frequently, but competing clerical demands can reduce the rate of documentation
- Direct subspecialty admits and young chemotherapy patients had lower rates of ACP completion
- Complex teams can create a diffusion of responsibility, which can be solved by explicitly assigning roles for essential tasks like ACP documentation

**Next Steps:**

- Promote the use of the ACP Navigator to quickly locate goals of care, code status, and other ACP documentation
- Encourage ACP documentation across specialties
- Revise ACP resources available to residents, such as AgileMD
- Collaborate with the Department of Palliative Care to educate residents about strategies for difficult conversations during quarterly lunch lectures



## Background

When a patient has a miscarriage or a stillbirth, genetic testing of the products of conception (POCs) can be helpful for patients in providing closure and in counseling about recurrence risk. If there are issues with collecting these genetic tests, the patient has no other chance to get this information. Patients may also have genetic testing on cord blood at the time of delivery of a baby with a suspected underlying genetic condition. Testing the cord blood allows for genetic testing to begin as soon as possible, as the baby may be diagnosed with a condition that may change management. Further, testing the cord blood prevents a potentially unnecessary needle stick to the baby. Time can also be of the essence in certain genetic tests, such as karyotypes, which depends on the presence of actively dividing cells, which decreases over time. Delays in the lab receiving specimens can result in the inability to perform a genetic test.

## Project Goals

- Increase in the appropriate collection of genetic samples by 8% (85% to 92%)
- Increase in timely receipt of genetic tests by the lab from L&D by 43% (54% to 77%)

**PROBLEM STATEMENT:** Specimens for genetic testing were delayed in 46% of cases and incorrectly collected in 15% of cases.

# WE IMPROVED TIMELY LAB RECEIPTS OF GENETIC TESTS ON L&D BY 43% AND IMPROVED APPROPRIATE COLLECTION OF GENETIC TESTS BY 12%

## Project Plan and Intervention(s)

**Hypothesis:** creation of a genetic testing workflow and educational talks to residents and nurses will help improve genetic testing on labor and delivery

Specimen	Collection	Apex orders	Nursing notes
Cord blood	Lavender top EDTA tube for microarray Dark green heparin tube for karyotype	Order "SNPAP" for microarray or "CYNW" for karyotype *Order in neonatal's chart and write "cord blood" in comments*	
Amniotic fluid	Routine amniocentesis	Order "SNPAP" for microarray Order "CYNW" for karyotype (if done soon after an IUPD)	For all specimens (except autopsy), print out requisition, and write "TO CYTOGENETICS LAB" on top
Autopsy	Pathology will prepare specimen if fetus was an NSVD > 20 weeks, otherwise need a separate sample (consider skin biopsy)	Order "AUTOPSY" and write "send sample to China Basin cytogenetics" Order "SNPAP" for microarray or "CYNW" for karyotype	Write what the sample is directly on the side (e.g. "cord blood," "placenta")
Placental biopsy (one instead of umbilical cord)	- 1 x 1 x 1 cm biopsy from fetal side, near the cord insertion (see picture bottom left) - Place in cytogenetics media		Send directly to central processing, do not leave in the refrigerator (see tube or call e-tug). Sample does not need to be refrigerated while waiting to send.
Fetal skin biopsy	- 1 x 1 cm elliptical biopsy, then culture the site (swab culture, needle stick, biopsy, suction) - Place in cytogenetics media	Order "SNPAP" for microarray Order "CYNW" for karyotype Karyotype is best "fresh" as you need dividing cells (just after a delivery, procedure or SAE)	
POCs	Place in cytogenetics media		



**Who should I notify after ordering the test?** Email (Brietta Wozniak) so she can follow up on the specimen, if a genetic counselor also has patient, email them too.

**What if I don't know whether to order a karyotype or microarray?** Default to microarray, and email (Brietta Wozniak), who can help sort out the best order.

**What if the patient isn't sure they want testing, can I have a specimen?** Yes! Do everything the same as above, but order **DNM** (no cell extracts DNA and karyo 0)

**Where is the cytogenetics media?** In the soiled room on orth. stage or on L&D across from the room with the blood chargers, tubes with the pink cytogenetics media can be found in the fridge (code 123-43-6-6-6-6-6-6). Separate specimens should be placed in separate tubes.

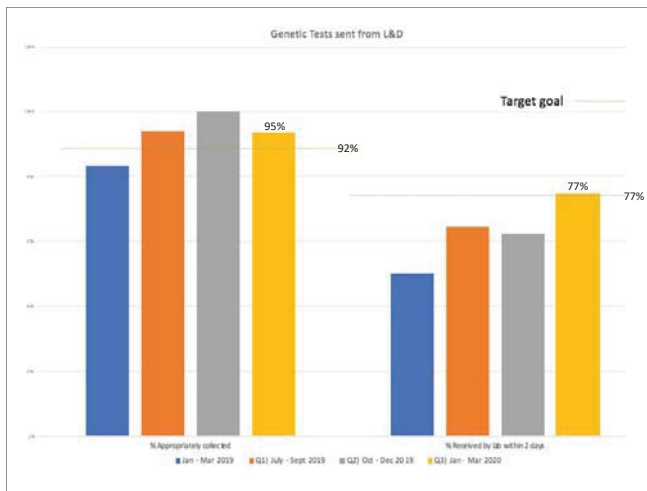
**What if there aren't any tubes available?** Contact (Brietta Wozniak) before 4:30pm as a backup, we will place orders to a stockroom bag. **DO NOT USE A FORMALIN CLIP** (new media tubes all sent to central processing (second floor, past the blood bank).

Stamped by something? Overwritten almost everything? Contact us!

Brietta Wozniak  
brietta.wozniak@ucsf.edu  
415-534-5982 (office) | 415-443-3886 (pager)  
Genetics Consultant, Cytogenetics Lab

Anne Mardy  
anne.mardy@ucsf.edu  
214-219-7246 (direct)  
Clinical Fellow, MFM/Gynecology

## Project Evaluation & Impact



## Next Steps, Dissemination & Lessons Learned

### Next Steps:

Collect data from Q4. Continue to educate residents and nurses on sending genetic tests on L&D, especially with the new intern class starting in July 2020

### Lessons Learned:

Creating a workflow was helpful in showing providers exactly how to order tests.

Collaboration with nursing was extremely important in implementing changes. Apex order print outs continued to be an issue, as the information was vague and confusing.

# Improving early oral care with maternal breastmilk in preterm infants after targeted maternal counseling

Project Leads: Katelin Kramer, Kim Grelli  
 Team Members: Neonatology fellows, attendings, nurses  
 Programs: Neonatology fellowship program

## Background

Early oral care with maternal colostrum provides immunological benefits and has been shown to reduce rates of necrotizing enterocolitis and sepsis, improve weight gain, and decrease length of stay. Early initiation of pumping after delivery also increases the likelihood of continued supply of maternal breastmilk (MBM) throughout the hospitalization.

## Project Goals

Our aim was to improve the rate of oral colostrum with MBM within 24 hours for VLBW infants from a baseline of 57% to greater than 70% over 12 months.

**PROBLEM STATEMENT:** The primary problem we sought to solve was the failure to provide oral colostrum with MBM within 24 hours with very low birthweight (VLBW, < 1500 g) infants admitted to the Intensive Care Nursery (ICN).

# WE IMPROVED THE RATE OF ORAL COLOSTRUM WITH MBM WITHIN 24H FOR PRETERM INFANTS BY 13% AFTER IMPLEMENTING STANDARDIZED MATERNAL EDUCATION BEFORE AND AFTER DELIVERY

## Project Plan and Intervention

Figure 1. Key Driver Diagram

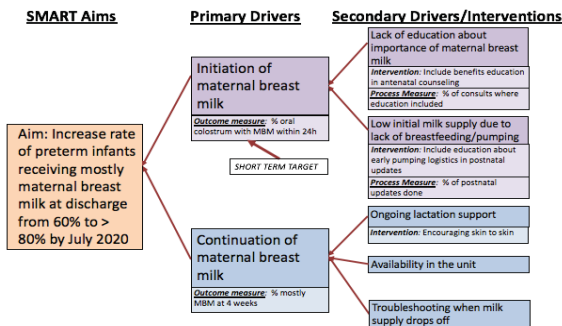
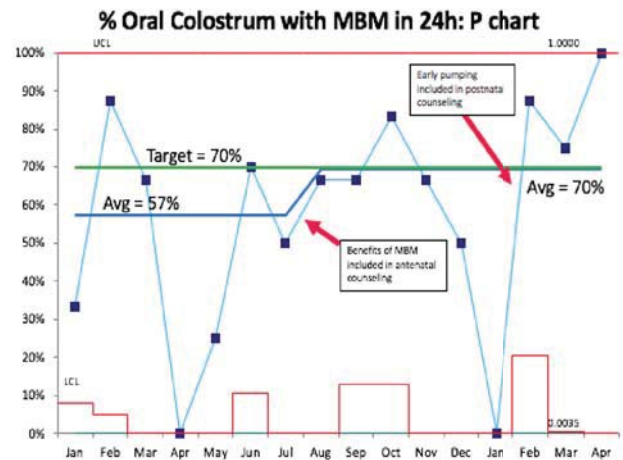


Figure 3. Process measure: Adherence to education

Month	Antenatal consult	Post-natal update
Jul (2019)	50%	0%
Aug	67%	0%
Sep	83%	0%
Oct	100%	0%
Nov	100%	0%
Dec	100%	0%
Jan (2020)	100%	0%
Feb	63%	71%
Mar	100%	50%
Apr	100%	100%

## Project Evaluation & Impact

Figure 3. Outcome measure: Control chart (P chart)



## Next Steps, Dissemination & Lessons Learned

**Next Steps:** Continued tracking of long-term supply of MBM at 4 weeks and at discharge, eliciting feedback directly from mothers about barriers to pumping and providing MBM, and assessment of long-term outcomes to show benefits from our interventions.

**Dissemination:** We have shown that education by providers changes behavior of parents and can have benefits for our patients. Similar interventions may be applicable in a wide range of settings where parental compliance with our recommendations is important, such as for medication adherence, diet, follow-up, etc.

**Lessons Learned:** We learned that consistent messaging and reinforcing education is needed when counseling families about the importance of MBM. Our rates improved further after we included education both before and after delivery of a preterm infant.

# Reducing venipunctures for hospitalized patients on hemodialysis

Project Leads: Omair Alam, MD; Debbie Chen, MD  
 Team Members: Chi Chu, MD; Sri Lekha Tummalapalli, MD, MBA; Ian McCoy, MD; Lowell Lo, MD  
 Program: Nephrology Fellowship

## Background

Many hospital-led initiatives have been designed to reduce unnecessary lab testing which have been associated with iatrogenic anemia, increased cost and further unnecessary testing. Venipuncture can cause harms, including pain and anxiety, which may decrease patient satisfaction.

Patients with end stage renal disease (ESRD) on hemodialysis:

- Can have labs drawn from dialysis circuit tubing, obviating the need for venipuncture
- Are limited to one arm and should avoid venipuncture in order to preserve vascular access for future dialysis planning

## Project Goals

**Goal:**

Our goal is to reduce the amount of non-urgent labs, as determined by the clinical provider, for our clinically stable hospitalized patients with ESRD on hemodialysis.

**Aim:**

Our aim will be to increase the percentage of labs drawn on hemodialysis from its current state (~30%) to 70% by March 2021 for our clinically stable hospitalized patients with ESRD on hemodialysis.

**PROBLEM STATEMENT:** Hospitalized patients on hemodialysis undergo frequent unnecessary venipuncture.

**When appropriate, drawing non-urgent lab tests during dialysis is an opportunity to avoid peripheral venipuncture for patients with ESRD on hemodialysis.**

## Project Plan and Intervention(s)

**Project Plan:**

- Establish an APeX workflow to allow providers to select “draw on dialysis” for any non-urgent labs for hospitalized patients on hemodialysis



**Interventions:**

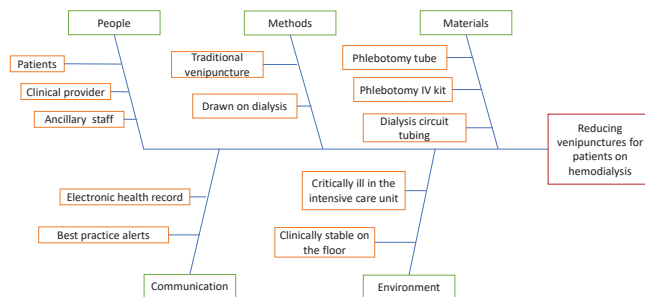
- APeX workflow order
- Interviews with key stakeholders (clinical providers and ancillary staff) to promote use of work flow order

**Barriers:**

- Communication and integration between electronic health record and lab information system

## Project Evaluation & Impact

**Cause and Effect Diagram**



## Next Steps, Dissemination & Lessons Learned

**Next Steps:**

- Work with informatics team to develop an APeX workflow order
- Continue to obtain feedback from our key stakeholders (residents, faculty, fellows and nurses) during departmental meetings

**Lessons Learned:**

- Successful and effective integration between the electronic health records and lab information systems can be considered invaluable in other clinical settings.

Project Leads: John Andrews, John Yue, Thomas Wozny  
 Team Members: John Andrews, John Yue, Thomas Wozny, Sujatha Sankaran, Madeline Chicas  
 Programs Neurosurgery

## Background

Neurosurgery has a high volume of critically ill patients. Many of these patients have difficulty with language, either from intubation, various states of coma or their disease process which may affect their language capabilities. There is also a comparatively large proportion of patients who require foley catheters perioperatively. While testing for UTI's is important in this population, over testing may lead to over treatment since essentially any positive test has to be treated when symptom reporting is impaired. Prior to any intervention, if there were fevers of unknown origin, or any sign of infection warranting work-up, a urinalysis was ordered if none have been ordered within 48h.

## Project Goals

Goal reduce over-treatment of UTI's and over-use of antibiotics.

The measurable goal was to reduce the fraction of UA's ordered within a 72h window of prior UA to <10%.

Initial analyses suggested the rate of UA's ordered within 72h of another UA was 90% prior to intervention.

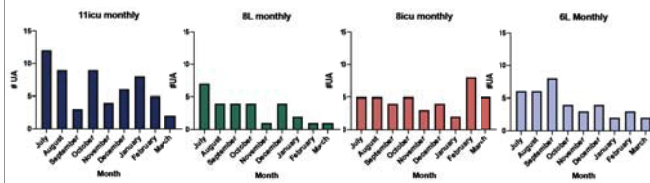


**PROBLEM STATEMENT:** The problem we were trying to solve was over-testing for and over-treating UTI's in the neurosurgery population.

**Post intervention, over 90% of urinalyses/urine cultures had at least 72 hours between tests—when previously 90% of urinalyses were within 72h of the last test**

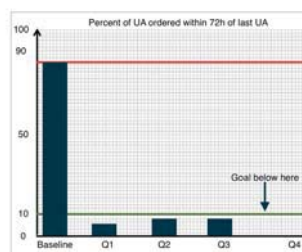
## Project Plan and Intervention(s)

The main intervention was coordination between the attendings in charge of the services, the residents who run the services, and the nurses who ask for and carry out the UA's. As a residency we each reached out to the attendings whose services we were currently running and got their explicit permission to delay any UA to at least 72h since prior testing. The residents then communicated with the ICU nurses about the 72h UA rule as well. Obstacles were mainly that the impetus for UA testing often comes from nursing, so if the nurse is not aware of the 72h rule and the resident does not check when the last one was, then there is the opportunity for over testing.



## Project Evaluation & Impact

With the implementation of this statute, as a service we immediately reduced the number of UA within 72h of the last UA to < 10%.



## Next Steps, Dissemination & Lessons Learned

(replace with your text or illustrations & graphics)

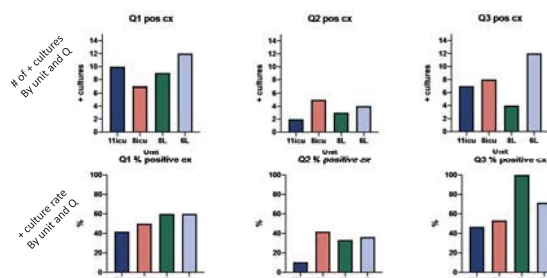
**Next Steps:**

Quantify any changes in antibiotics use over this same time period.

**Dissemination:** Fevers of unknown origin are common in TBI patients at ZSFGH. This same type of intervention may have even more relevance in their ICU population.

**Lessons Learned:**

That buy in from the attendings, residents and nursing staff and dissemination of information is critical to changing standard practice paradigms.



Jeremy Tanner, Sharon Chiang, Meredith Bock, Andrew Breithaupt, Jill Goslinga  
 Faculty Lead: Vanja Douglas  
 Program: Neurology

## Background

- Cigarette smoking causes >480,000 deaths each year in the US.<sup>1</sup> The risk of death is 2.8x greater in smokers. Mortality from smoking remains stably high for men and has risen for women over the past 20 years.<sup>2</sup>
- Tobacco use is a risk factor in many neurologic diseases, including strokes, multiple sclerosis<sup>3</sup>, and dementia<sup>4</sup>. Smoking cessation dramatically reduces death rates from all causes and specifically after stroke.<sup>5</sup>
- Smoking counseling aligns with the True North pillars of “Quality and Safety” (reduces mortality), “Learning Health System” (disseminating health knowledge), and “Patient Experience” (providing resources and care).

## Project Goals

**Our Goal:** 70% of neurology inpatients will be counseled on smoking cessation and offered referrals to outpatient smoking cessation resources between August 15<sup>th</sup> 2019 - June 30<sup>th</sup> 2020.

### Pre-Intervention State:

- UCSF smoking cessation workflow were underutilized in neurology
- Of neurology inpatients who are active smokers
  - 20% received smoking counseling
  - 7% received outpatient smoking referrals
  - 13% received nicotine replacement prescriptions

### PROBLEM STATEMENT:

Too many neurology inpatients were not receiving appropriate education and access to resources to quit cigarette smoking and stay tobacco-free after discharge

**WE PROVIDED SMOKING CESSATION COUNSELING TO OVER 75% OF PATIENTS, A 60% IMPROVEMENT FROM PRIOR TO THE INTERVENTION**

## Project Plan and Intervention(s)

### Preparation

- Surveyed residents to identify baseline knowledge and perceptions
- Engaged UCSF tobacco treatment specialists to identify available resources
- Strategized with field experts to identify gaps and opportunities

### Systems

- Created and implemented streamlined workflow with interdisciplinary team
- Outlined team approach to smoking counseling
- Included reminders in note templates

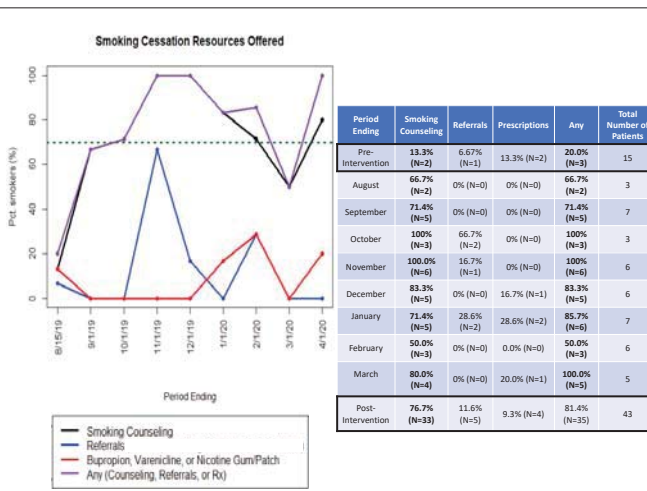
### Education

- Created handouts on tobacco and counseling resources for residents
- Disseminated resources and educated residents via conference and emails
- Created EPIC instructions for residents to place orders and referrals

### Evaluation

- Created EMR report to tract measurements for neurology inpatients
- Created and disseminated quarterly dashboard to residents
- Results posted on neurology unit true north board

## Project Evaluation & Impact



## Next Steps, Dissemination & Lessons Learned

### Next Steps:

- Evaluate impact of smoking cessation counseling and resource referral on tobacco use at patients’ next encounter
- Continue to advocate that residents prioritize smoking cessation counseling and utilize available resources and the interdisciplinary tobacco treatment team
- Systems and education material developed for this QI project can be disseminated and applied for all inpatient residencies and services

### Lessons Learned:

- Many neurology inpatients were unable to receive counseling (i.e., comatose, altered, aphasic) or declined outpatient resource referrals
- Tobacco cessation counseling is a shared goal of the medical teams, creating new opportunities for collaboration among interdisciplinary providers, residency programs, and clinical units

Residents & Fellows Leading Interprofessional Continuous Improvement Teams (REFLECT) in partnership with the UCSF Health Improvement Symposium 2020

**References**  
 1. Health 2016. The health consequences of smoking: 50 years of progress. A report of the Surgeon General. Atlanta: Department of Health and Human Services, Centers for Disease Control and Prevention; National Center for Chronic Disease Prevention and Health Promotion; 2014.  
 2. Pechl RA, Carter RB, Feinglass J, et al. 50-year trends in smoking-related mortality in the United States. *N Engl J Med*. 2019;380(16):1525-1534.  
 3. *Journal of Neurological Rehabilitation*. 2019;33(2):101-108.  
 4. Zhang L, Wang Y, Zhang Y, et al. Smoking cessation in stroke: a meta-analysis of randomized controlled trials. *Stroke*. 2019;50(11):2811-2818.  
 5. *Journal of the American Medical Association*. 2019;321(11):1011-1020.



## Background

Maternal mortality rates have risen in the United States over recent decades, from 7.2/100,000 live births in 1987 to 18/100,000 in 2014. There are striking racial disparities that exist: from 2011-2014, maternal mortality ratios were 12.4/100,000 and 40.0/100,000 live births for white and black women, respectively. Venous thromboembolism (VTE) accounted for 9% of all maternal deaths in California from 2002-2007; 97% of these were deemed as having some chance of preventability on review by the California Pregnancy-Associated Mortality Review. The risk of VTE is 4- to 5-fold higher in women who are peripartum than those who are not pregnant; the risk is highest in the immediate postpartum period. Cesarean delivery quadruples the risk of VTE. VTE can be prevented by identifying high-risk women and treating them with post-cesarean thromboprophylaxis.

## Project Goals

**Current State:** Prior to our project, L&D lacked a protocol to reduce post-cesarean VTE for high-risk women. With no standardization of post-cesarean VTE prophylaxis, our review of data demonstrated that only 44% of qualifying women received anticoagulation.

**Target state:** We wanted to standardize and implement a post-cesarean anticoagulation protocol on L&D. Our goal was to properly prescribe prophylactic anticoagulation (either unfractionated heparin or low-molecular weight heparin) to at least 75% of women who met criteria based on CMQCC guidelines.

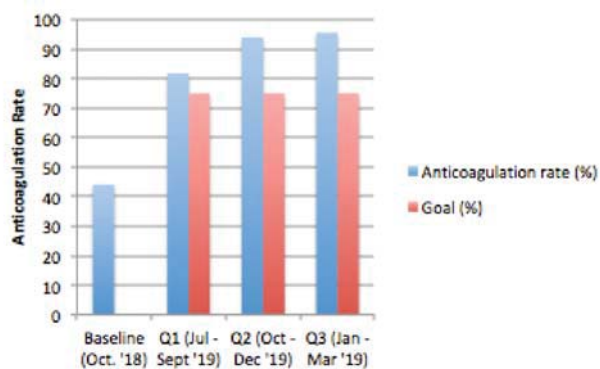
**PROBLEM STATEMENT:** Post-cesarean thromboprophylaxis is not prescribed in a routine fashion consistent with professional society guidelines and as a result, we are missing an opportunity to prevent maternal morbidity and mortality.

We implemented a protocol to reduce post-cesarean VTE and increased our prescription of prophylactic anticoagulation for high-risk women by 51%.

## Project Plan and Interventions

Gap	Intervention
Previously no clear protocol for anticoagulation after cesarean	<ul style="list-style-type: none"> <li>Created protocol based on CMQCC guidelines/UCSF Maternal Fetal Medicine and Anesthesia recommendations for our population.</li> </ul>
Previously difficult to know how to order anticoagulation	<ul style="list-style-type: none"> <li>Built forced-choice VTE prophylaxis orders into Epic (i.e. unable to proceed without making a selection), with criteria for anticoagulation and contraindications listed within orderset.</li> </ul>
Anticoagulation criteria not well-known by residents/attending, who place post-operative orders	<ul style="list-style-type: none"> <li>Epic orderset change (see above)</li> <li>Anticoagulation criteria listed on signs posted in work rooms and operating rooms.</li> </ul>
Teams change frequently, so those present are not always familiar with the issue	<ul style="list-style-type: none"> <li>Sent educational emails to residents frequently during Q1 detailing project</li> <li>Presented project at nursing monthly meeting during rollout</li> <li>Discussed project at weekly huddles with nursing and unit management</li> <li>Addition of "Lovenox yes/no" to post-operative debrief</li> </ul>

## Project Evaluation & Impact



## Next Steps, Dissemination & Lessons Learned

### Next Steps:

- Ongoing analysis of Q4 data.
- Continue protocol as standard of care on L&D.
- Disseminate data via submission for publication.
- Implementation of thromboprophylaxis for patients admitted to the antepartum service.

### Lessons Learned:

- Epic order sets are powerful in affecting change and delays in changing them can be a barrier to QI.
- Parallel project at ZSFG faced much greater challenges (met goal 2 of 9 months), highlighting further work that needs to be done to improve disparities in San Francisco.



## Background

UCSF is a busy tertiary care center whose inpatient facilities are operating at full capacity. In 2018, the hospital turned down 855 patient transfers due to lack of available beds. Delayed discharges unnecessarily occupy beds that otherwise could be used to provide care to patients in need, and create disruptions in patient flow. Specific to orthopedic surgery, delayed discharges keep inpatient beds occupied that are needed to accommodate patients from the post-operative acute care unit (PACU), and congestion in the PACU causes delays in the operating room. In addition to significant costs to the hospital, this inefficiency contributes to decreased patient and provider satisfaction.

## Project Goals

From July 1, 2018, to July 1, 2019, approximately 2500 adult patients discharged from an orthopedics service at Parnassus, 79% of whom discharged home with or without home services. Of those patients who discharged home, length of stay ranged from 5 hours to 45 days, with an average of 2.7 days. Only 12.3% of patients whose discharge destination was home were discharged before noon. The average time between entering a discharge order and a patient leaving the hospital was over 4 hours. We wanted to increase discharges before noon from 12.3% to over 20% by the end of 12 months.

**PROBLEM STATEMENT:** Delayed discharges past noon lead to increased cost, worse patient experience, and disruptions in patient flow.

# WE ATTEMPTED TO IMPROVE TIMELY PATIENT DISCHARGE BY ADDRESSING COMMUNICATION BETWEEN THE PHYSICIAN TEAM AND THE REST OF THE CARE TEAM.

## Project Plan and Intervention(s)

After discussing reasons for delays in patient discharges with all members of the care team, we determined that one barrier to early discharge is communication between the physician team and the rest of the care team.

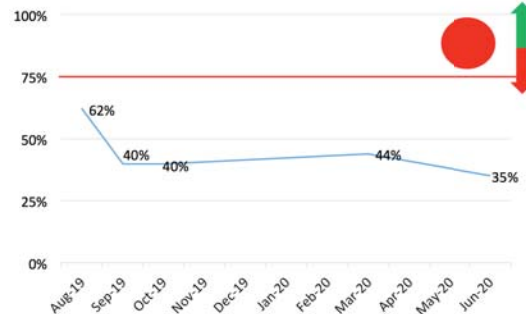
Therefore, the intervention performed was:

**On 75% of weekdays, each orthopedic surgery service and the 7L/7E charge nurse will together review patients on 7L/7E with anticipated discharge the following day to increase communication to all members of the healthcare team.**

We hypothesized that this would improve communication, thereby increasing discharges before noon.

## Project Evaluation & Impact

Every weekday, a resident member of the orthopedic team will review with the 7L/7E charge nurse patients with anticipated discharge the following day.



## Next Steps, Dissemination & Lessons Learned

### Next Steps:

We will continue to work with the entire care team to understand barriers to timely discharge. We will work toward ways to improve discharge communication that are more integrated into resident workflow.

### Lessons Learned:

While discharge before noon percentages did improve over the course of the year, our specific goal of recorded communication between residents and the care team was not achieved. It is possible that the intervention did address a barrier that led to improved discharge over time, but that our target of 75% was too high. It is also possible that other interventions that happened concurrently had a larger effect on discharge timing than the intervention demonstrated here.

Jason Park, MD, PhD and Abel David, MD (for the UCSF Otolaryngology – Head and Neck Surgery Residency)  
 Faculty Mentors: Patrick Ha, MD, Rahul Seth, MD  
 UCSF Otolaryngology – Head and Neck Surgery

## Background

Head and neck squamous cell carcinoma (HNSCC) is strongly associated with tobacco use, and ongoing tobacco use during and after treatment increases mortality, cancer treatment-specific risks, and cancer recurrence rates. Tobacco cessation improves patient outcomes including survival and decreases complications and treatment-related complications. Systematic tobacco cessation efforts are underway at the UCSF Cancer Center, but there is a need for providing patients more consistent counseling, education, treatment, and referrals to cessation services. Postoperative inpatient stays after cancer surgery are an important “window of opportunity” for tobacco cessation efforts in which residents are optimally positioned to lead.

## Project Goals

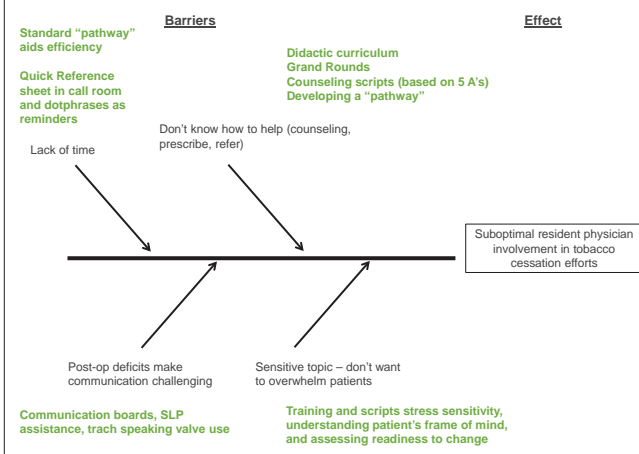
- Improve patient tobacco abstinence rates by improving resident provider counseling, prescribing, and referrals to tobacco cessation services for postoperative cancer inpatients.
  - **Specific goal:** Over 70% of patients with HNSCC undergoing oncologic surgery requiring free tissue transfer reconstruction at UCSF Mission Bay will be screened for current or recent (within last 90 days) tobacco use, and current/recent users enrolled in an inpatient smoking cessation pathway.
- Enhance OHNS resident training and education in tobacco cessation strategies with a scheduled training session as well as training-by-doing.

**PROBLEM STATEMENT:** Sustained abstinence from tobacco after hospitalization for current smokers at UCSF is less than 5% despite a hospital workflow established in 2015 in which inpatient tobacco cessation services are offered by a specially trained respiratory therapist. It is established that M.D. involvement in tobacco cessation increases the rate at which patients attempt quitting, but resident physicians play a small and variable role in inpatient tobacco cessation efforts.

# WE HELPED PATIENTS WITH ADVANCED HEAD AND NECK CANCER QUIT TOBACCO USE BY SCREENING 80% OF POSTOPERATIVE PATIENTS FOR RECENT USE AND ENROLLING CURRENT SMOKERS IN AN INPATIENT TOBACCO CESSATION PATHWAY.

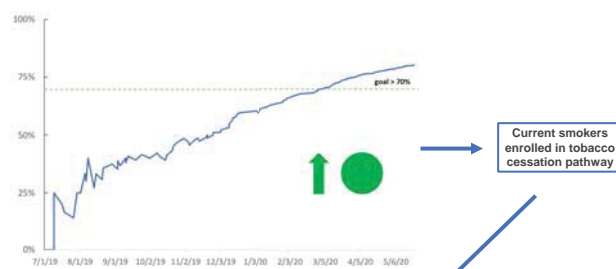
## Project Plan and Intervention(s)

Barriers to optimal inpatient tobacco cessation care (based on survey of current OHNS residents) and interventions



## Project Evaluation & Impact

Percentage of eligible patients screened for tobacco use (running tally)



- 16% of patients identified as **current/recent smokers**
  - 86% received **counseling** (5 A's brief intervention)
  - 57% of them expressed a **very high desire/readiness to quit** ("10/10")
  - 50% received **nicotine replacement** therapy as inpatient
  - 36% received **bupropion** as inpatient
  - 79% were referred to specialists at the **Fontana Tobacco Treatment Center**
  - 100% were provided a **discharge handout with specially curated resources** to help them stop smoking

In a couple cases we identified current/recently smoking patients through our screening who were listed only as former smokers in the medical record, highlighting the added value of our inpatient screening efforts.

## Next Steps, Dissemination & Lessons Learned

- Next Steps:** Expand tobacco use screening and inpatient cessation pathway to additional head and neck cancer inpatients. Improved handoffs to outpatient clinic (Head and Neck Surgical Oncology) to follow up on tobacco cessation at postoperative follow-up visit. More consistent nicotine replacement and pharmacotherapy prescribing. Assess longer-term outcomes by leveraging existing UCSF cessation efforts (including post-discharge phone call system) (Dr. Sujatha Sankaran). Additional coordination with HDF Comprehensive Cancer Center tobacco cessation initiative efforts (Project Lead: Dr. Janice Tsoh).
- Lessons Learned:** Continuity is challenging. Didactics / grand rounds throughout year, quarterly check-ins, dotphrase reminders, and quick reference handouts (with scripts, pharmacotherapy reference) can be helpful.

## Background

- To maintain institutional cancer center accreditation, pathology reports for resected malignancies must contain specific required elements listed in the College of American Pathologists (CAP) cancer protocols.
- Accurate and complete reporting is integral for treatment decision making purposes.

## Project Goals

- Our goal was to increase the compliance in reporting CAP-required cancer protocol elements to at least 85% over the academic year (July 2019 – June 2020) as measured by quarterly reviews.

**PROBLEM STATEMENT:** In an audit of 545 cases collected from January and November 2018, 71% of audited reports had all required elements. The remaining 29% were flagged as missing at least one requirement of the current CAP synoptic.

**WE PERFORMED QUARTELY REVIEWS OF SYNOPTIC REPORTS, UPDATED VARIOUS NON-COMPLIANT REPORT TEMPLATES, AND HAVE ESTABLISHED A WORKFLOW FOR CONTINUED EVALUATION AND ADJUSTMENT OF DEPARTMENTAL QUICKTEXTS. WE INCREASED THE COMPLIANCE IN REPORTING CAP-REQUIRED CANCER PROTOCOL ELEMENTS FROM A BASELINE OF 65% TO AN AVERAGE OF 88% OVER THE 2019-2020 ACADEMIC YEAR.**

## Project Plan and Intervention(s)

### Current workflow

- Synoptics: CAP releases updated synoptic forms and the UCSF Department of Pathology updates internal quick texts
- Initial report: Resident reviews case
- Final report: Attending reviews case

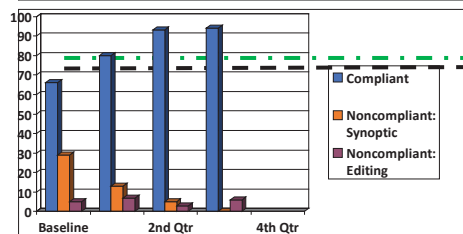
### Potential areas of non-compliance

- Synoptics: Synoptic not updated in timely fashion
- Initial report: Resident edits
- Final report: Attending edits

### Continuous interventions

- Synoptics: Quarterly review of CAP synoptic forms and revision of UCSF synoptics
- Reporting:
  - Quarterly review of all cancer reports
  - Departmental QI meeting updates

## Project Evaluation & Impact



**Baseline:**  
65%

**Goal:**  
≥85%

**Annual Average:** 88%

## Next Steps, Dissemination & Lessons Learned

### Next Steps:

- Audit of 4<sup>th</sup> quarter data is pending - the results will be communicated at an upcoming departmental QI meeting.
- Ongoing biannual reviews of CAP synoptics and revision of UCSF synoptics.

**Lessons Learned:** An interdisciplinary approach working closely with staff at the Cancer Registry of the UCSF Helen Diller Family Comprehensive Cancer Center to develop efficient auditing systems and ensure quality and accuracy in cancer synoptic reporting was integral to the success of this project.

## Background

**Emergence Delirium Definition:** state of consciousness in which children are inconsolable, uncompromising and/or uncooperative as they emerge from anesthesia.

**Significance:** Causes patient self-injury, can develop maladaptive behavioral changes, cause emotional distress for providers and caregivers, require pharmacological interventions, consume more healthcare resources.

**True North Pillar:** Learning Health Systems  
 Advance, apply and disseminate knowledge about emergence delirium.

## Project Goals

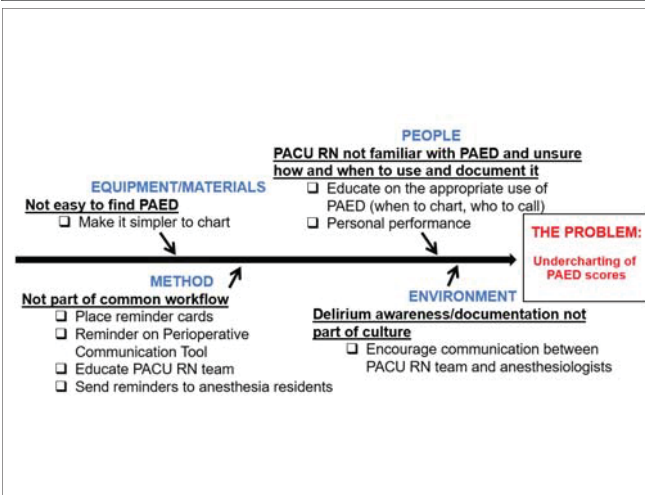
**Goal:** Document at least one PAED (Pediatric Anesthesia Emergence Delirium) score in at least 72% (cumulative) of all pediatric patients who pass through Mission Bay PACU from October 2019-October 2020.

**Baseline state:** In October 2019, PAED documentation was 61%.

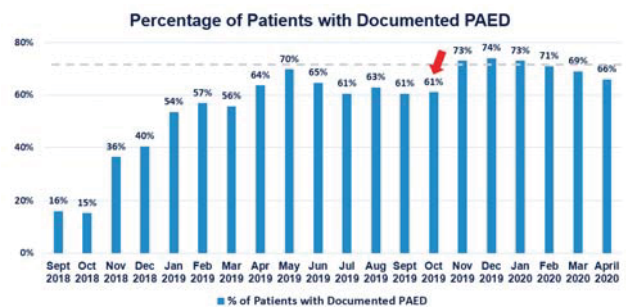
**PROBLEM STATEMENT:** PAED scores were being undercharted in PACU (post-anesthesia care unit).

**WE WERE ABLE TO IMPROVE OUR PEDIATRIC ANESTHESIA EMERGENCE DELIRIUM DOCUMENTATION RATE FROM 61% to 69%.**

## Project Plan and Intervention(s)



## Project Evaluation & Impact



Note: 2019-2020 goal was a continuation of an ongoing project from 2018-2019. Arrow indicates when new interventions were being started. Dashed line indicates 72% goal.

## Next Steps, Dissemination & Lessons Learned

**Next Steps:**

- Continue improving and maintaining PAED documentation rates.
- Analyze PAED scores in relation to: type of anesthetic, type of surgery, patient characteristics, anesthesia provider.
- Develop an algorithm for PACU to address high PAED scores. Look into interventions to decrease PAED scores.

**Lessons Learned:**

A QI project is a continuous process of identifying issues and implementing and evaluating changes. It is a multi-disciplinary collaborative effort. There will be some unforeseen issues but it's important to remain flexible and willing to change strategies.

## Background

Genetic abnormalities (including chromosomal number, rearrangements, microdeletions and duplications) are common in patients with congenital heart disease (8-35%). The American Heart Association recommends that all fetuses and newborns with congenital heart disease be offered chromosomal microarray testing. Better understanding of the genetics is important for identifying other systems of involvement, refining prognosis, and counselling of families.

## Project Goals

**Current State:** Based on a recent retrospective analysis at UCSF from 2014-2017, of the 122 newborns with congenital heart disease surveyed:

- 80% had genetic testing
- 7% received duplicate testing
- 73% received appropriate testing

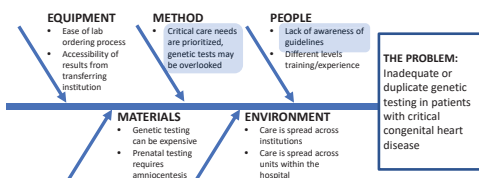
**Target State**

1. Increase pre/post-natal genetic testing to > 90%
2. Decrease redundant/inappropriate testing to < 5%
3. Increase rate of appropriate genetic testing to >95%

**PROBLEM STATEMENT:** Patients with congenital heart disease are at increased risk of having genetic abnormalities that can affect their clinical course and prognosis. Currently, only 80% of newborns with congenital heart disease received recommended chromosomal microarray screening and 7% had duplicate testing.

# STANDARDIZING RECOMMENDATIONS IN INITIAL CONSULTS AND EDUCATION INCREASED GENETIC SCREENING AND REDUCED REPEAT TESTING IN PATIENTS WITH CRITICAL CONGENITAL HEART DISEASE.

## Project Plan and Intervention(s)

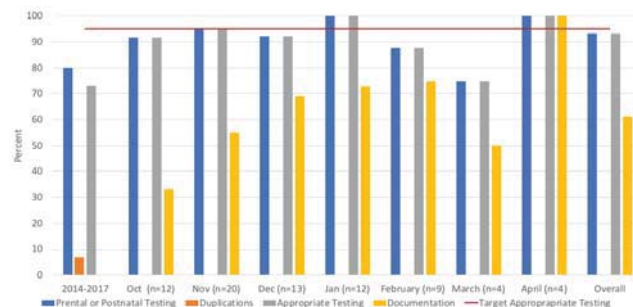


**Hypothesis:** Standardized genetic screening recommendations in initial consults can increase the rate of appropriate genetic screening and decrease duplicate screening in patients with critical congenital heart disease.

**Interventions:**

1. Creating a dot-phrase in Apex for genetic testing recommendations to be incorporated into initial pediatric cardiology consult note of a newborn with congenital heart disease
2. Education among front-line providers
3. Adding a "need for genetic testing" problem to the problem list in the chart on all patients with CHD
4. Review whether microarray has been sent as part of pre-surgical patient conference

## Project Evaluation & Impact



Compared to 2014-2017, rates of genetic screening have improved. **93%** (n=71) patients received genetic testing. Overall, appropriate testing occurred in **93%** of cases with **0%** duplicate testing.

- Though the absolute number of missed genetic tests relatively stayed constant (~1/month), decreased cases in the months of February-April resulted in higher percentage decrease in testing.
- 6 patients did not get appropriate testing
- 2 cases were excluded from analysis. Parents declined testing in one case and the other patient was diagnosed postnatally and was on ECMO on arrival which precluded genetic testing.
- Documentation rates increased from 30% to overall rate of 60%
- **Other findings:**
  - Variant of unknown significance: 15 (21%)
  - High rate of abnormal abnormal results: 19 (27%)
    - T21: 8 (11%)
    - Other syndromes: 11 (15%)- DiGeorge, Williams, Kabuki, K8G, Turner, Cat-eye syndrome, TBX5 variant

## Next Steps, Dissemination & Lessons Learned

**Next Steps:**

- Create a standardized initial consult template and discharge checklist with genetic testing recommendations embedded
- Incorporate other providers eg neonatal team, CT surgery team, nursing
- Analyze documentation of recommendations from fetal consult, testing performed at outside institutions
- Collaboration with primary cardiologist if testing not performed in-hospital

**Lessons Learned:**

- Development of a standardized genetic testing recommendation in a dot-phrase can improve rates of appropriate screening. Further standardization of the initial consult template, incorporation of a multidisciplinary team can act as reminders in fast-paced clinical settings to increase application of the recommendations.





## Background

The changing spectrum of pediatric disease and technological advances has translated to improved survival for children with critical illness. Unfortunately, this decrease in mortality is often offset by an increase in morbidity for these young patients. Evidence suggests there is significant and persistent physical, cognitive, and psychiatric morbidities among adult and pediatric survivors of critical illness, leading to functional impairments and reduced quality of life. Recent data supports supporting early mobilization in adult intensive care units; however the culture in pediatric intensive care units is frequently that of immobility due to safety concerns leading to heavy sedation and restraints.

## Project Goals

Our goal is to create a culture within our PICU that values and prioritizes early rehabilitation and mobility practices for as many of our patients as possible. Through this project, we aim to raise awareness and educate the healthcare team. We will increase formal education for the residents and fellows, present at nursing staff meetings, and continue screening all patients for early mobility on night rounds. For this year, we will monitor progress by measuring mobility compared to bedrest documented in nursing assessments. We will track falls and unplanned extubations as potential unintended consequences of the project.

### PROBLEM STATEMENT:

Early evidence has shown that heavy sedation and decreased mobility can lead to impaired circadian rhythm cycles, increased level and duration of delirium and other psychiatric problems, and neuropathy and muscle weakness. ICU acquired weakness exists in children and the pediatric ICU population is at high risk for prolonged deficits as they are often admitted with pre-existing rehabilitation needs.

## WE IMPROVED EARLY MOBILIZATION OF CRITICALLY ILL PEDIATRIC PATIENTS BY OVER 10%.

## Project Plan and Intervention(s)

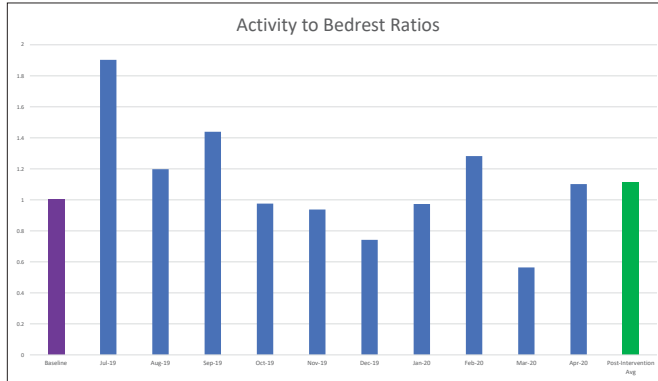
Intervention 1: Education of nursing staff, respiratory therapists, PICU attendings, fellows, and rotating residents and medical students about the project and goals by attending leadership meetings, conferences, huddles, and on rounds.

Intervention 2: Continue emphasizing the PICU bundle, which encourages the caregiving team to screen each patient daily to determine readiness for early mobility (PT/OT/SLP/Child Life, lightening of sedation, mobility exercises with nurses/family/friends).

Intervention 3: Daily reminder to nighttime ICU fellow to discuss PT/OT orders on midnight rounds.

Intervention 4: Education of staff of the connection between delirium prevention and treatment with early mobilization

## Project Evaluation & Impact



## Next Steps & Lessons Learned

### Next Steps:

We will continue efforts to increase awareness and understanding of the importance of early rehabilitation practices in the pediatric intensive care unit. Working closely with nursing leadership, respiratory therapists, physical and occupational therapists, residents, families, and patients creates a receptive environment through education and collaboration. Connecting this endeavor with other ongoing projects in the PICU (targeting sedation levels, screening for/preventing/treating delirium) has increased support for early mobilization.

### Lessons Learned:

Changes to the traditionally limited rehabilitation and activity culture for critically ill children takes time and education. Our ICU-Move project was welcomed with enthusiasm and interest; though the reality is that much of the physical legwork (literally!) was on nurses, therapists, and families. From discussions with all types of providers, the culture is shifting; however capturing this shift in documentation and data analysis can be difficult.



## Background

- Children undergoing surgery require close monitoring perioperatively, which is further complicated in patients with insulin dependent diabetes
- Insulin requirement in the perioperative period is often greater due to patient stress, medications, pain, and inactivity
- Hyperglycemia places patients at greater risk of developing infectious complications
- Hypoglycemia is particularly dangerous in this population due to patient unawareness and autonomic instability

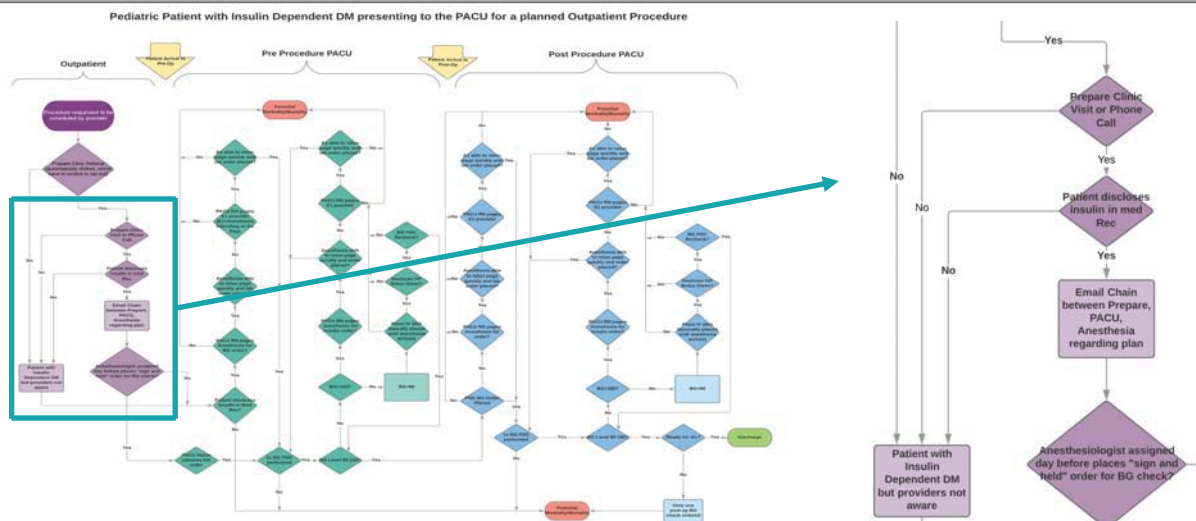
## Project Goals

In the month of July 2018, there were 7 pediatric patients age 2-24 years with insulin dependent diabetes or hypoglycemia presenting to the Mission Bay PACU for a planned outpatient procedure. Of these patients, 100% received suboptimal care; 57% did not have a glucose check while in the PACU. **Target:** To increase POC glucose checks for patients with insulin dependent diabetes presenting to the MB Pediatric PACU for a planned outpatient procedure, by ensuring that at least 90% of these patients have orders for prn glucose labs prior to PACU arrival.

**PROBLEM STATEMENT:** Lack of glucose checks in the PACU for patients with diabetes can result in clinically significant hypoglycemia and/or DKA

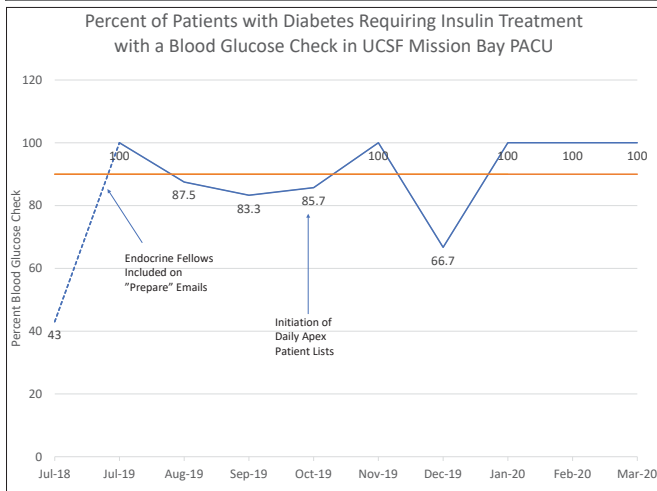
**At least 90% of all children with known diabetes requiring insulin treatment have at least 1 blood sugar check while in the PACU for a planned outpatient procedure.**

## Project Plan and Intervention(s)



- A Process Map (left) and a Fishbone Analysis were created
- **Hypothesis:** Patients did not have blood sugar checks because labs not ordered prior to arrival; focus on Outpatient Process
- Initial intervention: pediatric endocrinology fellows added to the "PACU Prepare" email chain and were able to pend orders for patient arrival
- Discovered that there were groups of patients not going through the "Prepare" system and thus were being missed
- Second Intervention: An automatic apex email was created that emails all pediatric endocrinology fellows about incoming cases

## Project Evaluation & Impact



## Next Steps, Dissemination & Lessons Learned

### Next Steps:

- We plan to discuss our strategies with our colleagues in Anesthesia to transition the role of ordering blood sugar checks to the providers who are physically present in the PACU.
- Goal is to expand intervention to include all patients with diabetes, including those who are inpatient and/or are coming in emergently

### Lessons Learned:

- This project highlights the difficulties encountered within the PACU where a patient is clinically vulnerable, and is passing through the care of many different care teams.
- It requires a lot of coordination with various care teams, and continues to be a problem that needs to be further evaluated to ensure there are patient safeguards in place.
- This project could be applied not only to patients with diabetes, but all individuals cared for in the PACU, as other problems may arise when an individual passes through various care teams.

Project Leads: Perseus Patel, Addison Cuneo, Sindhura Thatipelli Batchu  
 Contributors: Emily Stryker, Katherine Cheng, Thomas Wallach, Namrata Patel, Francis Kim  
 Mentors: Sofia Verstraete, Jennifer Burgis

## Background

**Pediatric acute gastroenteritis (AGE) treatment guidelines recommend use of oral rehydration therapy and anti-emetics such as ondansetron**

National burden of pediatric AGE:

- 1.5 million clinic visits/year
- 200,000 hospital stays/year
- 300 deaths/year.

Ondansetron efficacy and safety:

- Decreases vomiting, IV fluid use, and hospitalizations.
- No mortality
- Rare morbidity

## Project Goals

**Global Aim:** To promote evidence-based practice in the treatment of pediatric AGE at the UCSF China Basin Acute Care Clinic.

**Primary SMART Goal:** Increase ondansetron use for pediatric AGE from a baseline of 26% to 80% within one academic year (July 2019-2020).

**Secondary goals:** Increase use of guideline-congruent oral rehydration therapy by implementing standardized after-visit instructions with detailed rehydration and ondansetron instructions for parents

### PROBLEM STATEMENT:

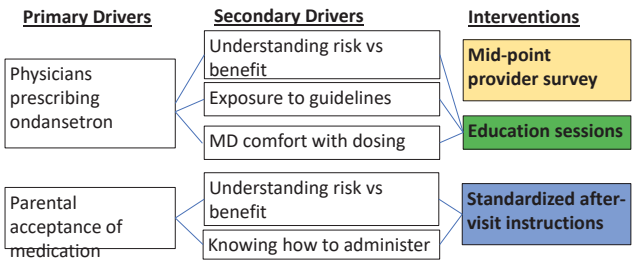
Increase provider comfort and parental acceptance of ondansetron use for pediatric AGE.

## ONDANSETRON PRESCRIPTION IMPROVED BY 30%

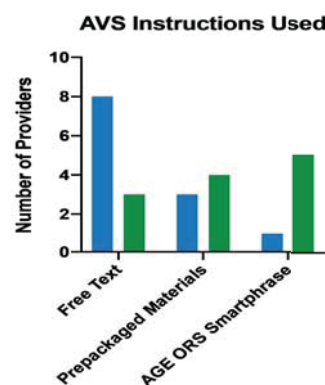
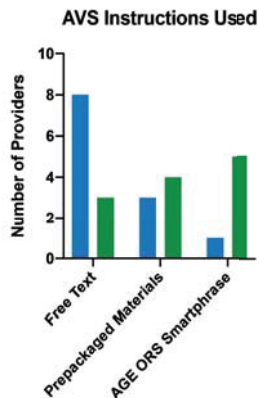
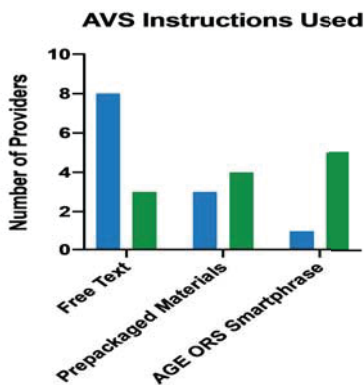
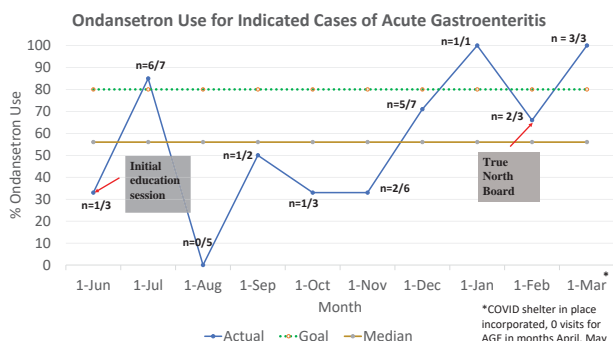
### IMPLEMENTED EVIDENCE BASED UPDATES TO PROVIDER AND NURSING WORKFLOWS

## Project Plan and Intervention(s)

*Hypothesis:* Prescribing habits can be changed through recurrent educational sessions to increase and use for PAGE.



## Project Evaluation & Impact



## Next Steps, Dissemination & Lessons Learned

### Next Steps

- Partner with local leadership to develop a clinical standard work (CSW) pathway to improve implementation of appropriate ORT instructions and to sustain impact on ondansetron use
- Assess use from July-Dec 2020 to evaluate for sustainable impact in the post-intervention period.
- Consider integration of resources to help providers optimize insurance coverage

### Lessons Learned

- A trainee-driven education-based intervention can change provider behavior in the treatment of pediatric AGE.
- Speculate that ORT instruction use remained low because it was not compatible with pre-existing clinic workflow as providers seem to more frequently use pre-packaged Apex instructions

## Background

Pediatric oncologists assume the majority of their patients' care while undergoing cancer therapy, including many issues that would usually be addressed by the primary care provider. As a result, PCPs are often unaware of many aspects of a patient's treatment course.

This complicates the transition of care back to the PCP after completion of therapy and can negatively impact the relationship between the PCP.

Our baseline data showed that PCP communication was documented for 0-2% of our unplanned hospitalizations.

## Project Goals

**Our goal was to achieve documentation of PCP contact in 50% of our unplanned hospitalizations of oncology patients by May 2020.**

We chose to measure unplanned hospitalizations for both clinical and practical reasons. These hospitalizations account for a large proportion of diagnoses as well as significant events throughout the treatment course. Practically, the fellow writes the discharge summaries for these hospitalizations, and the data is collected such that these hospitalizations are grouped together.

### PROBLEM STATEMENT

We were trying to solve the problem of primary care providers being uninformed of important aspects of their patients' oncologic diagnosis and treatment course.

**WE INITIALLY IMPROVED OUR COMMUNICATION WITH PRIMARY CARE PROVIDERS TO OVER 30%, HOWEVER, THIS IMPROVEMENT WAS NOT SUSTAINED.**

## Project Plan and Intervention(s)

**Hypothesis:** If we are able to improve our communication with primary care providers throughout our patients' treatment course, then patients will experience a smoother transition after completion of their therapy.

*PCP notification not part of the routine workflow of the service*

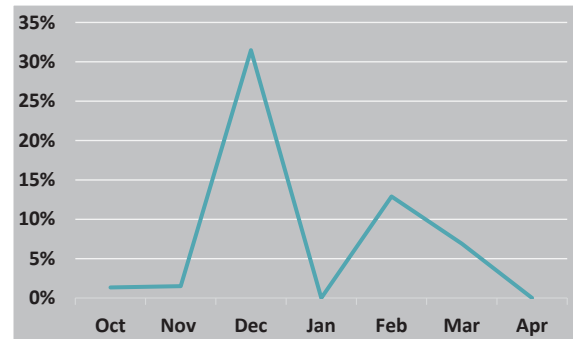
**Late October 2019:** Project described to all of the fellows and demonstrating where to document PCP communication in Apex with occasional email follow-up to on-service fellow.

*Observed heterogeneity in notification when different fellows were on service*

**Early March 2020:** Began sending weekly emails to on-service fellow and residents describing the project including instructions and requesting incorporating PCP notification into the workflow. Printed posters for work room to remind on-service residents and fellows of project.

*PCP communication identified as an area for improvement at division wide retreat*

## Project Evaluation & Impact



After beginning the project, we saw an increase in documented PCP communication. But, this increase was not sustained.

## Next Steps, Dissemination & Lessons Learned

### Next Steps:

- Establishing broader buy-in across the division among attendings and fellows
- Incorporating project into orientation for new fellows
- Identifying QI leads from each class of fellows to distribute project supervision
- Seeking feedback from first year fellows regarding burden of documentation- can it be better distributed?

### Lessons Learned:

- Adding a new priority for a service is challenging
- Initial improvement does not guarantee continued improvement
- Increased service obligations (higher census, higher patient acuity, and changes due to the COVID crisis) change the workflow of a service and create new obstacles when trying to add a new task to the work-flow

Residency/Fellowship Program: Pediatric Infectious Diseases, Pediatric Allergy/Immunology, Pediatrics Residency, Pediatric Hospital Medicine  
 Residency/Fellowship Team Leaders: Eric Wohlford (AI), Peter Cooch (ID), Karen Anstey (AI), Yongtian Tina Tan (Peds), Danielle Nahal (Peds), Lauren Grant (Peds), Marta Elster (PHM), Matt Nordstrom (PHM), Sarah Schechter (PHM), Nora Pfaff (PMH)  
 Faculty QI Mentors: Rachel Wattier (ID/ASP, primary coach), Trang Trinh (Medication Outcomes Center), Iris Otani(AI)

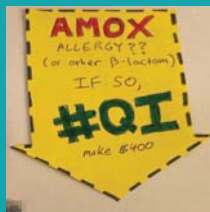
## Background

Literature shows that while ~10 in 100 people are labeled as having a Beta lactam allergy (BLA), the prevalence of true BLA is ~1 in 100, meaning many patients with listed BLA could safely receive beta lactam (BL) antibiotics. Patients labeled with BLA often receive broader, less effective, or more toxic antibiotic therapies. Reported BLA amongst hospitalized patients is associated with increased length of stay, cost of care, adverse events, and mortality. The label of a BLA is often acquired in childhood and carried into adulthood, potentially effecting quality of care for decades downstream.

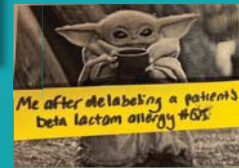
## Project Goals

Broadly, our goals were to to improve provider and patient family knowledge gaps surrounding BLA through lean methodology and resident/fellow engagement. By improving knowledge and engaging caregivers from multiple disciplines, we hoped to empower providers to interrogate listed beta-lactam antibiotic allergies in pediatric patients, ultimately expanding options in their antimicrobial therapy and improving long term patient outcomes.

**PROBLEM STATEMENT:** The problem we were trying to solve is persistent low rates of assessing listed beta-lactam antibiotic allergies for delabeling in admitted pediatric patients



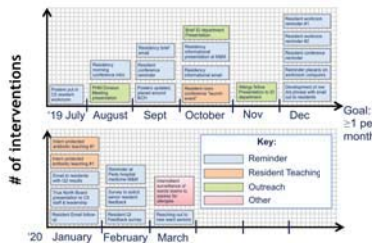
**Many children with documented beta-lactam allergies do *not* have a true allergy; we identified barriers and proposed solutions for allergy screening in interdisciplinary teams**



Pictures, starting from top L: 1) computer reminder for QI project, 2) resident with *Penicillium* stuffie prize after successfully answering questions during teaching session, 3) additional computer reminder for QI project, 4) resident teaching session for project.

## Project Plan and Intervention(s)

We focused mainly on lean methodology and resident/fellow engagement. Lean processes included a gap analysis, action plan, iterative cycles, and hospital leadership presentations via “True North” boards and rounding, summarized below.



Interventions to date have emphasized multimodal provider education, including conferences, visual cues, and day and nighttime teaching. Supportive initiatives have included the creation of electronic health record (EHR) resources, such as problem lists, “dot-phrases”, and automated data pulls.

## Project Evaluation & Impact

We maintained an ongoing QI project evaluation which included a run chart demonstrating the proportion of patients meeting our project goals by quarter. Run chart data was extracted from the electronic medical record. Manual data audits were performed on a sample from each quarter to assess for accuracy and possible practice gaps. Qualitative project input was obtained via a midyear survey to residents providers to assess familiarity with the project objectives, which demonstrated broad involvement in the QI activities among respondents. For example, 63% reporting having added a history of penicillin or cephalosporin allergy to the patient’s problem list, and 26% having referred a patient with a BLA allergy for Allergy consult.



The final impact of this year’s project remains to be seen. Although to date we have not yet met our goal of 60% assessment in any quarter, it does appear interventions have been successful at increasing screening and assessment for listed beta-lactam allergies among pediatric inpatients. The process to delabel an allergy is often not a simple intervention, requiring multiple patient and family touchpoints. The inpatient setting offers a potential opportunity to initiate this process, which ultimately may confer long term benefits in patient outcomes.

## Next Steps, Dissemination & Lessons Learned

Our project led to an increased proportion of BLA delabeling assessments of patients on the inpatient hospital medicine and pediatric infectious disease services. By the end of the year we had several residents applying what they had learned to help children even on other services receive appropriate antibiotics, and reporting feeling more comfortable in assessing children for allergic reactions. This said, we also learned that there are continued obstacles to having this assessment included in the workflow of interdisciplinary patient teams, particularly in creating time sensitive systems for residents and appropriate problem list labeling in Epic. Resident feedback included difficulty screening patients due to time constraints, as such it became important for us to create effective and time sensitive systems including concise dot phrases and standardized columns for patient lists in Epic.

We hope to continue this project into the coming academic year, with hopes to expand it to care teams who serve more complex patient populations in the Transitional Care Unit and Pediatric Intensive Care Unit, where patients potentially have even more to gain from a thorough understanding of their antibiotic tolerance. Additionally, we hope to continue to find strategies to incorporate new skills and opportunities into our teaching pediatric services.



## Background

- Patients with SLE at higher risk of developing invasive pneumococcal disease.
- Historical debate over the safety and efficacy of pneumococcal
  - Recent work shows that PCV 13 and PPSV 23 are both safe and immunogenic
- Current CDC recommendations for children who are immunocompromised include vaccination with PCV 13 followed by PPSV 23.
- Vaccination against pneumococcus is priority of the Adult Rheumatology division
  - Included in the RISE Learning Collaborative goals for quality improvement (<https://risepro.ucsf.edu/case-studies/increasing-pcv13-vaccination-rates>).
  - Their current vaccination rates are just over 50%, this was achieved after hard work and significant education of providers, clinic staff and patients.
- We have approximately 100 patients with SLE in SF practice
- Chart review of 10 randomly selected SLE patients
  - None of had documented completion of CDC recommended pneumococcal vaccines.
- In a poll of the providers in our practice 20% knew the recommended CDC guidelines for pneumococcal vaccinations.

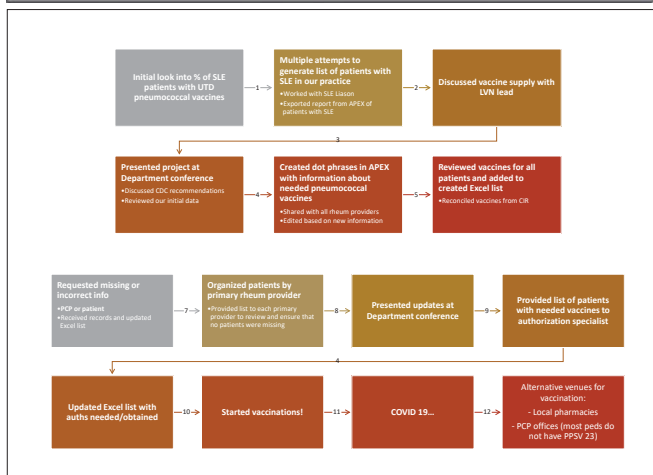
## Project Goals

- 1) By August 2019 we will document pneumococcal vaccine status (PCV 13 and 23) for 95% of patient with lupus (seen in our clinic in the past year and had visit coded with IDC 10 code for systemic lupus erythematosus) in our clinic in the EMR.
- 2) By June 2020 we will have documented start of appropriate pneumococcal vaccine sequence in 50% of our patient with SLE.

**PROBLEM STATEMENT:** The problem we were trying to solve was that our patients with systemic lupus erythematosus were not being vaccinated against pneumococcal disease as per CDC recommendations.

- We documented pneumococcal vaccine status for 100% of our patients with SLE
- 20% of our patients with SLE have now started or completed their pneumococcal vaccine series

## Project Plan and Intervention(s)



## Project Evaluation & Impact



## Next Steps, Dissemination & Lessons Learned

**Next Steps:**

- Alternate locations for vaccinations including: PCPs office (typically for PCV 13 only) and local pharmacies
- PCP and family communications
- Updating list, creating process for keeping UTD
- Adopting vaccine monitoring into annual SLE comprehensive birthday visits

**Lessons Learned:**

This project has brought to light the difficulty with information gathering across multiple EHR and paper records and of record keeping outside of the EHR. Additionally, we have become acutely aware of the multiple layers involved in making even small changes to standard clinical practices.



# Improving post-operative team communication: an addendum to the brief operative note

Laura Wong, Hunter Oliver Allen, Deborah Martins, and Mary McGrath  
The Division of Plastic and Reconstructive Surgery

## Background

Plastic surgeons are frequently consulted by other hospital services to provide perioperative expertise and assistance with complex surgical wounds. Following these surgical procedures, specific post-operative instructions are communicated to the primary team to optimize the success of our surgical intervention. The primary team is responsible for placing all orders, which minimizes errors. Prior to this project, recommendations were communicated verbally to a member of the primary team during the immediate post-operative period and then were subsequently reflected in daily progress note plans. With this system, recommendations were not in writing until post-operative day 1, contributing to confusion and uncertainty amongst nurses and other providers.

## Project Goals

Our goal was to improve adherence and understanding of post-operative recommendations. To achieve this goal, a standardized addendum with post-operative recommendations was created to add on to the brief operative note. The brief operative note is a required part of the record written by the surgical resident in APEX after every case, which succinctly covers important operative details. Our addendum to the brief operative note included recommendations regarding DVT prophylaxis, antibiotic plans, NSAID use, activity restrictions, surgical site care, drain management, follow-up, and the appropriate service pager information. The goal was at least 75% compliance for all inpatient cases in which plastic surgery was involved.

**PROBLEM STATEMENT:** It was noted that post-operative plastic surgery recommendations for patients for whom the plastic surgery team served as consultants were not being routinely followed. A root cause analysis suggested a failure of communication. Verbal communication was not effective and there was no standardized practice of providing written recommendations in the electronic health record on the day of surgery.

Creating a standardized template for communicating post-operative plans to primary inpatient teams improved communication between teams and resulted in improved adherence to post-operative recommendations. Once implemented, the standardized template was used in 84% of all inpatient plastic surgery cases.

## Project Plan and Intervention

We conducted a root cause analysis which demonstrated that lack of availability of appropriate primary team providers during post-operative sign-out, and no place in the written health record for clear recommendations, were contributing to poor communication and negatively impacting patient care.

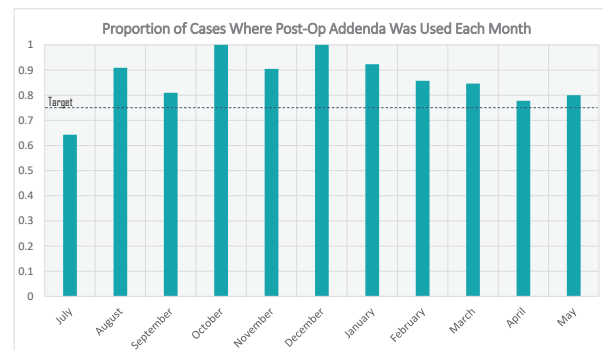
We hypothesized that a post-operative addendum placed at the top of the brief operative note would improve communication between teams. We leveraged APEX to create a dot phrase (Z019postop) which the operating resident would fill out describing various important post-operative recommendations, including weight bearing status, DVT prophylaxis, use of NSAIDs, diet, and antibiotic recommendations.



Figure 1: An example of the post-operative addendum for a co-case with colorectal surgery

## Project Evaluation & Impact

We assessed the success of implementing the post-operative addenda by auditing a random week of cases during each month. Using this proxy, the post-operative addenda was used in 84% of all plastic surgery cases. Anecdotally, we noted improvement in adherence to post-operative recommendations and received positive feedback from primary teams.



## Next Steps, Dissemination & Lessons Learned

### Next Steps:

Our next step is to continue with implementation by adding the post-operative addenda to the standard APEX template, no longer requiring the extra step of putting in the dot phrase. This template would be available to other surgical services to facilitate communication between and among teams. Our close collaboration with general surgery has resulted in their creation of a similar project aimed at using the post-operative note to communicate the post-operative plan. Additional work needs to be done to assess whether this intervention resulted in improved adherence to recommendations.

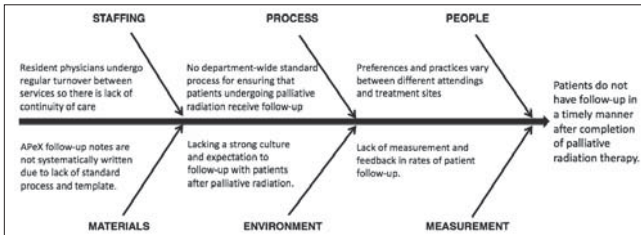
### Lessons Learned:

When recommendations are not being followed, the reason is likely a simple failure of communication which can occur at multiple levels. Empathy and a thorough root cause analysis leads to proper identification of the problem which ultimately leads to more impactful quality improvement.

**Background**

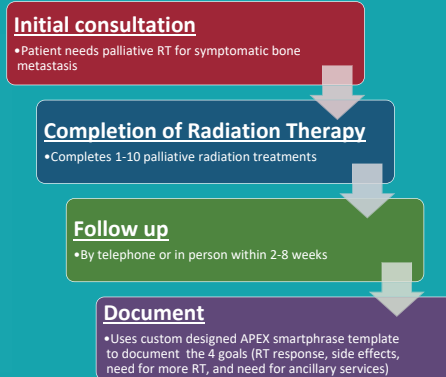
Forty to fifty percent of radiation therapy (RT) treatments are palliative in intent. In order to align with True North Pillars to improve the patient satisfaction, treatment efficacy, and treatment safety of palliative radiation, routine and/or scheduled radiation follow-up is required to assess these outcomes. However, in the January to February of 2019, less than 25% of patients with bone metastases treated with palliative radiation had documented follow-up within 8 weeks. The lack of patient follow-up may result in missed opportunities to detect radiation-related side effects in order to improve safety, enact interventions and/or counseling regarding these side effects to improve patient outcomes and satisfaction, consideration for re-irradiation for incomplete pain relief to improve overall treatment efficacy, and referrals to ancillary services when indicated to improve coordination of care.

**Root Cause Analysis**



**PROBLEM STATEMENT:** Documentation of follow-up within 2-8 weeks after radiation therapy for patients treated with palliative intent for bone metastases is under 25%.

**We improved the rate of patient follow-up after palliative radiation for bone metastases from a baseline of 25% to over 60% by implementing a standardized follow-up protocol.**



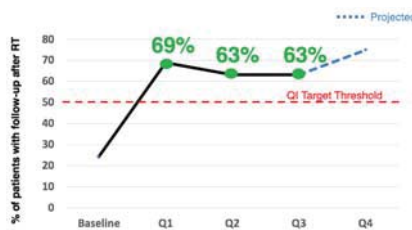
**Project Goals**

1. Ensure that **at least 50%** of patients treated for palliative bone metastases will be followed up by telephone by the resident involved in his or her treatment within 2-8 weeks following palliative radiation treatment
2. At follow-up, assess treatment response, adverse effects/toxicity, need for additional radiation or ancillary supportive care services.

**Hypothesis:** A standardized protocol needed to be established to change the culture, establish a process, and provide the materials necessary to promote higher rates of patient follow-up.

**Project Evaluation & Impact**

**Project Goal Met in Q1-Q3**

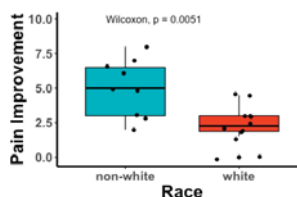


We achieved our Q1 goal of having >50% follow-up for the first 3 quarters.

**Project Interventions**

1. **Culture - Establish the expectation**
  - a. Established the expectation that all patients who undergo palliative radiation therapy for symptomatic bone metastases receive follow-up within 2-8 weeks of completing radiation therapy.
  - b. Introduced this expectation at all-resident morning conference.
  - c. Sent quarterly reminder emails to all residents.
2. **Process - Create a tracking system**
  - a. Created a process for tracking follow-up contact with patients using existing patient tracking spreadsheets.
3. **Materials - Documentation Smartphrase**
  - a. Created an APEX SmartPhrase to facilitate standardized documentation of patient telephone follow-up encounters.

**Cultural/racial differences in pain reporting**



Systematic patient follow-up enabled analysis of pain scores by race. While initial pain scores across race were similar across race, non-white patients reported larger improvements in pain score compared to white counterparts.

**Next Steps, Dissemination & Lessons Learned**

**Next Steps:** We intend to sustain this protocol within the department by distributing the effort across physicians, nursing staff, and support staff.

**Dissemination:** An abstract detailing our methodology and findings has been accepted for presentation at the American Society for Radiation Oncology Annual Meeting to be held October 2020.

**Lessons Learned:** We learned that residents are highly motivated to improve patient care. Small process improvements can have a tremendous impact. Setting expectations up front is necessary for a group to achieve a unified goal. Reminder emails are important to re-inforce and maintain awareness and focus on established goals. In the future, we would like to assess resident satisfaction with this project using surveys prior to and after the intervention.

### Background

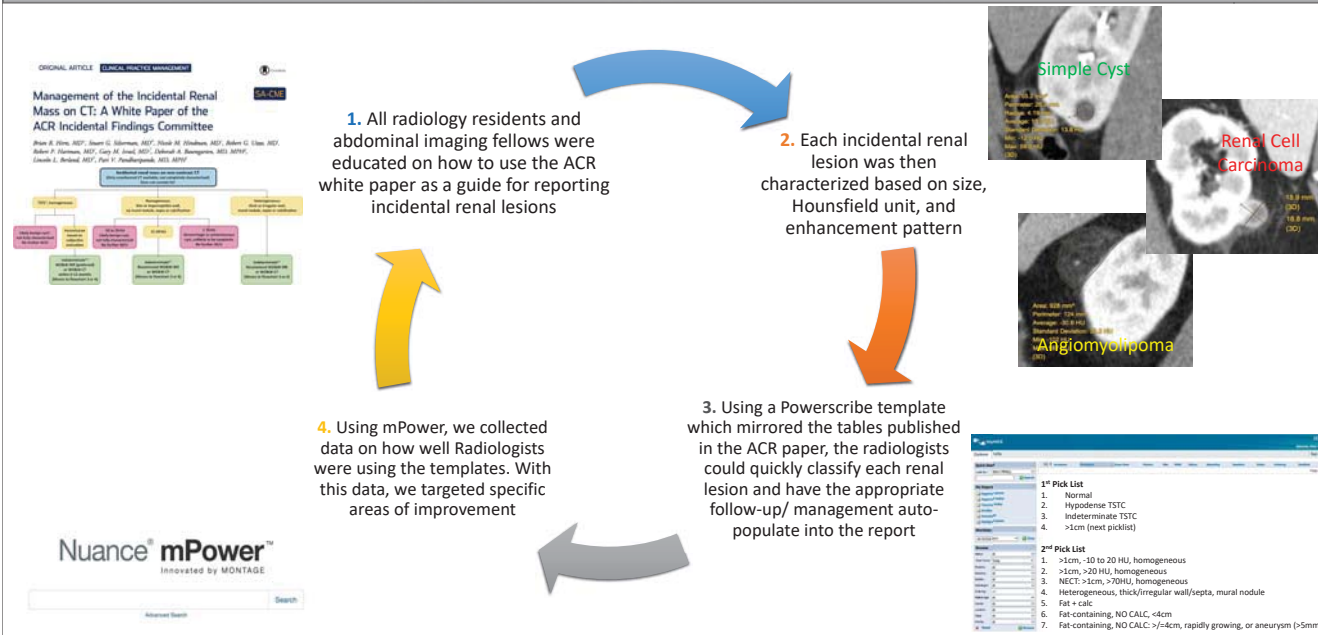
- Renal lesions are common incidental findings on abdominal CT and MRI and can lead to significant patient anxiety and additional burden on the healthcare system in terms of cost and resource use.
- ACR white paper has been published with consensus opinions on how to standardize the reporting of incidental renal lesions, but are not currently in use by the UCSF radiology department.

### Project Goals

- Use a standardized reporting template to describe incidental renal lesions detected on CT scans of the Abdomen and Pelvis with and without intravenous contrast.
- Target Goal: 70% of reports during the 12 month period from July 1 2019 to June 30<sup>th</sup> 2020 will correctly use the standardized reporting template.

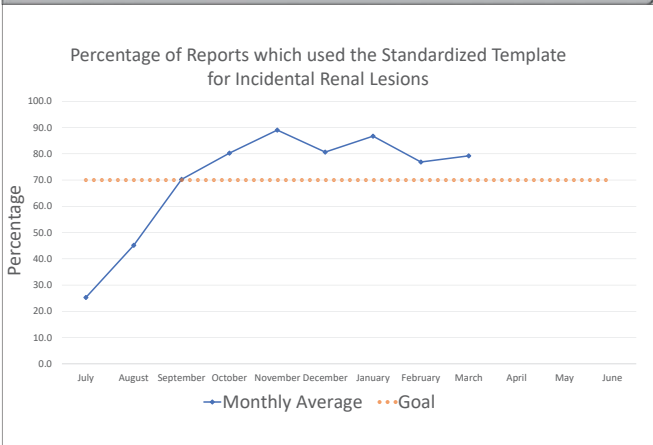
**Problem Statement:** The problem we were trying to solve was patient anxiety and ordering provider confusion over how to manage incidental renal lesions detected on CT scans of the abdomen and pelvis with and without contrast.

## Project Plan and Intervention(s)



**We implemented a standardized reporting template for incidental renal lesions detected on CT scans with clear recommendations for follow-up management and achieved over 70% compliance during the 2020 fiscal year.**

### Project Evaluation & Impact



### Next Steps, Dissemination & Lessons Learned

With the standardized template developed in Powerscribe, the list of ACR-recommendations for incidental renal lesions based on imaging criteria will always be available for radiologist to use.

This project may be carried out in any sections and be helpful for reporting other incidental lesions such as pulmonary nodules. Given that this project has proven our department has the capability of implementing a standardized template, we could use our project as a guide for such future projects.

**Lessons Learned:** The success of this project required four things. Literature with clear consensus guidelines, imaging findings which can stratify benign vs malignant lesions, an electronic system which can auto-populate follow-up and management recommendations, and a robust data collection system which allows real time feedback.

# MINIMIZING CLINIC CALL VOLUME FROM PHARMACY BY UTILIZING APEX MEDICATION PRESCRIPTIONS

**Project Leads:** Amy Wijekoon, Heather Huddleston, Martha Noel  
**Team Members:** Diana Zhou, Viji Sundaram, Kaitlyn Wald, Eduardo Hariton, Jerrine Morris  
**Programs:** Reproductive Endocrinology and Infertility

## Background

- **Identifying the Problem: 14-20% of clinic calls to clarify Rx**
  - Pharmacist clarifying patient name, dose, quantity
  - Patients unable to pick up a Rx at pharmacy
- **Pillars: Quality & Safety and Our People**
  - Urgent Line: Medical assistant time spent to verify Rx
  - Care Team: Patient coordinator verifying Rx and disrupting work flow
  - Patients: Dissatisfaction with wait time to pick up Rx

## Project Goals

UCSF FY19 TN GOAL

↓ 25%

VOLUME OF CLINIC  
PHONE CALLS  
REGARDING MED  
CLARIFICATION

TARGET

<10.5%

OF ALL CLINIC PHONE  
CALLS ARE  
REGARDING MED  
CLARIFICATIONS

**PROBLEM STATEMENT:** We aimed to decrease medication ordering errors that resulted in high volume of clinic calls from pharmacy for medication clarification.

**BY TRANSITIONING THE CLINIC TO APEX MEDICATION ORDERING, WE DECREASED CLINIC PHARMACY RELATED CALL VOLUME BY 11%.**

## Project Plan and Intervention(s)

**INTERVENTION: ENTER PHARMACY ORDERS THROUGH APEX RATHER THAN FAXING OR CALLING PRESCRIPTIONS**

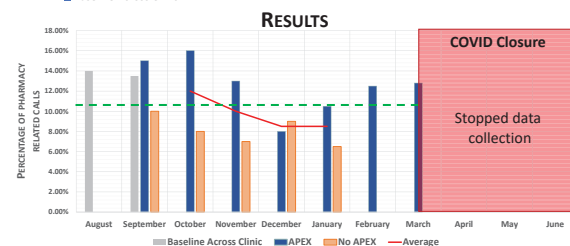
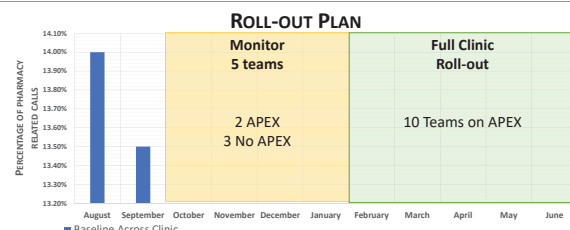


### HURDLES

- RNs unfamiliar with APEX**
  - Created APEX training presentations
  - Small session training with RNs to onboard them
- Perspectives on work flow efficiency**
  - Created RN order set with commonly ordered meds
  - Started experiment with 2 care teams, then full roll out
- Signing off APEX medications**
  - Created REI NP and Fellow pool in APEX
  - Set expectation for twice daily sign off

### PLANS

## Project Evaluation & Impact



## Next Steps, Dissemination & Lessons Learned

### Next Steps

Resume APEX medication ordering when clinic fully reopens

### Lessons Learned

- Rolling out APEX ordering in steps allowed for troubleshooting with smaller group
- Rise in phone calls with initial RN learning APEX system

## Background

- Tuberculosis (TB) reactivation due to **disease modifying anti-rheumatic drugs (DMARDs)** should be a **NEVER** event
- Most targeted DMARDs carry an increased risk of TB reactivation
- Treatment of latent TB prior to initiation of these DMARDs is recommended
- Rates of screening for latent TB are low both nationally and locally (Fig. 1)

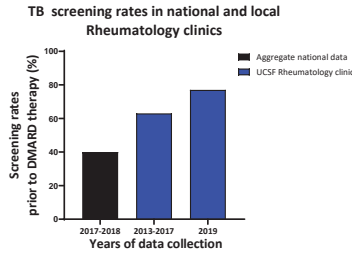


Fig. 1. TB screening rates as a percentage of eligible patients adequately screened prior to initiation of DMARDs. Aggregate national data were derived from the RISE registry (Schmijak G, et al., in preparation). UCSF Rheumatology clinic data from 2013-2017 were previously published (Patterson S, et al. *J Comm J Qual Pt Saf*, 2019). Data from 2019 were established from limited chart review (M.G.S and H.V.N., unpublished data).

## Project Goals

- To increase UCSF Rheumatology clinic screening rate for latent TB prior to DMARD initiation from a baseline of ~60-80% (Fig. 1) to a **goal of 90%** over the 2019-2020 academic year

### Gap Analysis for TB screening in the UCSF Rheumatology Clinic

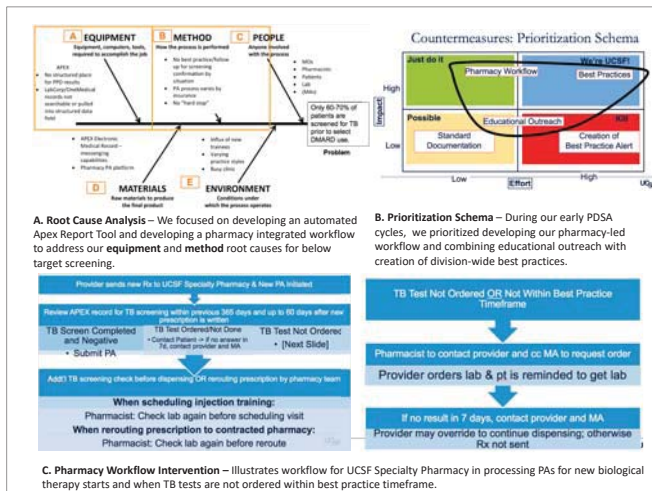


Fig. 2. Gap analysis for TB screening in the UCSF Rheumatology clinic based on manual physician chart review by M.G.S. and H.V.N. over 6-month period in 2020. 74 patients were eligible for TB screening with a PPD or quantiferon-gold (QFT) prior to DMARD initiation. Only 57/74 patients had adequate TB screening documented (77%, see Fig. 1). Lapses in screening included: 1) PPD or QFT documented but performed outside of recommended time-frame, 2) PPD or QFT ordered by provider but not performed prior to DMARD initiation, 3) PPD ordered and performed but no result found in chart, and 4) unable to be determined (no PPD or QFT order or result AND no provider documentation regarding TB screening).

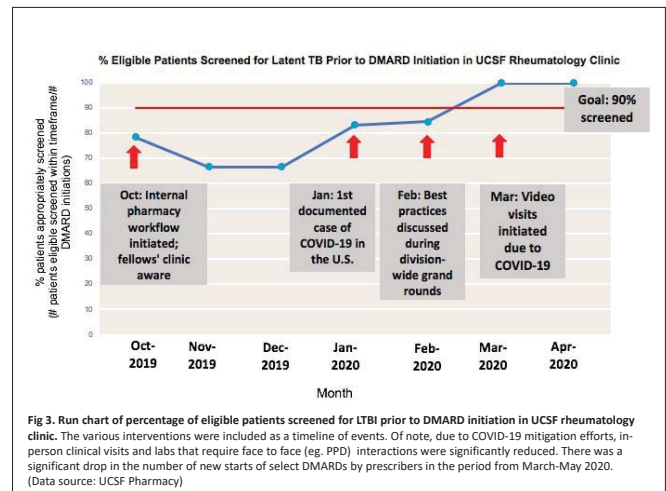
**PROBLEM STATEMENT:** Only 60-80% of Rheumatology patients are screened for TB prior to initiating select DMARDs that place them at risk for TB reactivation.

# WE IMPROVED SCREENING FOR LATENT TB ON DMARD STARTS BY 20% AND DEVELOPED DIVISION-WIDE BEST PRACTICES FOR TB TESTING.

## Project Plan and Interventions



## Project Evaluation & Impact



## Next Steps, Dissemination & Lessons Learned

### Next Steps:

- Validate Apex reporting tool → Integrate reporting tool into pharmacy workflow → Continue quarterly PDSA cycles to modify workflow intervention → Review filter criteria for Apex reporting tool based on new medications approved and division-wide best practices (ongoing process)
- Partner with the Office of Population Health to disseminate QI metrics and interventions to MarinHealth rheumatology affiliates (timing TBD due to COVID-19)

### Lessons Learned:

- Engage key stakeholders early in the development of potential interventions to gauge feasibility • Collaborate to produce standard work to achieve the highest degree of consistency in the latent TB screening process • □ Develop screening interventions that involve people, processes, and technology across different silos • □ Leverage structured data in the EHR to help automate the process to evaluate the pharmacy-led workflow for latent TB screening



## Background

One aspect of the opioid crisis in the United States relates to easy access of opioids to the general public in the form of leftover narcotics after surgical recovery. Most patients after urologic surgery have leftover opioid medications, and the large majority do not receive any instructions on what to do with them.

In preliminary studies, one factor that can influence whether patients dispose of opioids properly is if they recall being instructed by a medical professional on proper opioid disposal.

The DEA and FDA recommend returning unused medications to a pharmacy/kiosk, disposing with undesirables in the trash, or flushing.

There is also an education gap in RNs and MDs discharging patients who are unaware of the importance of proper disposal and how to counsel patients

## Project Goals

Currently, opioid disposal is not specifically addressed in surgical discharge instructions given to patients and is not discussed as a part of RN discharge counselling in person.

Our goals are to increase opioid disposal awareness within the RN and MD teams taking care of these patients, and to incorporate specific wording with detailed instructions for postoperative urology patients instructing them on proper disposal.

Long term, we hope that these interventions will have an impact on patient behavior and knowledge regarding proper medication disposal

**PROBLEM STATEMENT:** How do we educate patients on the importance of proper disposal of leftover opioid medications after surgery, and instruct them on proper opioid disposal methods?

# WE EDUCATED PATIENTS ON HOW TO PROPERLY DISPOSE OF LEFTOVER OPIOIDS AFTER UROLOGIC SURGERY

## Project Plan and Intervention(s)

### Education:

We provided didactic lectures to our urology service residents and nurse practitioners to educate them on proper disposal techniques so that they can better counsel and discuss these issues with our patients.

We provided unit-based education with the PACU leadership, as well as three inpatient units where urology postoperative patients primarily recover to improve awareness and education of this issue with the RN teams.

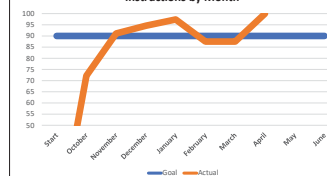
### Intervention:

We incorporated a phrase with specific disposal instructions that was created by a patient communications specialist to include in all surgical discharge instructions for urology patients discharged with narcotic medications.

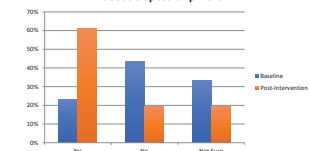
This phrase was included in the surgery specific area of instructions where discharge RNs are taught to discuss point by point with the patient.

## Project Evaluation & Impact

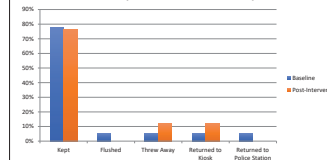
Percent Urology Discharges with Opioid Disposal Instructions by Month



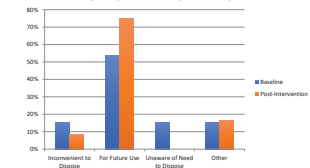
Did patients receive written instructions about disposal? p = 0.011



What did patients do with excess opioids?



Why did patients keep excess opioids?



## Next Steps, Dissemination & Lessons Learned

We were able to successfully incorporate specific narcotic disposal instructions into all of our postoperative patients' postoperative instructions. We did this by creating a standardized instruction set for all of our postoperative patients.

We also followed up with these patients to find out if our intervention had a significant impact on patient behavior. While more patients remember receiving instructions after our intervention, it did not appear to have an impact on actual disposal behavior.

Next steps are to identify the barriers to actual patient adherence and find ways to overcome them. We plan to incorporate pharmacists in patient education, and continue to work on RN and MD awareness measures.

