2017-2018 Resident and Fellow Quality Improvement Incentive Program

Participating Programs:

- Anesthesiology Residency
- Cardiology Fellowship
- Dermatology Residency
- Emergency Medicine Residency
- General Surgery Residency
- Gyn Onc Fellowship
- Hematology/Oncology Fellowship
- Hospice and Palliative Care Medicine Fellowship
- Internal Medicine Residency
- Medical Genetics Residency
- Neonatology Fellowship
- Neurological Surgery Residency
- Neurology Residency
- OB/GYN Residency
- Ophthalmology Residency
- Orthopaedic Surgery Residency
- Otolaryngology Residency
- Pediatric Anesthesia Fellowship
- Pediatric Cardiology Fellowship
- Pediatric Critical Care Fellowship
- Pediatrics Residency
- Plastic Surgery Residency
- Psychiatry Residency
- Pulmonary & Critical Care Fellowship
- Radiation Oncology Residency
- Radiology and Biomedical Imaging Residency
- Reproductive Endocrinology and Infertility Fellowship
- Urology Residency
<table>
<thead>
<tr>
<th>Program</th>
<th>Target/Goal</th>
<th>Resident/Fellow</th>
<th>Name of the Faculty QI lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anesthesiology Residency</td>
<td>Appropriate use of neuromuscular monitoring and reversal agents in patients who have received neuromuscular blocking drugs (NMBDs) in at least 75% of patients cared for by residents, cumulative over the 2017-18 year.</td>
<td>Jack Jeng; Lei Xu; Jake Ceci; Shona Lee</td>
<td>Matthias Braehler, Alexandra Anderson</td>
</tr>
<tr>
<td>Cardiology Fellowship</td>
<td>Screen at least 80% of adult outpatients for active tobacco use and provide at least 80% of patients who self-identify as active tobacco users with smoking cessation counseling and resources, cumulative over the 2017-18 year.</td>
<td>Jeremy Tietjens; Blake Charlton</td>
<td>Krishan Soni</td>
</tr>
<tr>
<td>Dermatology Residency</td>
<td>Decrease the amount spent on unnecessary testing per patient on isotretinoin by 25%, from $217 (baseline) to less than $163, cumulative over the 2017-18 year.</td>
<td>Jason Meyer; Tim Schmidt</td>
<td>Jack Resneck</td>
</tr>
<tr>
<td>Emergency Medicine Residency</td>
<td>Provide language-specific discharge instructions to at least 42% of patients with non-English preference, cumulative over the 2017-18 year.</td>
<td>Jessica Paz; Julia Chang; Cortlyn Brown</td>
<td>Steve Polevoi; Jacqueline Nemer</td>
</tr>
<tr>
<td>Gastroenterology Fellowship</td>
<td>Improve the percent of patients who have an acceptable bowel prep to 90% cumulative over the 2017-18 academic year.</td>
<td>Roshan Patel</td>
<td>Aparajita Singh</td>
</tr>
<tr>
<td>General Surgery Residency</td>
<td>75% resident compliance in ordering the &quot;MD Delirium orderset&quot; either in the post-operative order set or within 6 hours of admission, cumulative Oct 1-June 30.</td>
<td>Jenny Kaplan; Steve Wisel; Michael Zobel</td>
<td>Rytutaro Hirose</td>
</tr>
<tr>
<td>Gyn Onc Fellowship</td>
<td>Screen and document financial toxicity risk for at least 30% of eligible patients cumulatively over academic year. Patients who screen positive will be referred to appropriate resources, cumulative over the 2017-18 year.</td>
<td>Megan Swanson</td>
<td>Pelin Cinar</td>
</tr>
<tr>
<td>Hem/Onc Fellowship</td>
<td>Screen and document financial toxicity risk for at least 30% of eligible patients cumulatively over academic year. Patients who screen positive will be referred to appropriate resources, cumulative over the 2017-18 year.</td>
<td>Hala Borno; Li-Wen Huang; Sam Brondfield; Claire Mulvey</td>
<td>Pelin Cinar</td>
</tr>
<tr>
<td>Hospice and Palliative Care</td>
<td>Among palliative care consultations for the indication of &quot;Advance Care Planning/Goals of Care,&quot; fellows will increase the documentation of GOC and treatment preferences, or an attempt to discuss these topics, in the Advance Care Planning from 54% to 80%, cumulative over the 2017-18 year.</td>
<td>Jessi Humphreys; Brieze Keeley; Laura Schoenherr; Jennifer Olenik</td>
<td>Giovanni Elia</td>
</tr>
<tr>
<td>Medicine Residency</td>
<td>75% of all patients screening at risk for delirium (AWOL+) or positive for delirium (Nu-DESC+) will have delirium order sets implemented within 12 hours in 3 out of 4 best performing quarters.</td>
<td>Jin Ge; Nicole Kim; Leslie Suen; Sergey Gajic</td>
<td>Cat Lau; Stephanie Rogers</td>
</tr>
<tr>
<td>Medical Genetics Residency</td>
<td>A 20% decrease in “time to run” from the date that the patient is seen to the date on which the test is actually run.</td>
<td>Daniah Beleford; Victoria Berger</td>
<td>Shilpa Chetty</td>
</tr>
<tr>
<td>Neonatology Fellowship</td>
<td>Increase the percentage of families receiving written communication from the NICU team on the medical status of their baby from from 0% to 80% or greater by June 30, 2018.</td>
<td>Rachael Beckert</td>
<td>Janet Shimotake</td>
</tr>
<tr>
<td>Neurological Surgery Residency</td>
<td>Document presence of drains and indications/requirements for the drains in at least 80% of patients, cumulative over the 2017-18 year.</td>
<td>Derek Southwell; Ramin Morshed</td>
<td>Sujatha Sankaran</td>
</tr>
<tr>
<td>Neurology Residency</td>
<td>Ensure POLST form in medical record for 75% of patients discharged from neurology services who are not &quot;Full Code,&quot; cumulative over the 2017-18 year.</td>
<td>Jessamyn Connell-Price; Thomas Ragole; Brian Sauer; Jeremy Tanner</td>
<td>Andy Josephson</td>
</tr>
<tr>
<td>OB/GYN Residency</td>
<td>Document completion of cesarean section postoperative debriefing process in 65% of cesarean sections in the UCSF Birth Center, for 3 of 4 quarters, over the 2017-18 year</td>
<td>Martha Tesfalal</td>
<td>Dr. Ben Li</td>
</tr>
<tr>
<td>Ophthalmology Residency</td>
<td>Increase the outpatient follow-up adherence from 33% to 50% for 3-out-of-4 quarters for Moffitt-Long inpatients seen as ophthalmology consults with follow-up scheduled in ophthalmology clinic.</td>
<td>Catherine Sun</td>
<td>Reza Vagafi</td>
</tr>
<tr>
<td>Orthopaedic Surgery Residency</td>
<td>Reduce total opiates prescribed by 10% in orthopedic surgery patients admitted post-surgery (excluding patients with chronic opioid dependence or abuse), cumulative over the 2017-18 year.</td>
<td>Patrick Curran; Trevor Grace</td>
<td>Bobby Tay</td>
</tr>
<tr>
<td>Otolaryngology Residency</td>
<td>Communication tool for inpatient surgical cases will be utilized in at least 80% of patient care episodes over the 2017-18 year.</td>
<td>Elizabeth Cedars; Sean Alemi; Molly Naunheim; Conor McLaughlin</td>
<td>Patrick Ha</td>
</tr>
<tr>
<td>Pediatric Anesthesia Fellowship</td>
<td>To reduce spending on protective garments (&quot;bunny suits&quot;) for family members in the Children’s Pre-operative areas by 10% cumulative over FY17 (adjusted to 9-15-6/30).</td>
<td>Denise Chang; Masood Memarzadeh</td>
<td>Marla Fersch; Jina Sinskey</td>
</tr>
<tr>
<td>Pediatric Cardiology Fellowship</td>
<td>Fellows will achieve 75% compliance with the Post Catheterization Vascular Occlusion Protocol, cumulative over the 2017-18 year.</td>
<td>Fateman Hassan; Annyr Hsieh; Christiana Tai; Diwakar Turaga; Samuel Keller</td>
<td>Phillip Moore</td>
</tr>
<tr>
<td>Pediatric Critical Care Fellowship</td>
<td>Increase total procedural sedation log completion from 5.5% to 75% completion, cumulative over the 2017-18 year.</td>
<td>Helayne Feferman</td>
<td>Deborah Franzon</td>
</tr>
<tr>
<td>Pediatrics Residency</td>
<td>Increase in the percentage of patients discharged before noon to a target goal of 24%, cumulative over the 2017-18 year.</td>
<td>David Chen; Matthew Nordstrom</td>
<td>Darren Fiore</td>
</tr>
<tr>
<td>Residency Program</td>
<td>Goal Description</td>
<td>Responsible Parties</td>
<td>Status</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Plastic Surgery Residency</td>
<td>75% of wound care consult requests will receive initial recommendations within 24 hours, cumulative over the 2017-18 year.</td>
<td>Eric Wang; Daniel Balkin; Michael Holland; Rachel Lentz; Laura Wong; Mary McGrath</td>
<td>Green</td>
</tr>
<tr>
<td>Psychiatry Residency</td>
<td>Increase monthly completion rate of PHQ-9 for adult psychiatry follow-up encounters to greater than 25%, cumulative over the 2017-18 year.</td>
<td>A. Ning Zhou; Elizabeth Rawson; Ellie Elmschig; Josh Carroll; Weston Fisher</td>
<td>Red</td>
</tr>
<tr>
<td>Pulmonary &amp; Critical Care Fellowship</td>
<td>Achieve 75% completion rates for the discharge template, indicating clearly specify in the time-frame needed and prerequisites before follow-up, cumulative over the 2017-18 year.</td>
<td>Lekshmi Santhosh; Alyssa Perez; Bhavika Kaul; Lorri Leard</td>
<td>Red</td>
</tr>
<tr>
<td>Radiation Oncology Residency</td>
<td>Documentation of “plan of care for pain” will be documented in &gt;50% of new patient consultations seen by residents for bone metastases in the department of Radiation Oncology for 3 out of 4 best performing quarters in the 2017-2018 academic year.</td>
<td>Lauren Boreta; Christopher Chapman; Jason Chan; Shannon Fogh</td>
<td>Green</td>
</tr>
<tr>
<td>Radiology and Biomedical Imaging Residency</td>
<td>Ensure that ≥75% of significant adverse contrast events are documented in the radiology imaging report using a standard reporting template, or in Apex as a note, cumulative over the 2017-18 year.</td>
<td>Molly Chapman; Christopher Hess</td>
<td>Green</td>
</tr>
<tr>
<td>Reproductive Endocrinology and Infertility Fellowship</td>
<td>Achieve a 50% reduction in delayed preoperative H&amp;P completion to improve clinic efficiency, cumulative over the 2017-18 year.</td>
<td>Amanda Adeleye; Heather Huddleston</td>
<td>Green</td>
</tr>
<tr>
<td>Urology Residency</td>
<td>75% resident compliance in ordering the “MD Delirium orderset” either in the post-operative order set or within 6 hours of admission, cumulative Oct 1-June 30.</td>
<td>Bogdana Schmidt; Max Meng</td>
<td>Green</td>
</tr>
</tbody>
</table>
UCSF Resident and Clinical Fellow Quality Improvement Incentive Program
in partnership with the 2018 UCSF Health Improvement Symposium

Goals of Care Documentation in Inpatient Palliative Care Consultations

Background
- In June 2017, a baseline analysis of a sample of 20 patients seen by the Palliative Care Service (PCS) over prior 4 months revealed that 55% were seen for goals of care (GOC) discussions.
- Among patients seen for GOC:
  - 63.3% had goals documented anywhere in the chart by PCS (e.g., in the note or in the problem list).
  - Only 54.5% had documentation of overall goals of care (e.g., curative, comfort-focused) and at least one specific treatment preference (e.g., code status, dialysis).

Primary Outcome
Among palliative care consultations “Advance Care Planning/Goals of Care,” who are discharged from UCSF Medical Center at Parnassus between September 1, 2017 and May 31, 2018, HPM fellows will increase the overall percentage of patients with documentation of GOC and treatment preferences, or an attempt to discuss these topics, in the palliative care consult note from 54% to 80%.

Secondary Outcome
Among palliative care consultations for “Advance Care Planning/Goals of Care” above, HPM fellows will increase the overall percentage of patients with documentation of GOC and treatment preferences in the permanent problem list (“Overview”).

Project Plan and Intervention

Root Cause Analysis
- The team created a dot phrase (below) to encourage consistent, succinct, and time-saving documentation of GOC and at least one treatment preference.
- The project and dot phrase were introduced at monthly palliative care meetings and through monthly emails to the division to encourage dot phrase use.

Intervention
- PCS providers document goals of care in varied locations without standardized of content.
- Providers on non-PCS services do not have a standardized way to identify GOC in the EMR.
- Intervention must not increase note-writing burden.

Project Goals

Primary Outcome
Among palliative care consultations “Advance Care Planning/Goals of Care,” who are discharged from UCSF Medical Center at Parnassus between September 1, 2017 and May 31, 2018, HPM fellows will increase the overall percentage of patients with documentation of GOC and treatment preferences, or an attempt to discuss these topics, in the palliative care consult note from 54% to 80%.

Secondary Outcome
Among palliative care consultations for “Advance Care Planning/Goals of Care” above, HPM fellows will increase the overall percentage of patients with dot phrase (PCSACP) documentation of GOC and treatment preferences in the permanent problem list (“Overview”).

Next Steps, Dissemination & Lessons Learned

Next Steps:
1. Improve orientation materials on the ACP dot phrase for residents and fellows rotating on PCS
2. Investigate ways to automatize the use of the ACP dot phrase
3. Incorporate overview of the ACP problem on problem list into ACP Navigator

Dissemination:
1. Submission to the American Academy of Hospice and Palliative Medicine national conference for presentation in Spring 2019
2. Collaborate with non-PCS services at UCSF the ACP dot phrase for improved standardization of GOC documentation

Lessons Learned:
1. MD-focused intervention undervalues work and documentation of PCS team members of other disciplines who lack access to problem list

Audit

Goals of Care Documentation in Palliative Care Consultation for GOC

<table>
<thead>
<tr>
<th>Any GOC Documented</th>
<th>GOC in Problem List</th>
<th>Treatment Preferences Documented</th>
</tr>
</thead>
<tbody>
<tr>
<td>percentage (%)</td>
<td>Percentage (%)</td>
<td>Percentage (%)</td>
</tr>
<tr>
<td>50</td>
<td>54</td>
<td>58</td>
</tr>
<tr>
<td>60</td>
<td>62</td>
<td>64</td>
</tr>
</tbody>
</table>

Example Month: February 2018

Primary Outcome
- Surpassed primary goal of > 80% documentation of GOC and 1+ treatment preference in each month
- Implementation of dot phrase to centralize and summarize GOC and treatment preferences increased overall GOC documentation rates

Secondary Outcome
- 100%* of GOC & at least 1 TP in A/P
- 95.8%* of Overview with PCSACP

* = goal met

Monthly Outcomes

Key Results:
- Surpassed primary goal of > 80% documentation of GOC and 1+ treatment preference in each month
- Implementation of dot phrase to centralize and summarize GOC and treatment preferences increased overall GOC documentation rates

UCSF Health
Brieze Keeley, MD
Jennifer Olenik, MD
Jessi Humphreys, MD
Laura Schoenherr, MD
Hospice and Palliative Medicine Fellowship
Non-depolarizing neuromuscular blocking drugs (NDNMBDs) are commonly used in ORs. Evidence-based guidelines to prevent residual neuromuscular blockade include:
- Quantitative monitor showing TOF-R ≥ 0.9 or
- Administration of reversal agent (e.g. neostigmine or sugammadex) or
- Leaving patient intubated

Important because residual neuromuscular blockade associated with:
- Postoperative adverse respiratory events (i.e. hypoxia, aspiration, pneumonia)
- Prolonged PACU stay
- Unintended ICU admission
- Increased utilization of resources

Background

- Literature: 20-40% of PACU patients found to have residual neuromuscular blockade
- 2016 UCSF baseline rates of adherence to evidence-based guidelines:
  - Residents: J. Jeng, L. Xu, J. Cecil, S. Lee, T. Wang, J. Libaw
  - Faculty: L. Liu, A. Anderson, M. Braehler
  - Resident Baseline: 2016
  - Goal: Increase resident adherence to evidence-based guidelines on preventing residual neuromuscular blockade by 10%

Outcome

- % of patients who received NDNMBDs treated according to evidence-based guidelines:
  - Spontaneous neuromuscular recovery with quantitative TOF ratio ≥ 0.9 prior to extubation
  - Reversal agent administered prior to extubation
  - Patient remained intubated

Inclusion criteria

- Patients ≥ 18 years of age
- Patients who received NDNMBDs

Exclusion criteria

- Patients < 18 years of age
- Patients with a medical contraindication to reversal or where reversal was clinically inappropriate

Interventions

- Departmental education on evidence-based guidelines for monitoring and reversal of NDNMBDs
  - Quarterly presentations at Grand Rounds with performance updates
  - Email reminders with educational materials
  - Reminder pages to anesthesia residents
  - Reference cards on anesthesia carts in operating rooms
  - Acquisition of additional quantitative neuromuscular monitors (STIMPOD and E-NMT)

Project Plan and Intervention(s)

Project Goals

- Non-depolarizing neuromuscular blocking drugs (NDNMBDs) are commonly used in ORs
- Evidence-based guidelines to prevent residual neuromuscular blockade include:
- Quantitative monitor showing TOF-R ≥ 0.9 or
- Administration of reversal agent (e.g. neostigmine or sugammadex) or
- Leaving patient intubated

Project Evaluation & Impact

- Departmental education on evidence-based guidelines for monitoring and reversal of NDNMBDs
  - Quarterly presentations at Grand Rounds with performance updates
  - Email reminders with educational materials
  - Reminder pages to anesthesia residents
  - Reference cards on anesthesia carts in operating rooms
  - Acquisition of additional quantitative neuromuscular monitors (STIMPOD and E-NMT)

Next Steps, Dissemination & Lessons Learned

Next Steps:

- Compare pre and post survey results on provider knowledge and practices regarding monitoring & reversal
- Correlate reversal/no reversal with PACU length of stay
- Correlate reversal/no reversal with PACU desaturation events and supplemental O2 requirement
- Evaluate cost effectiveness of monitoring & reversal with respect to drug usage and OR time utilization

Dissemination:

- Encourage same practice guidelines in ICU and pediatric populations when using NDNMBDs
- Present QI project and results at national conferences to help spread best practices

Lessons Learned:

- Provider education on evidence-based guidelines is key to changing clinical practice and achieving sustained compliance
- Launching a successful project and retaining buy-in required the coordinated efforts of a multi-disciplinary team, which included administration, faculty, CRNAs, residents, anesthesia techs, and IT support
Smoking Cessation Screening & Education in the Cardiac Cath lab

**Background**

- Tobacco use contributes to the global burden of cardiovascular disease.
  - Prevalence of smoking among Californian Adults was 11.6% in 2014 according to the Behavioral Risk Factor Surveillance System, 1988-2014.
- Therefore, reduction of smoking rates are an important aim at both the public health and individual level.
- Systematic screening of patients for tobacco use and provision of counseling and cessation resources for active smokers have been shown to reduce the use of tobacco products.
- UCSF has prioritized tobacco cessation by implementing systematic screening and cessation counseling for adult inpatients.
- Outpatients referred for coronary angiography have significantly higher baseline cardiovascular risk as compared with the general population and therefore would particularly benefit from tobacco screening.
- However, these patients are not systematically screened for active tobacco use and are rarely offered cessation counseling.

**Project Goals**

Goal #1: Screen at least 80% of adult outpatients referred to the UCSF cardiac catheterization lab for coronary angiography for active tobacco use.

Goal #2: Provide at least 80% of patients who self-identify as active tobacco users with brief counseling as to the importance of smoking cessation and printed resources for further assistance with cessation.

**Project Plan and Intervention(s)**

- Integrate tobacco screening & counseling into the daily cath lab workflow.
  - Fellows educated about importance of screening & counseling.
  - Identified tobacco cessation as a departmental priority.
  - Document current tobacco use status into pre-procedure H&P.
  - Aid provider compliance by providing reminder for tobacco use.
  - Provide a reliable mechanism for measuring provider compliance.

- Create standardized tobacco cessation materials to provide smokers.
  - Ensure that all tobacco users are provided with high quality information about cessation resources (pictured right).
  - Standardizing resources is also optimally efficient from workflow perspective.

**Project Evaluation & Impact**

As shown in the bar graph to the left, our group was successful in meeting the project’s prespecified improvement targets. Specifically, we achieved a 98.6% rate of screening outpatients for current smoking and a 92% rate of providing smoking cessation counseling to those patients who screened positive for active smoking – both of which were greater than the 80% target rate for both objectives.

**Cumulative Screening and Counseling Success Rates**

While our group achieved both project goals, our data revealed a surprisingly low prevalence of active smoking in our target patient population. Of 442 patients screened, just 3.2% self-identified as active smokers. Therefore despite high rates of both screening and counseling, a net total of just 13 active smokers received counseling throughout the first 3 quarters of the year.

**Next Steps, Dissemination & Lessons Learned**

**Next Steps:**
Our immediate next step will be to collect and integrate data from the 4th quarter to ensure our screening and counseling rates remain high. Given the low prevalence of active smokers in our target patient cohort, the crucial next steps will be to determine whether the unexpectedly low number of active smokers to whom counseling was delivered justifies the provider-level workload necessary to continue carrying out the project in future years.

**Dissemination:**
All outpatient procedures performed at UCSF Medical Center require a pre-procedure H&P, and thus dissemination to other departments and settings could be performed in a relatively straightforward fashion by adapting our SmartPhrase to the respective H&P template.

**Lessons Learned:**
The most unexpected aspect of our project thus far was the surprisingly low number of active smokers who ultimately received counseling due to the lower than expected smoking prevalence, despite succeeding in our goals of screening and counseling the majority of patients in our target cohort. Potential explanations for this include inaccurate reporting/data collection and/or a real discrepancy between our expected and real-world smoking prevalence. We performed two quality control checks by independently reviewing individual Apax charts during a given month to verify current smoking status using documentation outside the cath lab visit. We found no cases during the two months reviewed in which current smoking was documented in Apax outside the pre-cath H&P. Plausible explanations for a smoking prevalence lower than projected include possible referral bias - outpatients referred to our cath lab may be less likely to be active smokers than would be expected based on data published by the Department of Health pertaining to California smoking rates (11.6% in 2014). Additionally, we observed a very high proportion of patients who had been referred for angiography as a component of evaluation for solid-organ transplantation. While we did not formally collect data on this in order to precisely quantify, our estimate is that roughly 1/3 of patients in our target cohort met this criteria. The true smoking prevalence in this subgroup would undoubtedly be 0% as active smoking would preclude transplant candidacy.

UCSF Resident and Clinical Fellow Quality Improvement Incentive Program
in partnership with the 2018 UCSF Health Improvement Symposium
Acne Wisely
Reducing unnecessary laboratory costs for isotretinoin

Jason Meyer, MD, PhD
Timothy Schmidt, MD, PhD
Department of Dermatology

Background
Laboratory monitoring is expensive!

True North Pillar: Financial Strength
(Lower our costs)

Isotretinoin lab abnormalities: typically mild

Serious adverse effects are very rare
(case reports only for pancreatitis, hepatitis, agranulocytosis)

Project Goals
Routine acne patients
No risk factors, normal baseline labs

Recommended tests
Baseline: Fasting lipid panel + ALT
1 or 2 months: Triglycerides + ALT

Unnecessary testing (definition):
Any testing beyond the above

Goal: Reduce unnecessary laboratory costs by 25%

Testing at UCSF Dermatology (baseline)

Testing at UCSF Dermatology (baseline)

Unnecessary laboratory costs

Cost reductions of at least 76% sustained through Q1 – Q3
Certain individual providers were over-represented in excess testing
Random surveys: Recommendations were forgotten

Next Steps, Dissemination & Lessons Learned
Next Steps:
Systematize reminders (by email, grand round announcements) to maintain cost reductions
Extend the project to monitoring for other retinoids (acetretin, bexarotene)

Dissemination:
Literature review and educational lecture to reduce cost of monitoring for other medications

Lessons learned:
Literature review is important in evaluating the rationale for laboratory monitoring
Educational interventions can be very effective in reducing laboratory costs
Reminders are important to maintain good practices
Discharge instructions (DCI) are an essential component of all emergency department (ED) visits. Written discharge instructions allow patients to understand what happened in the ED, the next steps that need to be taken for their health (follow up plan, medications, etc), and the concerning symptoms to prompt a return visit.

8% of UCSF ED patients report that English is not their primary language, yet at the beginning of our QI period, nearly all DCI were given in English.

Studies show that DCIs written in patients' preferred language lead to better compliance and satisfaction.

### Project Goals

- **Primary outcome:** Increase the percentage of patients who receive language-specific discharge instructions by 30% among patients with non-English preference.

- **Numerator:** # visits by non-English preferring patients who receive DCI in their preferred language.

- **Denominator:** # visits by non-English preferring patients.

- **Secondary outcome:** Increase the understanding of DCI during callbacks for emergency department visits.

### Background

Discharge instructions (DCI) are an essential component of all emergency department (ED) visits. Written discharge instructions allow patients to understand what happened in the ED, the next steps that need to be taken for their health (follow up plan, medications, etc), and the concerning symptoms to prompt a return visit.

8% of UCSF ED patients report that English is not their primary language, yet at the beginning of our QI period, nearly all DCI were given in English.

Studies show that DCIs written in patients' preferred language lead to better compliance and satisfaction.

### Project Evaluation & Impact (First Quarter)

#### Table 1. Percentage of non-English speaking patients in Q1 that received language specific DCI

<table>
<thead>
<tr>
<th>Language</th>
<th>Discharge instructions that used language specific DCI</th>
<th>Total N of patients who list this as their primary language</th>
<th>Percentage of language specific DCI used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russian</td>
<td>2</td>
<td>55</td>
<td>3.6%</td>
</tr>
<tr>
<td>Chinese</td>
<td>37</td>
<td>249</td>
<td>14.9%</td>
</tr>
<tr>
<td>Spanish</td>
<td>5</td>
<td>572</td>
<td>1.9%</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>572</td>
<td>7.7%</td>
</tr>
</tbody>
</table>

#### Table 2. Frequency of chief complaint DCIs utilized

<table>
<thead>
<tr>
<th>Chief Complaint/Language</th>
<th>Total N Utilized</th>
</tr>
</thead>
<tbody>
<tr>
<td>BACK PAIN - Russian</td>
<td>2</td>
</tr>
<tr>
<td>LACERATION - Chinese</td>
<td>2</td>
</tr>
<tr>
<td>SHORTNESS OF BREATH - Chinese</td>
<td>2</td>
</tr>
<tr>
<td>BACK PAIN - Chinese</td>
<td>3</td>
</tr>
<tr>
<td>CHEST PAIN - Spanish</td>
<td>5</td>
</tr>
<tr>
<td>CHEST PAIN - Chinese</td>
<td>5</td>
</tr>
<tr>
<td>HEADACHE - Chinese</td>
<td>5</td>
</tr>
<tr>
<td>ABDOMINAL PAIN - Chinese</td>
<td>8</td>
</tr>
<tr>
<td>Department visit - Chinese</td>
<td>12</td>
</tr>
</tbody>
</table>

#### Challenges:

- With unexpected upgrade of EPIC (UCSF Apex), we were unable to continue to track our data by searching for the use of the dotphrases beyond Q1.

  - Some users were unaware that the dotphrases existed and others would have liked more chief complaints.

#### Next Steps:

Encourage residents to continue to use the discharge instructions and develop process in EPIC to track use.

#### Possibilities to increase awareness:

- Embedding champion like charge nurses or senior residents who can audit and educate in real time.

  - Consider using an EPIC notification that the patient might need language specific discharge information.

#### Dissemination:

These DCIs will be accessible to all providers using UCSF Apex since these DCIs will be beneficial to other specialties, particularly primary care as there is significant overlap between the ED and primary care chief complaints.

**Special Thanks**

Dr. Glenn Rosenbluth, Alexis Stanley, and the UCSF Patient Care Fund for their generous support, Tobias Schmelzinger for technical support, and the UCSF Patient Education Materials Committee for their time and input.
Jenny Kaplan and Steve Wisel
Mentor: Ryutaro Hirose
General Surgery

Delirium Prevention in General Surgery Patients

Background

Preoperative patients are at high risk for development of delirium — up to 55% of surgical inpatients and up to 80% of surgical inpatients in the ICU experience some degree of postoperative delirium (1). Postoperative delirium can lead to a host of complications:
- Safety: Delirium leads to increased rates of falls, pneumonia, and mortality (2).
- Financial: Cognitive impairment and functional decline related to delirium can increase the overall cost per case, increasing utilization of resources such as rehabilitation and physical therapy.
- Systemic Growth: Complications related to delirium increase the overall length of hospital stay.

UCSF nursing units have begun delirium screening. Surgery residents will need to learn how to interpret these tests and respond appropriately in the form of preventative nursing care orders and appropriate workflow and management should delirium occur.

Project Goals

With development and implementation of the AWOL screening as a reliable predictor of delirium, our goal is to improve physician utilization of delirium prevention measures in at-risk patients

Goal Target State:
- Surgical services to use delirium orderset in 75% of at-risk patients (based on clinical suspicion or AWOL score)
- Delirium orderset to be used in a timely fashion so as to be preventative, within 3 hours of unit admission

Project Plan and Intervention(s)

Target Services: acute care surgery, colorectal surgery, gyn/ob, thoracic surgery, plastic, ambulatory, breast, and endocrine surgery

Interventions:
- Monthly emails with reminders and results
- Intern education
- Handouts in all call and work rooms

Barriers:
- No communication around AWOL screening score
- Not all patients who received delirium orderset also were screened for AWOL
- No development of surgery-specific AWOL score
- Many services included in project

New Goal Identified in February 2018

Given difficulty with implementation new goal of 50% compliance with orderset usage in patients who either screened positive for AWOL or scored positive on NuDESC at any time during admission.

Project Evaluation & Impact

Main outcome measure #1:
Use of orderset in patients screening AWOL positive or testing positive on NuDESC

Main outcome measure #2:
Time from unit admission to placement of delirium orderset

Additional data:

Resident survey results:

Next Steps, Dissemination & Lessons Learned

Next Steps:
- Work with department to identify a report writer for general surgery
- Embed delirium order in admission order set
- Work with delirium team on surgery specific AWOL score
- Work with PACU and floor nurses around communication of positive screening scores

Dissemination:
Surgical teams can work together with nurses to streamline paging workflow and identify communication barriers. Creation of care pathways (i.e. colorectal ERAS) is the best way to improve compliance.

Lessons Learned:
Placing the onus on residents to remember to use an orderset when no reminder system is in place, and when the screening tool does not perform well in their target population, is difficult and was unsuccessful.
Background

Financial toxicity is an increasingly recognized problem for patients receiving cancer treatment and is defined as the “unintended financial consequences of patients embracing expensive treatments.”

This is a problem because: Financial toxicity can include the objective financial burden and the subjective financial distress. In the era of precision medicine, the rise in the cost of cancer care may have serious potential effects on the delivery of high-quality, patient-centered care.

Project Plan and Intervention(s)

Figure 3. The screening tool was developed by multiple conversations with the HDFCCC social work team to identify themes that may inform a financial toxicity screening tool.

Figure 4. The initial intervention was a dot smart phrase in Apex.

Figure 5. The refined intervention became an Apex tab.

Figure 6. PDSA cycle we changed from screening all new or established patients to only screening established patients.

Next Steps, Dissemination & Lessons Learned

Next Steps: Based on qualitative feedback obtained from participating fellows.

• Explore financial toxicity screening by non-fellow clinic staff prior to the clinical encounter.
• Augment provider financial toxicity training in improve provider comfort with this topic.
• Improve financial toxicity screening adherence with continual reminders.

Dissemination:

• Develop institutional best practices for detecting financial toxicity for high cost chronic conditions.

Lessons Learned:

• Fellows felt financial toxicity was an important subject that impacted patients significantly.
• Fellows were generally unfamiliar with financial toxicity and felt uncomfortable discussing it with patients.
• Packed clinic visits and difficulty remembering to screen were significant barriers to effective screening.
• Fellows felt that other clinic staff might be better suited to screen patients for financial toxicity.
#DeleteDelirium: A Internal Medicine Residency Program’s Efforts to Reduce In-Hospital Delirium

## Project Goals

**Primary Goal:** to decrease delirium rate and subsequent morbidity for patients with delirium

- **Specific Measure:** For patients who screen (+) for AWOL or NuDESC, increase % who have DO placed to >75% in 3 of 4 quarters from 7/1/2017-6/30/2018
- **Baseline:** From the period of January to June 2017, medicine residents successfully placed the DO on 63% of AWOL- and NuDESC-positive patients during their hospitalizations.

**Secondary Goals:**
- Improve recognition and management of delirium by internal medicine residents
- Improve outcomes (e.g. decrease length of stay (LOS)) for patients with delirium (NuDESC-positive)

## Project Plan and Intervention(s)

### Delirium Pathway

- Pt admitted to hospital floor
- RN calculates AWOL & NuDESC
- Care Team works to provide DO
- Resident orders DO
- If +, resident is paged by RN or resident finds score in EMR

### Key Project Interventions

1. Disseminating bimonthly progress dashboards to residents
2. Resident education at conferences and via email
3. Adding NuDESC and AWOL scores to EMR to allow for daily checks of all medicine residents’ patients
4. Directly contacting medicine teams that performed well and poorly to help identify barriers and successes
5. Proactively paging residents about patients with delirium
6. Incorporating paging into existing resident role (Bat)

### The Delirium Orderset (DO)

- Notify provider if no BM > 48 hours
- Initiate fall precautions
- Use chair for all meals, ambulate in halls
- Provide patient with therapeutic activities appropriate for cognitive status
- If no Foley, bladder scan x 1, straight cath for > 300cc
- Resident patient to location and date
- Nursing care bundle – fluids within reach, hearing aids to bedside, close blinds at night, encourage daytime family visitors
- Non-pharmacologic sleep protocol – provide warm drink, relaxing music, eye mask, minimize interruptions between 11pm to 5am

## Background

- Delirium is a syndrome that develops acutely & fluctuates, characterized by disturbed attention, awareness, and cognition.
- Delirium is a serious illness which impacts the experience and safety of our patients. It prolongs their length of stay and cost of hospitalization.
- In hospitalized patients, the AWOL and NuDESC tools are used by nurses to screen for delirium risk and active delirium, respectively.
- The delirium orderset (DO), a non-pharmacological delirium pathway, has been implemented at UCSF for patients with positive AWOL and NuDESC scores. This has led to decreased length of stay and improved outcomes.
- However, the DO has been under-utilized for patients on the hospital medicine teaching service.

## Project Evaluation & Impact

### % Orderset Compliance

![Graph showing % Orderset Compliance with Time intervention launched and Mean LOS for patients with delirium.](image)

**Goal:** 75%

**Baseline:**

- Jan-17: 65%
- Feb-17: 63%
- Mar-17: 65%
- Apr-17: 61%
- May-17: 51%
- Jun-17: 56%
- Jul-17: 66%
- Aug-17: 62%
- Sep-17: 67%
- Oct-17: 71%
- Nov-17: 74%
- Dec-17: 90%
- Jan-18: 91%
- Feb-18: 93%
- Mar-18: 96%
- Apr-18: 95%

**Time intervention launched:**

- Jan-17 to Apr-18

**Mean LOS for patients with delirium:**

- Jan-17 to Apr-18

## Next Steps, Dissemination & Lessons Learned

**Next Steps:**

While placement of the DO is an important place to start, it would be interesting to better understand how effectively the individual elements of the DO are being executed for patients with the DO on hospital units.

**Dissemination:**

The delirium work done by internal medicine residents is also being implemented in the general surgery and urology departments. The delirium working group has broadened efforts to nearly all of the floors at the UCSF Moffitt-Long Hospital. Our work could be included in a how-to guide for other institutions looking to tackle delirium in a similar way.

**Lessons Learned:**

Tackling delirium reduction is a multidisciplinary effort requiring buy-in from the front-line providers – physicians, nurses, patient care associates, physical and occupational therapists, alike. DO placement is merely one component, but we need to engage all providers to help execute the plan for at-risk or delirious patients to create meaningful improvements.
Improving Parent Communication Around Time of Infant Delivery and Intensive Care Nursery Admission

**Project Plan and Intervention**

Provide a paper “half sheet” with written status of baby, location of baby in ICN, ICN contact information, and pertinent birth information that parents may refer to.

![Half sheet image]

A member of the ICN team will return to parents’ room to provide further updates on infant multiple times through stabilization period of infant.

We predict these interventions will help the parents feel more informed on the status of their infant and they will have a better patient experience.

**Background**

Parents of infants taken to the Intensive Care Nursery (ICN) after delivery often do not have an understanding of the status of their infant, or where their infant is located in the hospital. This creates a poor patient experience. Often, the mother is still recovering from surgery, and the father is overwhelmed with caring for both his wife and child, so they cannot adequately retain spoken information provided by the ICN staff. This problem has the greatest effect on the first day of an infant’s hospitalization, before the parents have had the chance to visit the ICN, or attend rounds.

**Project Goals**

Increase the percentage of families receiving written communication from the ICN team on the medical status of their baby from from 0% to 80% or greater by June 30, 2018.

According to Press Ganey survey, prior to our intervention, we have only provided adequate (>80%) information about baby’s medical condition at birth for 3 out of the last 11 months (see graph below).

**Press Ganey Scores Post Intervention**

Information About Baby’s Medical Condition at Birth

We have provided half sheets to >80% of patients admitted to the ICN at time of delivery for 9 out of the past 10 months. Cumulatively, 87% of infants admitted to the ICN since July 1, 2017 have received half sheets.

According to our Press Ganey Scores we provided adequate (>80%) information about baby’s medical condition at birth for 100% of the last 9 months since starting our intervention.

**Next Steps, Dissemination & Lessons Learned**

Next Steps:

We are going to continue giving out written communication, in the same form as the half sheet shown above, for any infant admitted to the ICN at time of delivery.

Dissemination:

Written communication could be given to parents of children in the hospital for treatment plans, discharge requirements, or other complicated medical information.

Lessons Learned:

Good communication strongly impacts parent experience in the ICN and small interventions can make a big difference.
Neurosurgical patients frequently undergo drain placement for management of post-operative fluid collections or removal of cerebrospinal fluid. Without close monitoring, neurosurgical drains may be left in place for longer than necessary. This may in fact pose harm to the patient as drains are foreign objects associated with increased infection risk, prolonged length of stay in higher level-of-care nursing units, and decreased patient comfort and mobility. Together, these factors impact quality and safety, as well as patient experience.

At the outset of this project, there were no standards for assessing and then documenting 1) length of drain application (i.e. duration of ongoing drain use) and 2) daily requirement/indication for continued drainage.

Our goal was to determine and improve upon the rate of drain documentation in resident progress notes. This included:
1) The presence of drains (including number of drains and drain output)
2) The indication/requirement for ongoing drainage

Next Steps:
We will continue to assess drain documentation compliance and standardize the use of the Apex Patient List ‘drain’ column. In an effort to reduce unnecessary drain use, we will begin to quantify length of drain application for different surgical procedures, and attempt to develop standards for length of drain application.

Dissemination:
Our intervention, the Apex Patient List drain column, can be adapted and incorporated into Patient Lists used by other services.

Lessons Learned:
Prior to our intervention, drain documentation compliance was relatively high. While our efforts appear to have improved compliance, our experience indicates the importance of the Gap Analysis.
**Background**

- 1/3 of elderly and seriously ill patients lack advance directives.
- Only 1/5 have such documents readily accessible to providers.
- Improving goals of care discussions, documentation, and accessibility can ensure patients' wishes are met.
- Proposed as a quality metric for inpatient neurologic care.
- Physician Orders for Life-Sustaining Treatment (POLST):
  - Medical form enabling patients to communicate their preferred medical treatments.
  - Transforms patients' wishes into actionable physician orders.
  - Transfers between facilities and applies in ALL settings.

**Project Goals**

**Target**

- 75% of patients discharged from neurology services who are not “Full Code” have POLST forms completed and uploaded to their medical record.

**Status Quo**

- Only 26% of patient discharged from neurology services had POLST forms completed and uploaded despite “code status” orders reflecting wishes against interventions.
- Cases of patients inappropriately receiving emergency CPR against their wishes on re-presentation due to lack of accessible POLST form at time of initial discharge.

**Project Plan and Intervention**

<table>
<thead>
<tr>
<th>Preparations</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Surveyed residents, nursing, and staff to identify baseline knowledge and perceptions.</td>
<td>1. Created and implemented a streamlined workflow with interdisciplinary team.</td>
</tr>
<tr>
<td>2. Outlined status quo workflow for completing and uploading POLST.</td>
<td>2. Outlined team approach with fail-safes.</td>
</tr>
<tr>
<td>3. Engaged unit and department leaders to identify gaps and opportunities.</td>
<td>3. Ensured accessible forms.</td>
</tr>
<tr>
<td>4. Strategized approach with field experts.</td>
<td>4. Included reminders in note templates.</td>
</tr>
</tbody>
</table>

**Education**

- Resident education via conference presentation, handouts, and email.
- Nursing and staff education via staff meeting presentations, handouts, and email.
- Created instructions for EMR resources.
- Informative flyers on neurology units.
- Bimonthly email reminders.

**Evaluation**

- Created EMR report to track measurements for all patients discharged from neurology units.
- Provided bimonthly results dashboard to teams.
- Shared positive public announcements for teams that surpassed goal.
- Results posted on neurology unit boards.

**Project Evaluation & Impact**

**POLST Completion by Year**

<table>
<thead>
<tr>
<th>Year</th>
<th>2014-15</th>
<th>2015-16</th>
<th>2016-17</th>
<th>2017-18</th>
</tr>
</thead>
<tbody>
<tr>
<td>% POLST Completion</td>
<td>12%</td>
<td>21%</td>
<td>40%</td>
<td>79%</td>
</tr>
</tbody>
</table>

**POLST Completion 2017-18**

<table>
<thead>
<tr>
<th>Month</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>% POLST Completion</td>
<td>71%</td>
<td>71%</td>
<td>75%</td>
<td>83%</td>
<td>100%</td>
<td>67%</td>
<td>67%</td>
<td>100%</td>
<td>79%</td>
<td>34/43</td>
</tr>
</tbody>
</table>

**Next Steps, Dissemination & Lessons Learned**

**Next Steps:**

- Design system to ensure sustainability including positive reinforcement and education.

**Dissemination:**

- Creates an interdisciplinary model that can be applied to other inpatient units.

**Conclusions:**

- Targeted educational and system-level interventions can improve advance care planning and transitions in care to promote treatment aligned with patients’ wishes.
- Interdisciplinary approach critical to creating and promoting a successful system change.

**References:**


**UCSF Resident and Clinical Fellow Quality Improvement Incentive Program**

in partnership with the 2018 UCSF Health Improvement Symposium
Outpatient clinic RN receives The average length of stay for the H&N OHNS service readmitted • readmissions. have subsequent ED visits or and lack of appropriate supplies, and can include confusion about wound care call after discharge with many issues, including confusion about wound care and lack of appropriate supplies, and can have subsequent ED visits or readmissions. • OHNS service readmitted 11.96% of its patients within 30 days of discharge from July 2016 – March 2017 (ReDash). • The average length of stay for the H&N service is 6.41 days for YTD as of Jan 2017 (Svcline dash), with 7 medically unnecessary days of inpatient care per week due to discharge delays (1 wk resident tracking). • Outpatient clinic RN receives 20.8 post- operative issues/day (1 wk RN tracking). 47.2% of issues are a result of medication issues, general questions, home supplies, and unplanned medical care.

Background

UCSF as an institution aims to achieve zero harm and continually improve patient care. Head and Neck Cancer patient discharges after free-flap surgery are complex, requiring coordination of equipment and home health services, as well as patient understanding and support. However, there are concerns about patient safety at discharge: patients call after discharge with many issues, including confusion about wound care and lack of appropriate supplies, and can have subsequent ED visits or readmissions.

Project Plan and Intervention(s)

Our gap analysis revealed the following areas as potential contributors to our current state:

- Medication Issues: conflict between national initiative to reduce pain meds and patient need; unknown pain med requirements; drug not a covered benefit and requires further authorization; patients do not leave hospital with medications in hand
- General Questions: different hospitalization experiences for every patient; different needs with different discharge instructions; patients don’t know what is normal after discharge; information is too much and nonstandard = patient confusion, forgetful, not relevant at time
- Home supplies: patients don’t have DME they need upon discharge; insurance doesn’t cover DME; no access to supplies they need in their community
- Bounce back: unanticipated medical problems; inability to tolerate PO; poor pain control; lack of understanding of normal post-op course; lack of supplies in their community/outpatient

After discussion with residents, attendings, and the UBLT, the planned intervention entailed: Standardized communication tool in the form of a “Plan of Care” note placed by primary team on transfer from ICU to floor (usually POD2) for all Mission Bay free flap patients. Includes checklist of the following information:

- Anticipated discharge destination
- Wound care
- Anticipated discharge diet
- Anticipated home equipment needs

The goal is to improve communication such that all team members have an understanding and early awareness of the discharge plan; provide consistent patient and family teaching throughout admission; and enable outpatient team to reference the anticipated plan after discharge.

Our resident incentive goal consisted of the following process measure: Use of the communication tool in at least 80% of Mission Bay free flap patient care episodes between July 1 2017 – June 30 2018.

Project Evaluation & Impact

Next Steps, Dissemination & Lessons Learned

Next Steps:
- Assess utility and ease of use from perspective of care team (attendings, residents, PT, OT, SLP, case management), and modify as needed
- Incorporate information contained in note into standardized pathway currently being developed
- Assess outpatient tracking of calls to identify areas of continued care breakdown and consider additional interventions to improve understanding and care

Dissemination:
Incorporation of a system of documentation for early coordination of care during admission could be performed by other services, with modification of checklist to address individual service needs

Lessons Learned:
Improvement is best implemented with involvement of multiple people rather than reliance on a single individual to achieve a task; Communication continues to be an area of improvement that can significantly impact patient care.
Improving Inpatient to Outpatient Follow-up for Ophthalmology Consults at Parnassus

Catherine Sun, MD
Ophthalmology Residency

Background

Inpatients seen for ophthalmology consultation are not always seen for their recommended follow-up in ophthalmology outpatient clinics following discharge. It is important to ensure that patients with serious ophthalmic conditions that can be vision-threatening are not lost-to-follow-up.

Between 3/1/17-3/28/17, 33 inpatient ophthalmology consults were seen at Moffitt-Long Hospitals.

• Of the 16 patients whom we recommended outpatient follow-up and who did not have an existing non-UCSF eye provider, 5 (31%) had scheduled appointments listed for ophthalmology clinic as of 4/7/17.

• Of those 5 patients, 2 (33%) patients no-showed and were rescheduled, and 1 patient had follow-up scheduled in the near future (after review date of 4/7/17).

While these numbers are only representative of one month, it appears that there is room for improvement in terms of scheduling follow-up and increasing outpatient follow-up adherence.

Project Goals

Residents will increase the outpatient follow-up adherence from 33% to 50% for 3-out-of-4 quarters for Moffitt-Long inpatients who were seen as ophthalmology consults and had recommended outpatient follow-up scheduled in ophthalmology clinic.

Project Evaluation & Impact

We reviewed and updated our consult note template with clearer instructions regarding recommended outpatient follow-up with pull-down menus. These changes were incorporated into a public smartphrase called .ophthofollowup (see below) that we incorporated into all of our consult notes on 7/28/17.

1) We reviewed and updated our consult note template with clearer instructions regarding recommended outpatient follow-up with pull-down menus. These changes were incorporated into a public smartphrase called .ophthofollowup (see below) that we incorporated into all of our consult notes on 7/28/17.

2) The patients who elected to follow-up at UCSF autopopulated an Epic report (Ophthalmology QI REP0066557) that could be accessed by our support staff to help schedule appointments. Residents also sent Epic messages to our scheduling staff about follow-up appointments.

3) This QI report that we created and fine-tuned with the help of the EHR Reporting team also allowed us to better track patient follow-up. It provided information regarding:
   - Next ophthalmology/optometry clinic visit date
   - Type of ophthalmology/optometry clinic
   - Visit status (scheduled, completed, no showed, cancelled)

Next Steps, Dissemination & Lessons Learned

Next Steps:
• Better utilization of the Epic report to send patient reminders about appointments
• Trying to reduce the extra step of sending Epic messages to scheduling staff to schedule follow-up

Dissemination:
• Creating a smartphrase for follow-up that autopopulates into a report that can be tracked and utilized by many consult services.

Lessons Learned:
• Tracking patient follow-up is the first step to improving adherence

UCSF Resident and Clinical Fellow Quality Improvement Incentive Program
in partnership with the 2018 UCSF Health Improvement Symposium
Reducing Discharge Opioid Prescriptions after Orthopaedic Surgery

Trevor Grace, MD; Patrick Curran, MD; Bobby Tay, MD; Mohammad Diab, MD; Erik Hansen, MD
UCSF Department of Orthopaedic Surgery

Background
• The U.S. is currently in an opioid epidemic, which has been a focus of recent legislation and media attention
• Unfortunately, opioids prescribed after surgery are common sources for misuse and diversion, and may be a significant contributor to the opioid crisis
• Musculoskeletal is known to be more painful than other procedures, and Orthopaedic Surgeons thus hold an important responsibility to curb excessive opioid prescriptions

Project Goals
• The goal of this QI initiative is to promote judicious and standardized prescribing practices by reducing the number of opioids prescribed by our department
• Specifically, we sought to decrease the median discharge opioid prescription by 10% compared to the 2016-2017 academic year

Project Plan and Intervention(s)
• We performed continuous quantification and monitoring of discharge opioid prescriptions provided to Orthopaedic inpatients being discharged by Orthopaedic Residents, Nurse Practitioners, or Physician’s Assistants at UCSF
• After each rotation, summary graphs (Figs 1-2) would be emailed to the entire Orthopaedic department detailing the median discharge opioid prescription provided for that rotation, and comparing it to the prior year’s median and the goal
• Encouraging tips, techniques, and reminders were included with each email to promote judicious prescription practices

Project Evaluation & Impact
• We observed a substantial decrease in the median discharge opioid prescription across the entire orthopaedic department in the 2017-2018 academic year, as compared to the 2016-2017 academic year (Fig 3)
• This decrease was observed in each Orthopaedic subspecialty (Fig 4)

Next Steps, Dissemination & Lessons Learned

Next Steps:
Analyze post-discharge data including refill rates within 0 and 30 days after surgery to gauge the effect of reduced opioid prescriptions
Implement an order set to further standardize discharge prescription regimens in each subspecialty
Continue quantification and monitoring of discharge opioid prescriptions as means to promote judicious prescription practices

Dissemination:
Periodic notifications of discharge prescription quantities could be provided to each department or even each provider to promote transparency
The Electronic Medical Record (EMR) could automate discharge prescription quantities and notify providers if they exceed recommended regimens

Lessons Learned:
The most valuable lesson we learned from this project is the importance of teamwork and collaboration in working toward a collective goal. We had multiple meetings to openly discuss strategies, ideas, and directions to take in order for us to achieve our target. These discussions were invaluable in the success of our Quality Improvement project this year.
Team Members
Denise Chang, M.D.
Masood Memarzadeh, M.D.
Jina Sinskey, M.D.
Marla Ferschl, M.D.
Pediatric Anesthesia Fellowship

Background
- Anxiety-reducing strategies surrounding anesthesia in pediatric patients is important and improves patient experience.
- Historically, this was accomplished with pharmacologic agents, which have undesirable side effects including delayed emergence and prolonged PACU stay.
- A promising alternative strategy to reduce pediatric preoperative anxiety is parental presence induction during anesthesia, where a familiar adult stays with the child until he or she is completely asleep, thereby reducing stranger anxiety.
- Approximately 80% of scheduled pediatric OR cases involve parental presence induction during anesthesia, where a familiar adult stays with the child until he or she is completely asleep, thereby reducing stranger anxiety.
- Procedurally, parents wear a disposable protective suit (bunny suit) over their street clothes and a bouffant hat.
- However, these bunny suits are quite expensive, with a cost of $1.12/suit. In addition, these suits are not gender-sensitive or culturally sensitive.

Project Goals
- We aim to reduce spending on protective garments for family members by 10% cumulatively over FY17.
- As pediatric anesthesia practice has changed, more and more parents are invited back into the operating room with their child and therefore must wear appropriate covering for the sterile environment.
- Although the number of bunny suits used per year has increased dramatically over the past 5 years, the cost impact of this change has not been analyzed.

Project Plan and Intervention(s)
1. Determine baseline levels of bunny suit usage over a two week period in September 2017, extrapolating this data to approximate number of suits used annually, and annual cost.
2. Survey other major pediatric surgical centers who regularly invite parents into their ORs for the induction of anesthesia to determine what alternatives to the bunny suits exist.
3. Compare pricing for different options, and propose a new garment that is satisfactory and cost effective to the pediatric OR committee for evaluation and approval prior to implementation.
4. Purchase and roll out cost effective parental presence induction gowns.
5. Determine post-intervention parental presence induction gown usage over a two week period and extrapolate cost savings.

Project Evaluation & Impact
1. Average baseline bunny suit usage (determined over two week period in Oct 2017): 11 gowns/day. Annual cost of bunny suits = $4,496 (11 gowns/day x $1.12/gown x 365 days).
2. Survey sent nation-wide to 21 major pediatric surgical centers, with 11 responses – Most centers that utilize parental presence induction utilized bunny suits.
3. Selected “blue smock” protective gown (pull over, fluid-resistant, accommodates wide range of height/weight, dresses/skirts). Cost efficient at $0.55/gown.
4. Approved by perioperative OR nursing committee with formal roll out starting 4/2/2018 with emails to perioperative nursing staff and anesthesia providers.
5. Post-roll out blue smock usage at 6 gowns/day and bunny suits at 5 gowns/day, likely due to inadequate dissemination of roll-out information and concerns raised from intraoperative OR nursing regarding inadequate posterior coverage of blue smocks. See Figure 1 for projected cost savings (28% annual savings).

Next Steps, Dissemination & Lessons Learned
Next Steps:
- Develop new proposal for gowns given OR nursing concerns regarding inadequate posterior coverage of smocks.
- Discuss roll-out of newly proposed gowns with OR nursing staff to ensure agreement.
- Roll out newly proposed gown with emails and flyers in the preoperative areas.

Dissemination:
- This improvement is unique to pediatric anesthesiology where parental presence on induction of anesthesia is desired.

Lessons Learned:
- We learned the importance of getting “buy-in” from OR nursing staff at the ground level for the proposed changes, despite having received approval from the OR nursing staff leadership.
Fatemat Hassan, MD, Anyir Hsieh, MD, Christiana Tai, MD, Diwakar Turaga, MD, PhD, Samuel Keller, MD, Phillip Moore, MD

Pediatric Cardiology Fellowship Program

**Background**

**True north Pillar:**

- **Quality and Safety**
  
  (Achieve zero harm and continually improve patient care)

Femoral arterial and/or venous occlusion is a common complication following cardiac catheterization with incidence rates ranging from 1-9% (Glatz et al 2013). Risk factors include small patient size, large sheath size, history of repeated femoral access and duration of cardiac catheterization.

Patients with single ventricle physiology who require multiple cardiac catheterizations and surgeries are particularly at risk for development of occlusions. Furthermore, if they develop occlusions, they may be subjected to riskier future procedures, such as jugular venous access or transhepatic access. Maintenance of vessel patency is also needed for central access for future surgeries, ECLS, hemodialysis, and transplant, which they may require in the future. Even if future central access is not required, there may be long-term effects of femoral venous and arterial occlusion on limb growth and development of claudication and peripheral vascular disease.

If femoral venous or arterial occlusion is promptly diagnosed and treated, vessel patency may be salvaged and maintained. Currently at UCSF, vascular occlusions are not consistently documented, imaged or treated. We hope to implement a protocol which streamlines and standardizes our approach to post-cardiac catheterization femoral vessel occlusion in order to maintain vessel patency for our patients.

**Current Conditions**

Although post-catheterization occlusion is common, it is poorly documented with only one case recorded in 2016 and four in 2015. We know of 3 patients who required Brovical line placement in the CICU due to lack of femoral venous access following cardiac catheterization or prior femoral line placement. There is significant treatment variation between providers in terms of threshold to treat, duration of treatment, and follow-up.

**Gap Analysis/Barriers:**

- Difficulty of ordering vascular ultrasounds at the Mission Bay campus especially during weekends and after hours.
- Vascular occlusion is generally diagnosed following completion and documentation of the cardiac catheterization. Attendings need to take an extra step to addend already completed notes if occlusion develops.
- There is significant treatment variation between providers in terms of threshold to treat, duration of treatment, and follow-up.
- Follow-up vascular ultrasounds cannot be obtained as an outpatient at the Mission Bay Campus, requiring patients to go to Parnassus. (may be especially difficult to obtain for those who live far from San Francisco and do not have local access to vascular ultrasounds).
- There is lack of follow-up with patients who are referred to our institution from outside providers with regard to duration treatment and resolution of occlusion.

**Interventions:**

- Initiated pulse checks one hour after sheath pull by the cardiology fellow, attending or NP and initiating work-up at that point.
- New protocol for vascular occlusion management was distributed to the various units involved in the management of these patients (PICU, ICN, CTICU, PCICU, PICU)

**Next Steps, Dissemination & Lessons Learned**

**Project Goals**

- Identifying and initiating treatment of vascular complications post-cardiac catheterization within 12 hours of the procedure in 75% of the cases.
- Fellows will promptly identify and treat patients with absent/decreased pulses or venous congestion after cardiac catheterization based on clinical exam +/- vascular ultrasound and initiating anti-coagulation therapy within 12 hours after the cardiac catheterization.
- Management will be based on a protocol designed and proposed jointly by cardiology and hematology.

**Next Steps:**

Lower limb vascular imaging on all patients after cardiac catheterization

1. To identify the true incidence of vascular complications.
2. Treat more patients in an attempt to decrease the number of cardiac patients that struggle due to lack of central access for monitoring or medications. Especially during major cardiac procedures.

**Dissemination:**

Hoping to disseminate the protocol to other services at Benioff Children’s Hospital that use frequent femoral access like the PICU and PCICI.

**Lessons Learned:**

We were able to employ the one hour post-cath vascular exam. It would be interesting to know the long-term manifestations of these vascular occlusions (treated and untreated).
Improving Procedural Sedation Documentation in the Pediatric ICU

Project Plan and Intervention(s)

We began initially conducting a pre-assessment to examine the barriers related to poor documentation in the Pediatric ICU. Providers & RNs were asked to complete a short quiz assessing the use of the sedation navigator, as well as the appropriate patient population for the navigator. We found a general lack of education about standard use of the navigator and the qualified patient population.

To improve this process, we prepared two educational presentations: one aimed towards the MD/NP patient providers, explaining the standards expected, how this will improve patient care, and education on how to complete the sedation log. The second presentation was aimed towards the patient RN, who plays a large role in completion and can be a significant patient advocate for completing procedural sedation navigator/checklist.

Project Evaluation & Impact

Next Steps, Dissemination & Lessons Learned

Next Steps:
1) Continued education on the importance and appropriate usage of the sedation navigator
2) Cooperative work with the established UCSF Sedation committee
3) Continued assessment and analysis on success of completion of the navigator
4) Implementation of 'sedation navigator checklist' as part of the routine time-out proceedings

Dissemination:
1) Education of what qualifies as procedural sedation as part of orientation to employees in affected hospital areas
2) Inclusion of procedural sedation navigator training modules in routine EPIC training that occurs for new employees

UCSF Resident and Clinical Fellow Quality Improvement Incentive Program

in partnership with the 2018 UCSF Health Improvement Symposium

Background

Procedural sedation is a frequent practice in the ICU. Because sedation is now commonly administered by non-anesthesiologists and not in the OR, the Joint Commission (JCAHO) has set forth a procedural sedation checklist that should be complied with prior to, during, and after all procedural sedation administrations.

Sedation documentation does not occur reliably in the PICU but is a required element of procedural sedation in order to comply with quality & safety standards set forth by the Joint Commission (JCAHO). The UCSF sedation committee conducts audits on the following components monthly to ensure compliance:

1. H&P/Interval history on record
2. NPO status
3. Pre-procedure equipment checklist
4. ASA Classification
5. Immediate pre-sedation assessment
6. Mallampati classification
7. Timeout completed
8. Discharge criteria met

Out of 54 procedural sedation logs initiated in the Pediatric ICU in 2016-2017 CY, only 3 (5.5%) logs were complete and adherent to JCAHO regulations.

We aim to increase total procedural sedation log completion from 5.5% to 75% completion in the PICU 2017-2018 CY. A secondary goal will be to increase documentation of pre-procedural MD/NP assessment from 52% to 90%.

<table>
<thead>
<tr>
<th>Outcome Measured</th>
<th>Jul-17</th>
<th>Aug-17</th>
<th>Sep-17</th>
<th>Oct-17</th>
<th>Nov-17</th>
<th>Dec-17</th>
<th>Jan-18</th>
<th>Feb-18</th>
<th>Mar-18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Log Completion</td>
<td>0/6 (0%)</td>
<td>0/4 (0%)</td>
<td>0/1 (0%)</td>
<td>0/3 (0%)</td>
<td>1/9 (11%)</td>
<td>2/10 (20%)</td>
<td>3/8 (38%)</td>
<td>0/9 (0%)</td>
<td>1/4 (25%)</td>
</tr>
<tr>
<td>MD/NP Completion</td>
<td>3/6 (50%)</td>
<td>4/4 (100%)</td>
<td>0/1 (0%)</td>
<td>2/6 (33%)</td>
<td>4/9 (44%)</td>
<td>7/10 (70%)</td>
<td>4/6 (67%)</td>
<td>2/6 (33%)</td>
<td>6/6 (75%)</td>
</tr>
<tr>
<td>Component Completion</td>
<td>22/48 (46%)</td>
<td>25/32 (78%)</td>
<td>4/8 (50%)</td>
<td>21/40 (44%)</td>
<td>35/72 (48%)</td>
<td>55/80 (69%)</td>
<td>38/48 (79%)</td>
<td>18/48 (38%)</td>
<td>20/29 (72%)</td>
</tr>
</tbody>
</table>

Next Steps:
1) Continued education on the importance and appropriate usage of the sedation navigator
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Helayne Feferman MD, Jenifer Twiford RN, Brandie Hollinger RN, Mary Nottingham RN, Peter Oishi MD, Deborah Franzon MD
UCSF Department of Pediatrics, Division of Critical Care
Improving Early Discharge from the Pediatric Acute Care Floor

Plan and Intervention

- We developed “Early Discharge Best Practices” (see right panel) and disseminated them to all residents, with routine reminders at each rotation change. These items were focused on those items with resident control.
- At the beginning of January, we implemented a discharge order initiative before 8 AM, incorporating the day and night shift teams. The day team would relay anticipated discharges and the night team would prepare for discharge. If the night team indicated in the morning that the patient met discharge criteria, a conditional discharge order would be written prior to 8 AM and the attending notified.
- Regular updates were emailed out to residents on the acute care floor.

Best Practices for Discharge Planning

As discharge approaches (2-3 days before):
(1) Discharge planning on rounds and at ‘Tee Time’ (R2)
(2) Discuss follow-up plans with consultants and communicate with Case Management (R1 & R3)
(3) Set expectations with families about the discharge time (i.e. in the morning)

Day before discharge:
(4) Pharmacy – settle discharge prescriptions if possible (R3)
(5) Check with consultants if they need to see the patient prior to discharge (R1)
(6) Finalize flu needs with subspecialists and inform Case Management (R1 & R3)
(7) Complete DC instructions (R1)

Evaluation & Impact

- DBN rates were lower at the beginning of the year, potentially due to new interns and senior residents
- Barriers to DBN were assessed with on service residents on a month to month basis:
  - Many residents identified primary barriers as ones perceived to be out of their control: meds-to-pharmacy, subspecialist discretion, nursing, and transportation.
- Residents provided feedback that pre-rounding and other morning activities made it frequently difficult to assess patients for discharge readiness in the morning
  - Above feedback led to the early discharge order initiative outlined above
- Average discharge rates appeared to increase following the roll-out of the discharge order before 8 AM initiative (red arrow), from 23.0% prior to 26.1% after
- As of April 30th, we are above our goal of 24%, with our current YTD DBN rate at 24.3%

Next Steps, Dissemination & Lessons Learned

Next Steps:
The main next steps for this project will be maintaining the interventions for future year as well as joining efforts between nursing, pharmacy, case management, and physicians for discharge planning
-Analysis of balancing measures, such as length of stay, to evaluate for unintended effects

Dissemination:
None of the practices used in our project were specific to pediatrics and could be adopted to other inpatient acute care floors. Inter-specialty forums such as GME symposia or chief resident meetings could be used to disseminate best practices across the hospital

Lessons Learned:
- Support for a project from multiple levels is crucial - alignment of this goal with pre-existing goals for faculty, nursing, and other staff


UCSF Resident and Clinical Fellow Quality Improvement Incentive Program
in partnership with the 2018 UCSF Health Improvement Symposium

Matthew Nordstrom, MD*
David Chen, MD MPH*, Matthew Nordstrom, MD*

*indicates co-authoring
Patients' complaints in psychiatry are inherently subjective. As a result, it can be difficult to track patients' progress overtime when relying on their subjective report. Questionnaires such as the Patient Health Questionnaire-9 (PHQ-9) provide a quantified measurement of a patient's depressive symptoms, which can be used for screening as well as tracking symptom change over time. These questionnaires are brief, easily administered, and can be completed electronically. Moreover, insurance companies are increasingly requiring objective measures of patient improvement in order to reimburse for services.

In June of 2015, Langley Porter Psychiatric Institute transitioned to an electronic medical record system, APeX. This created an opportunity to electronically send out questionnaires through MyChart, an online patient portal, and store the results in the patient's medical record. The adult outpatient psychiatry clinics at UCSF are currently automatically sending PHQ-9's to almost all patients electronically through MyChart. However, completion rates of these questionnaires are low.

This is a problem because:
1. It becomes difficult to track how patient's symptoms change over time
2. Insurance companies may not reimburse for visits without more objective data on patient improvement
3. Providers are less accountable for the care they provide
4. Patients are not actively participating in their care

The PHQ-9 completion rates from April 1, 2016 to April 1, 2017 for adult patients were:
- FY2016 Q1: 15.1%
- FY2016 Q1-4: 15.7%
- FY2017 Q1-4: 18.0%
- FY2018 Q1-3 March 2018: 26.0%
- April 2018: 31.4%

**Root causes for why patients do not complete PHQ-9's**
- Patients are not on MyChart and thus not receiving questionnaires electronically (about 50%)
- Patients find the questionnaires not important / annoying / too frequent
- Patients did not receive a reminder to complete the questionnaire at the front desk
- Patients have issues with health literacy

**Interventions**
- Increase provider communication/education to patients about importance of questionnaires, discuss and review data during appointment: emailed all ambulatory providers, presented at Residents' Association meetings, discussed at daily interdisciplinary QI huddles
- Give questionnaires at front desk: worked with Chief Operations Officer and Practice Manager to build workflow for front desk staff to check to see if patients had completed questionnaires at time of check in. Worked with IT to build alert notifying staff when there were incomplete questionnaires. Gave staff individual label-makers to improve work flow
- Allow providers to enter PHQ-9 scores by hand in APeX: Worked with IT to develop functionality for providers to enter paper PHQ-9 results electronically into computer. However, this data showed up in a separate section from patient-entered scores, so worked with IT to develop functionality for providers to answer unanswered questionnaires on patients' behalf which allowed scores to show up in same section
- Reports showing individual provider's numbers: Publically acknowledged top 3 providers with highest PHQ-9 completion rates while publically posting everyone's completion rates for additional motivation

**Next Steps, Dissemination & Lessons Learned**
- Continue building PHQ-9 into default clinic flow, e.g. tablet computer available in waiting area
- Hire staff such as medical assistants to complete screening questionnaires directly with patients and enter data into APeX
- Direct messaging to clinicians with low completion rates
- Reinforce front desk work flow incorporating distribution of unanswered questionnaires.
- Easily adaptable FAQ teaching clinicians how to input PHQ-9 scores into APeX
- Increasing use of ancillary support staff to collect and enter the PHQ-9 scores.

**Lessons Learned:**
- Even when individuals change quickly, averaged measures respond slowly
- Provider-education yielded very modest improvements in results (3%)
- Systemic change involving adapting front desk work flow brought about the most dramatic improvements (almost 20%) though required buy-in from multiple stakeholders and senior leadership
Improving Communication Between Inpatient & Outpatient Pulmonologists at the Time of Discharge

Project Plan and Intervention(s)

**Project Plan/Intervention:**

- **Step 1: Soliciting Feedback:** Collected feedback from fellows and faculty on ideal template via a variety of mechanisms:
  - Discussions with key outpatient clinical faculty
  - Discussions with Program Evaluation Committee/Curriculum Committee
  - Discussions with fellows on consult service

- **Step 2: Apex Template Design:** Worked with Apex to design template as “Significant Event” note with .pulmdischarge
  - Fellows using this Apex SmartPhrase would pull in the note
  - Revisions of Apex template with outpatient clinic director & Program Evaluation Committee & inpatient consult rotation director

- **Step 3: Data Collection:** Worked w/ Apex to generate report to pull all inpatient pulmonary consults & check for discharge template. Verified with manual Apex chart review.

**Project Evaluation & Impact**

**Template Was Iteratively Revised – Latest Version (May 2018)**

Pulmonary Sign-Off Note/Discharge Plan

- **Step 1:** Soliciting Feedback
  - Worked with Apex to design template as “Significant Event” note with .pulmdischarge

- **Step 2:** Apex Template Design
  - Worked w/ Apex to design template as “Significant Event” note with .pulmdischarge
  - Revisions of Apex template with outpatient clinic director & Program Evaluation Committee & inpatient consult rotation director

- **Step 3:** Data Collection
  - Worked w/ Apex to generate report to pull all inpatient pulmonary consults & check for discharge template. Verified w/ manual Apex chart review.

**Background**

- **Unclear communication** b/w inpatient Pulmonary C/S team & outpatient Pulmonary clinic
- **Tackling this problem could address:**
  - Follow-up scheduled at an **improper time** frame (i.e. too early or too late)
  - **Inadequate** treatment (if patients are not seen soon enough)
  - **Excessive** treatment (if patients are not tapered off of toxic medications quickly enough)
  - Both patient and physician **satisfaction**
- **Currently 23%** pts able to book new patient visits in <14 days
- **Baseline cancellation rate is 28%**
- **Only 51%** of patients say they get an appointment as soon as needed.

**Project Goals**

- **To improve communication** b/w outpatient pulmonologists & inpatient pulmonary consult team by implementing a **discharge template** that summarizes the hospitalization and clearly specifies the time-frame needed and prerequisites before follow-up.

- **Aim Statement:**
  - Pulmonary/Critical Care fellows rotating on the UCSF Pulmonary Consult service in the year 2017-2018 will reach a goal of 75% discharge template completion.

- **How to Measure Success:**
  - We tracked discharge template completion on the inpatient Pulmonary consult service.

- **Technical barriers re: extraction of data frm Apex – better**
  - Trainees more receptive to QI projects that they self-identify rather than those perceived to be required
  - Faculty & fellows buy-in are equally important – projects truly need both to succeed

- **Discussions with fellows on consult service**
  - Discussions with Program Evaluation Committee/Curriculum Committee
  - Discussions with key outpatient clinical faculty
  - Discussions with fellows on consult service
  - Discussions w/ Program Evaluation Committee/Curriculum Committee
  - Discussions with key outpatient clinical faculty

- **Lessons Learned:**
  - **Faculty & fellow buy-in** are equally important – projects truly need both to succeed
  - **Trainees more receptive** to QI projects that they self-identify rather than those perceived to be required
  - **Technical barriers re:** extraction of data frm Apex – better QI data analysis/research infrastructure needed

**Table 1: Table of Data Collection and Percentage of Discharge Templates Used**

<table>
<thead>
<tr>
<th></th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>68</td>
<td>79</td>
<td>49</td>
</tr>
<tr>
<td>N</td>
<td>60</td>
<td>66</td>
<td>75</td>
</tr>
<tr>
<td>TOTAL</td>
<td>128</td>
<td>145</td>
<td>124</td>
</tr>
</tbody>
</table>

**Next Steps, Dissemination & Lessons Learned**

- **Next Steps:**
  - Reconvene w/ stakeholders (fellows, outpatient faculty & inpatient faculty) to discuss in detail whether different templates might serve different purposes
  - For example, different note template for same-day consult & sign-off?

- **Dissemination:**
  - Ultimate goal to work across GME to get standardized “Signoff Note” for all consulting services

- **Lessons Learned:**
  - Faculty & fellow buy-in are equally important – projects truly need both to succeed
  - Trainees more receptive to QI projects that they self-identify rather than those perceived to be required
  - Technical barriers re: extraction of data frm Apex – better QI data analysis/research infrastructure needed
Adverse contrast events (ACEs) in CT examinations requiring intravenous (IV) contrast administration are an important cause of morbidity and even mortality in radiology. Severe allergic reactions and extravasation are uncommon with modern iodinated contrast media, but occur with relatively high frequency when accounting for the large volume of CT studies obtained in current medical practice. When ACEs occur, it is important that they be carefully documented in the electronic health record (EHR), both to effectively communicate events with ordering providers so that they can monitor for late complications and to avoid future events when patients undergo repeat imaging.

Within the UCSF Department of Radiology & Biomedical Imaging, the radiologist is responsible for supervising the safe use of contrast. CT technologists document ACEs using both Apex and the Incident Reporting (IR) system. However, these records are not readily accessible in the EHR for other providers. To align with the UCSF Health “True North” Quality and Safety pillar and the department goal to achieve zero patient harm, we aimed to improve the visibility of these events to all providers.

From 1/1/2016-3/22/2017, approximately 60% of ACEs involving IV iodinated CT contrast were documented in the EHR. Only 39% were documented by a radiologist; others involving IV iodinated CT contrast were documented in the electronic health record (EHR), both to effectively communicate events with ordering providers so that they can monitor for late complications and to avoid future events when patients undergo repeat imaging.

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Multiple factors contributing to low MD documentation of ACEs were identified:
1. Lack of a standardized reporting mechanism to allow for convenient documentation.
2. While most patients who experience an ACE are evaluated by the radiologist, in the busy work flow of the reading room the task of reporting was emphasized that documenting any new allergy to imaging contrast in the Apex allergy banner was an additional required step. Short personal announcements were provided for using the Apex dotphrases, given the infrequency in which Radiology trainees complete Apex notes.
3. Diffusion of responsibility, wherein the radiologist who evaluated a patient for an ACE was working at a different hospital site from the dictating radiologist for that imaging study. Poor communication resulted in no documentation by either party.
4. Radiologist inexperience with writing notes in Apex.

We developed two countermeasures at the outset of the project:
1. A standard reporting template to document ACEs for the radiology imaging report (implemented as a Powerscribe 360 autotext [“Macro”] to be used in dictations). The Powerscribe macro was circulated in sections where iodinated contrast is commonly used, and approved by each Radiology section QI champion. Once approved, a similar format was adapted for the Apex dotphrases, given the infrequency in which Radiology trainees complete Apex notes.
2. A standard template for complete documentation of ACEs as a Significant Event note in Apex (implemented as a dotphrase “ACE”).

Our technologists are the front line responders to these events. Dr. Chapman met with the lead UCSF technologists for both CT and MRI. The importance of communication with the radiologist were announced by the lead technologists in technologist meetings prior to the start of the academic year. Dr. Chapman also met with Charlene Fong RN, the department’s nurse in charge of patient safety, to discuss root causes of the problem and provide support for the project.

From 1/1/2016-3/22/2017, approximately 60% of ACEs involving IV iodinated CT contrast were documented in the EHR. Only 39% were documented by a radiologist; others were documented by a radiology nurse. For the 2017-18 academic year, our departmental goal was for 75% of significant ACEs to be documented as either a note in Apex or in the radiology imaging report, cumulative over the 2017-2018 academic year.

Let X = # of ACEs documented by RMs (all allergy and extravasation events)
Let Y = # of ACEs documented in Apex

PRIMARY GOAL: 0.75 * 100% = 75%

SECONDARY GOAL: document all allergic reactions to iodinated IV contrast in the Apex allergy banner.
- All allergies were included
- Only extravasation events with >10 cc of infiltrated IV iodinated contrast were included
- Apex documentation included new allergy records, notes written by radiologists and/or RMs, or documentation in radiology reports

The success of the intervention arises in part from the convenience of a pre-populated template that was easy to generate in radiology report or Apex. We plan to continue to reinforce the importance of communicating and documenting ACEs at faculty and trainee meetings for the remainder of the academic year and beyond.

This project could be adapted for use in any MRI contrast-related ACE, as well as at our other sites a the San Francisco VA Medical Center and the San Francisco General Hospital.

Members of the radiology team including MDs, RNs, and technologists work together to create a safe environment for our patients. While each counterpart in this effort has role-specific goals, focusing on patient safety as a common goal was key to the project’s success. Improving intra- and inter-departmental MD-to-MD communication, as well as MD-to-technologist and MD-to-RN communication were critical. Moving forward, an unexpected problem included gaps in trainee knowledge of appropriate management of the ACE, such as what threshold of allergy severity indicates need for future contrast pre-medication. Continued educational efforts, including the possibility of hands-on simulation training for residents, will be needed.

Next Steps: The success of the intervention arises in part from the convenience of a pre-populated template that was easy to generate in radiology report or Apex. We plan to continue to reinforce the importance of communicating and documenting ACEs at faculty and trainee meetings for the remainder of the academic year and beyond.

Dissertation: This project could be adapted for use in any MRI contrast-related ACE, as well as at our other sites a the San Francisco VA Medical Center and the San Francisco General Hospital.

Lessons Learned: Members of the radiology team including MDs, RNs, and technologists work together to create a safe environment for our patients. While each counterpart in this effort has role-specific goals, focusing on patient safety as a common goal was key to the project’s success. Improving intra- and inter-departmental MD-to-MD communication, as well as MD-to-technologist and MD-to-RN communication were critical. Moving forward, an unexpected problem included gaps in trainee knowledge of appropriate management of the ACE, such as what threshold of allergy severity indicates need for future contrast pre-medication. Continued educational efforts, including the possibility of hands-on simulation training for residents, will be needed.

Acknowledgements: We thank the Radiology housestaff, fellows and faculty for their enthusiastic participation. Charlene Fong RN, our safety nurse provided invaluable input. Many thanks to Corey Fuller for helping create our ACE dotphrase. Dr. Emily Edwards, our former resident QI Champion, provided indispensable advice in the early stages of the project. Thanks to GME for providing financial and educational support for resident QI projects. Lastly, special thanks to our CT and MRI technologists, the front line of our care, and lead technologists Jessica Pfannenstiel and Benjamin Mow.
A prospective, interventional study evaluating the use of a prompt to improve compliance with documentation of a plan of care for pain in patients with bone metastases seen for palliative radiation therapy

Project Plan and Intervention

Current practice documenting pain intervention in Radiation Oncology is dependent on physician preference. In a previous departmental analysis, we found that we were documenting pain in patients seen in consultation for bone metastases, but we were not explicitly addressing this pain in our assessments and plans. The Centers for Medicare and Medicaid have identified documentation of a "plan of care for pain" as an important quality measure in Radiation Oncology, which will be assessed in the Merit-based Incentive Payment System.

In this intervention, we focused specifically on patients seen in consultation for bone metastases. Many patients with bone metastases have pain and radiation therapy is often an important palliative treatment modality.

We created a smart phrase in the electronic medical record, to be populated into consult note templates. The phrase is "I have assessed the patient's pain today, which is ***/10. The plan of care for pain is ***." Email reminders were sent to physicians 2 times per quarter. Charts were subsequently audited on a quarterly basis, and percent compliance was recorded per quarter.

Project Evaluation & Impact

We have achieved our goal of documenting a plan of care for pain in >50% of patients seen in consultation for bone metastases in 2 of 3 quarters thus far, with 4th quarter data pending. In particular, we found that the analgesic regimen was assessed or modified in 35% of consultations, urgent radiation therapy undertaken in 26%, communication with primary provider or oncologist in 10%, and referral to the Palliative Care service in just 4%.

Next Steps, Dissemination & Lessons Learned

Next Steps:
Our next steps will be to collect data for the 4th quarter, as well as report our outcomes to the department QI leads. Pending our outcomes, this could be implemented throughout the department in accordance with Merit-based Incentive Payment System (MIPS) quality objectives.

Dissemination:
This simple “plan of care for pain” could readily be adapted throughout the cancer center.

Lessons Learned:
There were unexpected challenges in designing and implementing this project. We had initially wanted a drop down smart phrase, but due to limitations with EPIC programmers, we instead utilized a wildcard (***) format. We also discovered that email reminders can be easily overlooked, leading to our third quarter decline in compliance. We will utilize in person reminders at our morning conferences to ensure compliance in the 4th quarter.

Background

Management of cancer-related pain is an essential component of comprehensive oncologic care. Undertreated pain results in adverse clinical outcomes, undue suffering, decreased quality of life, and threatens the UCSF true north pillars of patient experience, quality and safety. Furthermore, there are significant disparities in pain management as racial/ethnic minorities and underserved populations are at higher risk for undertreated cancer-related pain.

A recent intradepartmental analysis discovered frequent inadequate pain assessments in patients evaluated for palliative radiation for bone metastases. While 90% of patients had a documented pain scale (1-10/10), only 50% had other components of pain assessed (i.e. location, quality, aggravating factor, alleviating factors, interference with activity). Of those with documented pain (on 1-10 scale) median score was 5, and 51% had scores >4. Among these symptomatic patients, analgesic regimen was assessed in 28%, and a pain intervention was documented in just 17%.

Project Goals

The goal was to achieve documentation of a “plan of care for pain” in >50% of new patient consultations seen by residents for bone metastases in the department of Radiation Oncology for 3 out of 4 best performing quarters in the 2017-2018 academic year. Satisfactory plan of care will include appropriate pain intervention, such as adjustment in analgesic regimen, referral to SMS/palliative care, communication with primary provider or oncologist in 10%, and referral to the Palliative Care service in just 4%.

Current practice documenting pain intervention in Radiation Oncology is dependent on physician preference. In a previous departmental analysis, we found that we were documenting pain in patients seen in consultation for bone metastases, but we were not explicitly addressing this pain in our assessments and plans. The Centers for Medicare and Medicaid have identified documentation of a “plan of care for pain” as an important quality measure in Radiation Oncology, which will be assessed in the Merit-based Incentive Payment System.

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UCSF Resident and Clinical Fellow Quality Improvement Incentive Program

in partnership with the 2018 UCSF Health Improvement Symposium

Reducing Incomplete History and Physicals In an Infertility Practice

Amanda J. Adeleye M.D., Sovaan Pang RN, Eleni Greenwood M.D., Joe Letourneau M.D., Molly Quinn M.D., Viji Sundaram M.D. Kaitlyn Wald M.D. Heather Huddleston M.D.

Reproductive Endocrinology & Infertility Department of Obstetrics, Gynecology and Reproductive Sciences

Background

Patients undergoing controlled ovarian stimulation prior to oocyte retrieval do not consistently obtain a preoperative history and physical (H&P) at the beginning of their cycle. This is an issue because when completed at the last visit prior to oocyte retrieval, the visit may take twice as long delaying the patient and those that follow her. Further, if a patient has a medical condition that may alter anesthesia plans during retrieval, there is limited time to adjust plans. Improving the timeliness and completeness of preoperative history and physical seeks to address the UCSF true north pillars of Quality and Safety and the Patient Experience.

Each cycle start involves a baseline ultrasound, preoperative H&P and confirmation that patients have all medications needed for their cycle.

In a sample of four weeks from the 2016-2017 year, the rate of incomplete H&P's amongst patients who went to retrieval was 17%.

The objective of this Quality improvement project was to reduce the incidence of incomplete H&Ps for patients that are in-cycle for ovarian stimulation.

A 50% reduction in delayed preoperative H&P completion, would save up to 30 minutes per week, and improve work flow for nursing staff who are left with the responsibility of ensuring the completeness of this task.

In a sample of four weeks from the 2016-2017 year, the rate of incomplete H&P’s amongst patients who went to retrieval was 17%.

Project Plan and Intervention(s)

Hypothesis: increased awareness about the rate of missed H&Ps amongst the staff that preform H&Ps would improve the completion rate.

Intervention: In quarter 1, we notified the primary providers that complete H&Ps for patients including clinical fellows, nurse practitioner and physicians. Interventions were determined on a quarterly basis after reviewing trends in missed H&Ps.

Though we saw an improvement in quarter 1, there was a trend towards fertility preservation patients representing a disproportionate amount of incomplete H&Ps. We proposed that focusing on the patients in the fertility preservation program would be helpful. These patients may start their treatment shortly after consultation may not have had time to receive a proper H&P.

Project Goals

The objective of this Quality improvement project was to reduce the incidence of incomplete H&Ps for patients that are in-cycle for ovarian stimulation.

A 50% reduction in delayed preoperative H&P completion, would save up to 30 minutes per week, and improve work flow for nursing staff who are left with the responsibility of ensuring the completeness of this task.

The goal of this Quality improvement project was to decrease the rate of incomplete H&Ps by 50%. In a successful endeavor, the incomplete H&P rate should be less than 8.5% per quarter for at least three quarters in the 2017—2018 academic year.

Next Steps, Dissemination & Lessons Learned

Next Steps:

We had an increase in the rate of incomplete H&Ps in Q3. We are currently analyzing the potential causes—the leading cause is double booking H&P patients. Furthermore, on an annual basis at the start of each academic year we will remind staff about the importance of completing H&Ps.

Dissemination:

Encouraging development of plans with multiple stake holders, in our case, nurses, physicians and the medical assistant director, helped to implement a plan in which everyone was invested. Also, simple reminder emails proved to be useful.

Lessons Learned:

During this process, we were notified that for patients pursing fertility preservation, a consultation performed within 30 days of the oocyte retrieval qualifies as a history and physical. Nursing staff were notified.

Project Evaluation & Impact

There was a decrease in the incomplete H&P rate in quarters 1-3 after an intervention of educating clinicians and staff about the importance of completing H&Ps. The mean incomplete H&P rate in quarters 1-3 was 5.4%. The mean incomplete H&P rate constitutes a 68.4% decrease in the incomplete H&P rate.

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Delirium Reduction in Urologic Patients

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Background

Delirium is serious and affects 30-60% of hospitalized patients. Delirium results in increased mortality, increased length of stay, increased falls, and increased cognitive deterioration in patients with dementia. Delirium is under-recognized, with 50-70% cases missed and up to 30% of hospital acquired delirium can be prevented. Reducing hospital delirium is important to providing quality patient care.

Project Plan and Intervention(s)

INCLUSION CRITERIA:
- Patients with an AWOL score of 2 or greater
- Age >60
- Can’t spell WORLD backwards
- Not oriented to city, state, county, hospital name and floor
- Nursing illness severity assessment of moderately ill or greater
- Patients aged 70 years or older AND after a high risk operation
- Patients you are concerned might develop delirium

EXCLUSION CRITERIA: ICU patients

WORK FLOW:
- Nurses screen patients and assess for delirium by reporting a risk score.
- Inpatient pharmacy performs medication reconciliations aimed at eliminating medication-related risks for delirium.
- Urology residents would get paged to place specific delirium reducing protocol orders and change medications based on their findings.
- Given difficulties with implementation and inconsistent paging of residents regarding AWOL/Nu-DESC scores, residents were instructed to use the orderset for appropriate patients without awaiting nursing communication.

Project Evaluation & Impact

Next Steps, Dissemination & Lessons Learned

Next Steps:
We will continue this intervention to decrease delirium in our patient population. With improved implementation and dissemination of protocols, we are confident we will provide a benefit to our patients. Our overall numbers of patients diagnosed with delirium are quite small, thus we will continue to accumulate data and calculate the impact of this project in our patient population.

Dissemination:
This hospital-wide initiative can be adapted by other services by incorporating delirium assessment tools in their daily practice, using the coded lists and appropriately applying the orderset.

Lessons Learned:
We learned that implementing a multidisciplinary project is challenging, as there are many competing priorities in delivering excellent patient care and new tasks are difficult to adopt in a timely manner.

UCSF Resident and Clinical Fellow Quality Improvement Incentive Program
in partnership with the 2018 UCSF Health Improvement Symposium
Inpatient Wound Care eConsult Workflow: Efficient, Timely, and Secure

Project Plan and Intervention(s)

- Implement APEX checklist for inpatient wound consults – with assessment, action plan, and followup plan. Checklist will track specific time points and outcomes and will be available to plastic surgery inpatient team. We are seeing more operative consults!
- Develop educational and interactive wound assessment aid with decision tree logic and pictures to guide primary providers. Recommendations for consult and pre-consult data to gather will be provided in checklist form. Additional web-based modules will be added.
- APEX project roll-out with feedback and refinement.

Background

The wound care clinical nurse specialist (CNS) team currently serves as the gateway for triage of inpatient wound consults. Most of these wounds have required procedures beyond the scope of the wound CNS team, such as sharp debridement or resection. The Division of Plastic and Reconstructive surgery have wound consults that require more extensive tissue manipulation or are surgical debridement, could increase reimbursement for the wound care team.

The wound care CNS team currently serves as the primary care provider for wounds initially seen by the wound CNS team. However, until now, the traditional workflow for referring a chronic wound to the inpatient Plastic Surgery consult service requires multiple steps involving additional providers. This can result in delays in seeing patients and therefore scheduling procedures, task duplication, and occasional confusion regarding the specific consult workflow.

The wound care CNS team currently serves as the primary care provider for wounds initially seen by the wound CNS team. However, until now, the traditional workflow for referring a chronic wound to the inpatient Plastic Surgery consult service requires multiple steps involving additional providers. This can result in delays in seeing patients and therefore scheduling procedures, task duplication, and occasional confusion regarding the specific consult workflow. Additionally, when the wound CNS team is temporarily unavailable, assessment can be delayed. In these urgent circumstances, the wound CNS team provide wound care recommendations, but this service is rarely utilized. Restructuring the consultation and workflow for plastic surgery in evaluating inpatient chronic wounds will offer the following. True North benefit:

- Early identification of appropriate surgical candidates and direct consultation from primary admitting team.
- Wound photography and documentation using APEX.
- Wound triage and assessment, including contingency plan for when wound CNS is unavailable.
- Efficient, Timely, and Secure.

Project Evaluation & Impact

Quarterly evaluation and results, AY2017–2018:

Goal: 75% of nonsurgical wound consults triaged and preliminary recommendations documented in chart within 24 hours (based on APEX audit)

- Q1: 32/34 = 94%
- Q2: 14/14 = 100%
- Q3: 9/9 = 100%
- Q4: pending

Qualitative Assessment: Success!

Because of the ongoing QI initiative, we have been extremely diligent and well-informed and thus proactive about seeing and staffing wound consults, whether operative or nonoperative. We have collaborated with Bobby Robertson, RN who was recently hired as the WOCN at Parnassus. He works 5 days a week and shares vast experience working in conjunction with plastic surgeons. His knowledge and efficiency in seeing wound consults has already reduced the burden of consults significantly and for many patients we have been able to discuss a multidisciplinary plan. We have coordinated our services so we are aware of staffing shortages and scheduled absences and are prepared to fill in when these occur.

Due to publicity and awareness at all levels - housestaff/trainees and surgical attending, the plastic surgery team proactively took steps to address nonsurgical wound consults in a timely fashion. Also, improved communication with the parnassus WOCN improved screening and has improved the quality of referrals to plastic surgery. We are seeing more operative consults!

Project Goals

1. Improve two-way dialogue between wound CNS and plastic surgery team.
2. Increase plastic surgery consultation for wound evaluation when wound CNS team is unavailable.
3. Improve two-way dialogue between wound CNS and plastic surgery team.
4. Increase plastic surgery consultation for wound evaluation when wound CNS team is unavailable.

Next Steps, Dissemination & Lessons Learned

Next Steps:

- Elicit feedback from stakeholders. (Hospitalists/Internal Medicine, consulting teams, Beside RNs, Wound CNS, Derm, Podiatry, Vascular, Orthopaedics)
- Await optimized APEX inpatient consult order to facilitate entry of needed data and to facilitate chart audits
- Develop educational and interactive wound assessment aid with decision tree logic and pictures to guide primary providers. Recommendations for consult and pre-consult data to gather will be provided in checklist form. Additional web-based modules will be added.

Dissertation:

- Could this be used at Mission bay in a pediatric setting? Could this be used by outpatient providers?

Lessons Learned:

- Cooperation with a skilled, invested WOCN is invaluable. Electronic and Telephone consultation with a knowledgeable wound care RN and/or MD is highly sought-after.

The pace of progress exceeds the pace of EHR modifications.

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