Transitions of Care and Readmissions
Focus on Risk Assessment (and what to do with results)

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Sr. VP, Society of Hospital Medicine Center for Hospital Innovation and Improvement

Disclaimer: Some SHM products for Transitions are tuition based or proprietary
How did I get into this mess?

- Hospital Medicine Division Chief at UCSD (40 docs)
- I was Transitions before Transitions was cool at UCSD
- Local leader of Care Transitions / Readmission efforts
- Executive council for San Diego CCTP
- Co-author of Project BOOST toolkit and mentor in Mentored Implementation programs
Improving Transitions of Care—

A Quality and Fiscal Imperative

• High rates of readmissions at huge cost
• Many are preventable
• Harm from poor follow up, ADEs
• Transforming payment / reimbursement landscape
• Confused (and angry) patients / families
• Poor coordination and follow up, poor communication between inpatient / outpatient settings
• High readmission rates from SNFs
We know it’s broken......
How do we fix it?
My First Algorithm for Process Improvement

Problem Solving Flow Chart

Does the damn thing work?

Yes: Don't mess with it.
No: Did You mess with it?

Yes: You dumb shit.
No: Does Anybody Know?

Yes: Will You be blamed?
No: Can You hide it?

Yes: No Problem
No: Can You blame someone else?

Yes: Shitcan it.
Toolkits and Approaches to Improving Transitions

Programs that work on internal processes (Pitch)
- Project RED
- Project BOOST

Programs that rely on Outside Coaching (Catch)
- Mary Naylor Model
- Care Transitions Intervention (Eric Coleman)

Need both Pitch and Catch Elements for optimal care

SNFs, outpatient providers, ACO, community resources
Implementation Guides / Resource Rooms

- Foundation of Mentored Implementation Model
  - QI fundamentals
  - Building a team
  - Metrics and evaluation
  - Gaining institutional support
  - Process mapping and needs assessment
  - Topic-specific interventions
  - Spreading Improvement

- Tools, links, annotated bibliographies, slide decks, etc
Society of Hospital Medicine Collaboratives

• Data center with data upload and reporting capability
• Group educational webinars
• Topic-specific listservs and discussion forums
• Community website with topic-specific information, news and literature
• 3 mentored implementation program collaboratives with over 300 participants
• Glycemic control, care transitions (Project BOOST), VTE prevention
The Mentored Implementation Model

• Based upon model pioneered by Center to Advance Palliative Care
• Physician coaches with expertise and experience in effective implementation and QI, as well as topical expertise
• Mentoring occurs via monthly one-to-one calls, site visits and ad hoc communications
• Timely guidance, advice, and feedback
• Written summaries, ‘to do’ tasks, timelines
• “Mentor University” training
• High Impact Site visits when feasible
**Patient PASS**

Patient Preparation to Address Situations (after discharge) Successfully

<table>
<thead>
<tr>
<th>I was in the hospital because</th>
<th>I should ...</th>
<th>Important contact information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>If I have the following problems ...</td>
<td>1. ______________________</td>
<td>1. My primary doctor:</td>
</tr>
<tr>
<td>1. ______________________</td>
<td>2. ______________________</td>
<td>(____) __________________</td>
</tr>
<tr>
<td>2. ______________________</td>
<td>3. ______________________</td>
<td>2. My hospital doctor:</td>
</tr>
<tr>
<td>3. ______________________</td>
<td>4. ______________________</td>
<td>(____) __________________</td>
</tr>
<tr>
<td>4. ______________________</td>
<td>5. ______________________</td>
<td>3. My visiting nurse:</td>
</tr>
<tr>
<td>5. ______________________</td>
<td>________________________</td>
<td>(____) __________________</td>
</tr>
</tbody>
</table>

**My appointments:**

<table>
<thead>
<tr>
<th>On: <em><strong>/</strong></em>/___ at <em><strong>:</strong></em> am/pm</th>
<th>Tests and issues I need to talk with my doctor(s) about at my clinic visit:</th>
</tr>
</thead>
<tbody>
<tr>
<td>For: __________________________</td>
<td>1. ________________________________________________________________</td>
</tr>
<tr>
<td>1. ___________________________</td>
<td>2. ________________________________________________________________</td>
</tr>
<tr>
<td>2. ___________________________</td>
<td>3. ________________________________________________________________</td>
</tr>
<tr>
<td>3. ___________________________</td>
<td>4. ________________________________________________________________</td>
</tr>
<tr>
<td>4. ___________________________</td>
<td>5. ________________________________________________________________</td>
</tr>
</tbody>
</table>

**Other instructions:**

1. ____________________________
2. ____________________________
3. ____________________________

**I understand my treatment plan. I feel able and willing to participate actively in my care:**

Patient/Caregiver Signature: __________________________

Provider Signature: __________________________

Date: ___/___/____
DPET

• Discharge Patient Education Tool
• **DIAGNOSIS**
  • I had to stay in the hospital because: __________
  • The medical word for this condition is: __________
  • I also have these medical conditions: __________

**TESTS**

<table>
<thead>
<tr>
<th>While I was in the hospital I had these tests:</th>
<th>which showed:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TREATMENT**

<table>
<thead>
<tr>
<th>While I was in the hospital I was treated with:</th>
<th>The purpose of this treatment was:</th>
</tr>
</thead>
</table>
FOLLOW-UP APPOINTMENTS

After leaving the hospital, I will follow up with my doctors.

Primary Care Doctor: __________________________ Phone Number: __________________________
DATE: ______________, ___ ___, 200__ TIME: ____:____ __m

Specialist Doctor: __________________________ Phone Number: __________________________
DATE: ______________, ___ ___, 200__ TIME: ____:____ __m

FOLLOW-UP TESTS

After leaving the hospital, I will show up for my tests.

Call your Primary Care Doctor for the following:

<table>
<thead>
<tr>
<th>TESTS</th>
<th>LOCATION</th>
<th>DATE</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>__________</td>
<td>__________</td>
</tr>
</tbody>
</table>

LIFE STYLE CHANGES

After leaving the hospital, I will make these changes in my activity and diet.

Activity: __________________________, because __________________________
Diet: __________________________, because __________________________
BOOST Toolkit: Primary Components

- Identify High Risk Conditions, Barriers to discharge, and define reason for admission -

- Patient and Family/Caregiver Preparation
  - Diagnosis – primary cause for hospitalization and other Dx
  - Other conditions identified by the above
  - Test results and interpretation
  - Treatment Plan during and after hospitalization
    - Contextualize
  - Follow-up Plans
    - Principal Care Provider identification
      - Who to contact with questions/concerns
    - Warning signs/symptoms and how to respond
    - Outpatient appointments
    - Pending tests
  - Medication Reconciliation

- Discharge Summary Communication
Questions to Consider re: Risk Assessment

• What are the characteristics of a good risk assessment model?
• What predicts readmission at your hospital?
• Which readmissions cost your hospital the most?
• Who will do it?
• Are there interventions that could mitigate those risks?
• Do you have the bandwidth to carry out the interventions?
• Are some interventions / protocols already out there?
• How will you document progress on the interventions and coordinate them?
• Pilot vs Big Bang?
Only a few best performers included overall health and function, illness severity, or social determinants of health.
Best Risk Assessment Model

- The one you can actually use in day to day practice
- Validated in your own setting
- Predictive value is high
- Focuses on problems you can do something about
- Incorporates social factors and functionality
- Links to actions / protocols you already have
- Interventions addressing risk factors actually reduce readmissions and ADEs
Principal BOOST Intervention Tool: The TARGET

- TARGET: Tool for Adjusting Risk: Evaluation for Transitions
  - 8P Risk Scale
    - Prior hospitalization
    - Problem medications
    - Psychiatric problems (depression)
    - Principal diagnosis – CHF, PNA, AMI, ESLD, COPD, DM
    - Polypharmacy
    - Poor health literacy
    - Patient support
    - Palliative needs not met
  - GAP: General Assessment of Preparedness
  - Risk Specific Checklist – intervention bundle for problems identified, and who is responsible
REVISION to 8 Ps likely to come soon

1. Prior hospitalization
2. Problem medications
3. Psychiatric problems (depression)
4. Principal diagnosis
5. Polypharmacy
6. Poor health literacy
7. Patient support
8. Palliative needs unmet

1. Prior hospitalization
2. Problem medications / Polypharmacy
3. Physical dysfunction / functionality
4. Psychiatric problems (depression)
5. Principal diagnosis
6. Poor health literacy
7. Patient support
8. Palliative needs unmet
Questions to Consider re: Risk Assessment

- What are the characteristics of a good risk assessment model?
- What predicts readmission at your hospital?
- Which readmissions cost your hospital the most?
- **Who will do it?**
- Are there interventions that could mitigate those risks?
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- **Are some interventions / protocols already out there?**
- How will you document progress on the interventions and coordinate them?
- Pilot vs Big Bang?
Interventions

General

• Teach back, patient engagement
• Patient medical record
• Follow up phone call within 48 hours
• Expedited, pre-defined outpatient follow up (7-14 days)
• Timely DC summaries, communication protocols
• After visit summary, medication reconciliation
• Care Transitions Intervention (CTI)
• DC checklist
• Post hospitalization clinic?

Risk Specific, eg

• Trigger CHF discharge template and quality checklist
• Pharmacy consultation for high risk meds / polypharmacy
• Geriatrics consult for low level of function
• Hospice consult for end of life / palliation
Focus Safety Interventions for High Efficiency & Impact

• ADE prevention efforts should target drug-related events that are:
  – Most common
  – Most serious
  – Cause measureable harms
  – Modifiable by interventions at transition of care

• National data suggest targeting:
  1. Hemorrhages on anti-thrombotic drugs
  2. Hypoglycemia on diabetes drugs
Who are the Patients?
ADEs Treated in EDs, 2004-2005

[Bar graph showing the incidence of ADEs treated in EDs by patient age, with a trend line indicating an increase in incidence with age.]
### Which Drugs are Implicated?

**Emergent Admissions**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Annual National Estimate of Hospitalizations (N=99,628)</th>
<th>Proportion of Emergency Department Visits Resulting in Hospitalization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>no.</td>
<td>% (95% CI)</td>
</tr>
<tr>
<td>Most commonly implicated medications†</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Warfarin</td>
<td>33,171</td>
<td><strong>33.3</strong> (28.0–38.5)</td>
</tr>
<tr>
<td>Insulins</td>
<td>13,854</td>
<td><strong>13.9</strong> (9.8–18.0)</td>
</tr>
<tr>
<td>Oral antiplatelet agents</td>
<td>13,263‡</td>
<td>13.3 (7.5–19.1)</td>
</tr>
<tr>
<td>Oral hypoglycemic agents</td>
<td>10,656</td>
<td><strong>10.7</strong> (8.1–13.3)</td>
</tr>
<tr>
<td>Opioid analgesics</td>
<td>4,778</td>
<td>4.8 (3.5–6.1)</td>
</tr>
<tr>
<td>Antibiotics</td>
<td>4,205</td>
<td>4.2 (2.9–5.5)</td>
</tr>
<tr>
<td>Digoxin</td>
<td>3,465</td>
<td>3.5 (1.9–5.0)</td>
</tr>
</tbody>
</table>

High-risk or potentially inappropriate medications‡

- HEDIS high-risk medications   
  1,207                     
  **1.2** (0.7–1.7)        
  20.7
“Potentially Inappropriate”

≠ High Rates of Harm

Figure 1. Estimated Rates of Emergency Hospitalizations for Adverse Drug Events in Older U.S. Adults, 2007–2009.

Warfarin & Insulins ~17x rate of emergent hospitalizations vs. PIMs
“Show me the money…”
Admissions for ADEs in Older Adults

- Deaths
- Inpatient Events
- ~100,000 Admits/Year
  33% Warfarin; 25% DM meds
- ~266,000 ED Visits/Year
  17% Warfarin; 20% DM meds

Transitions and high risk meds

• Focus on more than just the moment of transition
• What is the landscape for AC and inpatient DM?
  • Improvement teams and ‘special teams’
  • Protocols and order sets
  • Training and education
• Leverage work already done
• Your job might be to simply “trigger” a protocol that already exists, rather than start from scratch
• Teams working on these topics should be glad to see you!
Integrate Best Practice into protocols, order sets, documentation

- Actionable glycemic target
- Constant carbohydrate / dietary / consult
- A1c
- Education plan
- Hypoglycemia protocol
- Guidance for transitions (linked protocols)
- Coordinated monitoring / nutrition / insulin
- DC oral agents, insulin preferred
- Insulin regimens for different conditions
- Dosing guidance
Measure-vention

- **Measurement** on patients who are in the hospital *right now*.
- Identify uncontrolled or “off protocol” patients in real time.
- Trigger *interventions* to bring onto protocol, reduce risk of glycemic excursions early!
- Triggers inpatient DM team consultation / counseling as well.
- Real time reports on hypo- / hyper- glycemic patients
- Real time reports identifying patients on oral agents, 70/30 insulin
- Real time reports identifying all on therapeutic AC
**Mandatory order set use, prompt to DC oral agents**

**IMPORTANT:** For most patients requiring insulin in the hospital, it is best practice to **discontinue** all oral hypoglycemics, including sulfonylureas, metformin and metformin-containing medications, and "glitazone"-class medications.

**Patient Care**

- **Patient Care Orders**
  - Most inpatients requiring insulin should have a target fasting glucose of less than 180 mg/dL.
  - **Target Glucose Range**
    - P Routine, ONGOING starting Today at 11:30 Until Specified
    - Notify the 1st Call provider if glucose values routinely exceed target range and there have been no recent changes to the patient's routine insulin regimen. At ANY time, contact the 1st Call provider if a glucose value is greater than 300 mg/dL.
  - **Diabetes Education**
    - Routine, ONGOING starting Today at 11:30 Until Specified

**Diet**

- **Diets for Diabetic Patients**

**Medications — Required**

**Link to UCSD Inpatient Diabetic Management Algorithm**

**Insulin Regimen - Select Your Patient’s Nutritional Intake Pattern — Required**

Any previous inpatient insulin orders (except an insulin infusion, when transitioning from IV to SQ insulin) should be discontinued when writing new insulin orders using this order set.

**NOTE:** Correctional insulin only options are not appropriate for type 1 diabetics or for patients with fasting glucose values above 150 mg/dL.

**For those patients transitioning from an insulin infusion:** the Total Daily Dose (TDD) of insulin may be estimated using one of the following methods:

1. If the patient is receiving TPN or tube feeds, or is eating well, take the average insulin rate for the previous 6 hours and multiply by 20 to get the TDD.
2. If the patient is not currently receiving adequate nutrition, double the total number of units obtained by method #1 to get the TDD.
3. The **first** dose of glargine should be given **two hours** prior to discontinuing the insulin infusion.

- Insulin Regimen - Patient Eating or Receiving Bolus Tube Feeds (Equivalent Lispro Dosing for Each Meal)
- Insulin Regimen - Patient Eating or Receiving Bolus Tube Feeds (Individualized Lispro Dosing for Each Meal)
- Insulin Regimen - Patient Eating or Receiving Bolus Tube Feeds (Patient Requesting Lispro Dosing Based on Carb Counting)
- Insulin Regimen - Patient on Continuous Tube Feeds or TPN
- Insulin Regimen - Patient NPO or on Clear Liquids
- Insulin Regimen - Correctional Insulin Only in Patient Eating Meals
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Admonition to avoid sliding scale.
Dosing guidance for transition from infusion.
Different SQ regimens for different intake.

Fingerstick Glucose Orders for Hypoglycemia Protocol
- Glucose (POC)
  - Routine, PRN First occurrence Today at 1130 Until Specified
  - Test blood glucose within 15 to 30 minutes of the initial glucose test showing hypoglycemia. If blood glucose is still below 60 mg/dL after treatment, RE-TREAT and check blood glucose again in 30 minutes. Stop testing blood glucose when two consecutive values are above 80 mg/dL.

Hypoglycemia Protocol
Link to UCSD Hypoglycemia Protocol
- glucose chewable tablet 16 g
  - 4 tablet = 16 g, Oral, PRN starting Today at 1115 Until Discontinued, Low Blood Sugar, Per Hypoglycemia Protocol
  - Hypoglycemia is defined as a glucose less than 70 mg/dL, or a glucose less than 80 mg/dL with the presence of symptoms. Give glucose tab or gel per patient preference to correct hypoglycemia if the patient is conscious and is tolerating oral intake.
- glucose 40% oral gel 1 Tube
  - 1 Tube, Oral, PRN starting Today at 1115 Until Discontinued, Low Blood Sugar, Per Hypoglycemia Protocol
  - Hypoglycemia is defined as a glucose less than 70 mg/dL, or a glucose less than 80 mg/dL with the presence of symptoms. Give glucose gel or tab per patient preference to correct hypoglycemia if the patient is conscious and is tolerating oral intake.
- dextrose 50% solution 12.5 g
  - 12.5 g, Intravenous, PRN starting Today at 1115 Until Discontinued, Low Blood Sugar, Per Hypoglycemia Protocol
  - Hypoglycemia is defined as a glucose less than 70 mg/dL, or a glucose less than 80 mg/dL with the presence of symptoms. Give IV dextrose to correct hypoglycemia if the patient is unconscious or is not tolerating oral intake, and has a functioning IV line.
- glucagon (GLUCAGON) injection 1 mg
  - 1 mg, Intramuscular, ONCE PRN, 1 dose starting Today at 1115 Until Discontinued, Low Blood Sugar, Per Hypoglycemia Protocol
  - Hypoglycemia is defined as a glucose less than 70 mg/dL, or a glucose less than 80 mg/dL with the presence of symptoms. Give IM glucagon to correct hypoglycemia if the patient is unconscious or is not tolerating oral intake, and does not have a functioning IV line. When administering glucagon, place the patient on his or her side, as the medication may induce emesis. After glucagon is administered, establish IV access promptly and slowly administer 25 mL of 50% dextrose IV.

Labs
- Order a hemoglobin A1C on the patient if there has not been one within the previous 3 months.
  - Glycosylated Hgb(A1C), Blood Lavender
    - Routine, NEXT LAB DRAW First occurrence Today at 1200 Last occurrence Today at 1200 for 1 occurrence
Glargine should be **50%** of the total daily insulin dose; the remaining 50% of the total daily insulin dose should be distributed among the three pre-meal lispro doses.

**For insulin glargine:** Enter a specific number of units or click one of the weight-based dosing buttons based on the following criteria:
- Patients who are very lean, very sensitive to insulin, or who are on hemodialysis - **0.15 Units/Kg**
- Patients with normal body habitus - **0.2 Units/Kg**
- Patients who are overweight - **0.25 Units/Kg**
- Patients who are obese, on corticosteroids, or who are known to be insulin-resistant - **0.3 Units/Kg**

**For insulin lispro:** The dose of pre-meal lispro should be **one-third** of the insulin glargine dose.

**For correctional insulin lispro:** Use the SmartList in the administration instructions to select an appropriate correctional scale, based on the total daily dose of insulin. Every 24 hours, the amount of correctional insulin administered should be used as a guide to adjust the basal and nutritional insulin doses.

**Glucose (POC)**

Routine, BEFORE MEALS & HS First occurrence Today at 1615 Until Specified

**insulin glargine (LANTUS) injection**

Subcutaneous, EVERY MORNING, First Dose Today at 1145, Until Discontinued
Basal glargine insulin should still be administered even if the patient is temporarily NPO for a procedure, or if the patient has temporary interruption of nutrition.

<table>
<thead>
<tr>
<th>Report:</th>
<th>Lab Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component</td>
<td>Time Elapsed</td>
</tr>
<tr>
<td>Glucose</td>
<td>6 hours (07/20/12 0520)</td>
</tr>
<tr>
<td>Glyco Hgb (A1C)</td>
<td>2 days (07/17/12 1212)</td>
</tr>
</tbody>
</table>

**Reference Links:**
1. Micromedex

**Dose:**
- 10 Units
- 20 Units
- 0.15 Units/kg
- 0.2 Units/kg
- 0.25 Units/kg
- 0.3 Units/kg

**Route:**
- Subcutaneous

**Frequency:**
- EVERY MORNING
- HS
- QAM Daily before lunch
- Q12H

**For:**
- Doses
- Hours
- Days

**Starting:** 07/20/2012
**First Dose:** Include Now
**First Dose:** Today 1145
**Until Discontinued**

**Scheduled Times:**
- 07/20/12 1145
- 07/21/12 0900
- 07/22/12 0900

Order has no end date or number of doses, so more times will be scheduled at a later date.

**For eating patient:**
**Dosing guidance**
Basal / Bolus default
Correction scale matches TDD
Flow sheets: Useful from primary team AND for “Measure-Vention”

Triage report, investigation, and mitigation all within the EHR.
Factors to consider in crafting transition regimen for hyperglycemic patient

- Outpatient regimen / control
- Major changes from recent illness / hospitalization
- Inpatient regimen / control
- Changing stress levels, weaning prednisone
- A1c
- Patient preferences
- Financial / social / insurance picture
- Access to follow up
- Strips / meters that patient can access as outpatient
- EHR integration: smart text notes, DC order set modules
Discharge Insulin Algorithm

Discharge Treatment

A1C < 7%
Return to same regimen as prior to admission (OAD and/or insulin)

A1C 7%-10%*
Re-start outpatient oral agents, consider adding basal insulin once daily at 50% of inpatient hospital dose

A1C >10%*
Re-start / maximize orals, add basal insulin once daily at 75% of inpatient dose. Alternative: stop orals and start 70/30 or basal bolus at same inpatient dose
UCSD and Anticoagulation Efforts

- VTE Prevention then,
- VTE Management then,
- AC Management in Siemens Invision then,
- AC Management in Epic

- See “Optimizing Inpatient Anticoagulation: Strategies for Quality Improvement”

Chapter 16 of Inpatient Anticoagulation, edited by Margaret Fang
Anticoagulation interventions

- Protocols and order sets
- Sadly, no dedicated inpatient AC team
- Therapeutic AC patient list targets pharmacy shadowing and ‘triggered consultation’
- INR initiation and adjustment protocol
- Extra teaching / pharmacy consults prn
- Standardized documentation of anticoagulation teaching
  - Discrete data, helps monitor % who have received education in real time, as well as retrospectively
- Links to AC clinic and community clinic
- One time AC clinic visit ok’ed even if no insurance
- F/U phone calls, expedited appointments
Build in this EHR, then build it again in Epic!

Link to new practice guidelines for Warfarin Initiation and VTE Best Practices checklist

Indications are now listed next to the different anticoagulation protocols to help the provider choose the most appropriate protocol.

Laboratory tests are automatically ordered to assist the provider in monitoring these high-risk medications.
UCSD VTE Treatment Plan

Individualized VTE Treatment Plan

UCSD has identified a number of “best practices” in the management of deep venous thrombosis (DVT) and venous thromboembolism (VTE). To ensure your patient gets the best possible care, please use the check boxes to document that each step was done (Y or N) or not applicable (NA). No protocol fits every patient, but when clinical judgment requires you to deviate from these recommendations, please document your rationale in the chart. For patients requiring direct thrombin inhibitors (argatroban and others) please consult pharmacy.

Treatment Initiation

☐ ☐ ☐ ☐ Review baseline CBC, INR, PTT, & creatinine (for heparins) and liver panel and albumin (for warfarin) done within 48 hours of treatment initiation.

☐ ☐ ☐ ☐ Use the unfractionated heparin (UFH) protocol from CPOE. For all patients with a CrCl < 10 ml/min and others for whom low molecular weight heparin (LMWH) is inappropriate. Enoxaparin can be used at a dose of 1mg/kg 24 hours if the CrCl is 10-30.

Transition to Longterm Treatment

☐ ☐ ☐ ☐ If DVT/PE is cancer related, use longterm LMWH therapy or document why you can’t.

☐ ☐ ☐ ☐ Use Warfarin (coumadin) in all other patients, following the UCSD Warfarin Dosing Nomogram (see attached; follow the dose selection and titration steps and consult your floor pharmacist with questions)

☐ ☐ ☐ ☐ Overlap the UFH or LMWH with warfarin at least 5 days and until 2 INRs 24 hours apart have been therapeutic (usually 2 or greater; need not be inpatient).

Followup, Education, Planning

☐ ☐ ☐ ☐ Confirm that pharmacy gave and documented VTE and medication education (diet, interactions, etc)

☐ ☐ ☐ ☐ For leg DVT, prescribe compression stockings, and document that you did.

☐ ☐ ☐ ☐ Arrange followup INR / clinic appointment, ideally: anticoagulation clinic (471-9144), AND Pulmonary PE/DVT clinic ($43-8500), or another, within 7 days, and often sooner. Provide LMWH / warfarin as needed.

☐ ☐ ☐ ☐ Recommend and document treatment durations in the discharge summary and paperwork: 1+ mo for catheter related DVT, 3-6 mo for transient risk factor, 6+ mo for first idiopathic VTE, and 12 mo to indefinitely for recurrent VTE.

3) 2008 Draft JCAHO National Patient Safety Goals. Available at: jointcommission.org/performancemeasurement
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- What are the characteristics of a good risk assessment model?
- What predicts readmission at your hospital?
- Which readmissions cost your hospital the most?
- Who will do it?
- Are there interventions that could mitigate those risks?
- Do you have the bandwidth to carry out the interventions? Who will do these?
- Are some interventions / protocols already out there?
- **How will you document progress on the interventions and coordinate them?**
- Pilot vs Big Bang?
Recommend paper pilots

(This is version 4, now on version 6 and just starting EHR conversion!)

<table>
<thead>
<tr>
<th>Score Possible/earned</th>
<th>Risk</th>
<th>Need Complete</th>
<th>Risk Specific Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 points (30d), 2 points (60d), 1 point (6mo.)</td>
<td>Prior hospitalization (non-elective in the last 6 months)</td>
<td>Review reasons for re-hospitalization in the context of prior hospitalization in interdisciplinary rounds</td>
<td></td>
</tr>
<tr>
<td>1 point or automatic high risk for CHF</td>
<td>Principal diagnosis (Stroke, DM, Heart Failure, CAP PNA, Cancer, COPD)</td>
<td>Stroke education with teach back</td>
<td></td>
</tr>
<tr>
<td>1 point</td>
<td>Problem medications (Insulin, oral hypoglycemics, anti-coagulation, high dose narcotics)</td>
<td>Pharmacy consult</td>
<td></td>
</tr>
<tr>
<td>1 point</td>
<td>Polypharmacy (&gt;8 routine medications)</td>
<td>MD collaborate with pharmacist regarding ongoing prescriptions</td>
<td></td>
</tr>
<tr>
<td>1 point</td>
<td>Psychiatric complications (acute psychiatric issues, history of psychiatric disease that hinders self-care abilities, history alcohol/drug abuse)</td>
<td>Indicate need for psychiatric medication order</td>
<td></td>
</tr>
<tr>
<td>1 point</td>
<td>Poor health literacy (literacy screening tool) How often do you need to have someone help you when you read instructions or other written material from your doctor or pharmacy? 1. Never 2. Rarely 3. Sometimes 4. Often 5. Always, if more than 2. (sometimes or greater, 1 point is earned)</td>
<td>Indicate need for psychiatric follow-up</td>
<td></td>
</tr>
<tr>
<td>2 points</td>
<td>Patient support (absence of a caregiver to assist with discharge and home care)</td>
<td>Social Work Consult</td>
<td></td>
</tr>
<tr>
<td>1 point</td>
<td>Palliative care</td>
<td>Home health consult</td>
<td></td>
</tr>
</tbody>
</table>

**Total score**

| Possible CTI Candidate |

**High Risk for Readmission Universal Interventions**

- PCP verification
- Follow-up appointment 14 days post discharge scheduled
- Med reconciliation verified
- Day of discharge: ensure discharge checklist completed by the nurses and teach back coaching
- 72 hour post discharge call back arranged

UC San Diego HEALTH SYSTEM
Some designs don’t make any sense………

Even if they’ve been there a long time.
Insert Temper Tantrum Here: IT / EHR limitations

OCCUPY EHR!

- Limited functionality
- Clunky formatting / interface
- Monopoly
- Hold Harmless clause, difficult to share / spread
- Real time data tools from EHRs variable, often poor
- Multiple data libraries
  - (with cranky librarians)
- Barriers to outside vendor solutions

Is there an app for that?
Suggested Steps

• Establish Institutional support / requirements
• Team - Core steering, work groups
  • (don’t forget outpatient partners and voice of patient)
• Establish measures / baseline / performance
  • RCA, high readmission rate analysis. Patients DC’ed on Warfarin, insulin,
  • DC summary, medication reconciliation
  • Observe teaching / discharges (shocking stuff)
• Risk assessment
• Interdisciplinary rounds and common “to do” list
• Leverage improvement pre-existing efforts around high risk conditions
• Choose intervention bundles / improvement model
  • (pitch / catch / case management)
• Redesign usually needed
• Establish pilot units for full bundle implementation, identify systems issues
• Some things could go system wide early (dc summaries, phone calls, etc)
• Get help / collaborate
UCSD Efforts are Multi-faceted

- Project BOOST is main quality framework
- Pilot programs on wards *(based on geography)*
- Beacon pilot for Care Transitions Intervention
- DSRIP Delivery System Reform Incentive Pool
  - CMS Pilot Program for Safety Net Hospitals
  - Earn DISH based on meeting performance
  - TOC effort *(based on geography)*
  - Medication management program *(based on medical condition)*
- CCTP – Community Based Care Transitions Program
  - If awarded, San Diego is largest awardee by far
  - Focus *(based on Medicare FFS insurance)* High risk patients
## DC Summaries – Medicine Service Lines

### Discharge Summaries Signed within 48 hours of Discharge
**October 2011 - September 2012**

<table>
<thead>
<tr>
<th></th>
<th>October '11</th>
<th>November '11</th>
<th>December '11</th>
<th>January '12</th>
<th>February '12</th>
<th>March '12</th>
<th>April '12</th>
<th>May '12</th>
<th>June '12</th>
<th>July '12</th>
<th>August '12</th>
<th>September '12</th>
<th>FY YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bone Marrow Transplant</td>
<td>52.2%</td>
<td>53.7%</td>
<td>42.6%</td>
<td>48.8%</td>
<td>61.4%</td>
<td>42.4%</td>
<td>22.4%</td>
<td>35.5%</td>
<td>32.1%</td>
<td>42.2%</td>
<td>49.2%</td>
<td>31.3%</td>
<td>41.5%</td>
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<tr>
<td>Cardiology</td>
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<td>86.5%</td>
<td>78.1%</td>
<td>81.0%</td>
<td>89.2%</td>
<td>79.6%</td>
<td>80.6%</td>
<td>74.1%</td>
<td>64.6%</td>
<td>72.8%</td>
<td>71.9%</td>
<td>83.0%</td>
<td>75.4%</td>
</tr>
<tr>
<td>Family Medicine</td>
<td>88.9%</td>
<td>90.6%</td>
<td>92.3%</td>
<td>71.7%</td>
<td>71.1%</td>
<td>87.9%</td>
<td>89.3%</td>
<td>93.2%</td>
<td>86.3%</td>
<td>93.0%</td>
<td>89.5%</td>
<td>96.8%</td>
<td>93.2%</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>0.0%</td>
<td>100.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>100.0%</td>
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<td>0.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Hematology/Oncology</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>0.0%</td>
<td>100.0%</td>
<td>75.0%</td>
<td>100.0%</td>
<td>100.0%</td>
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<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
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</tr>
<tr>
<td>Hospital Medicine</td>
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<td>79.8%</td>
<td>86.5%</td>
<td>79.5%</td>
<td>82.5%</td>
<td>85.6%</td>
<td>89.3%</td>
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<td>89.4%</td>
<td>90.8%</td>
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<td>90.3%</td>
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<tr>
<td>Medical Oncology</td>
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<td>100.0%</td>
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<td>100.0%</td>
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<tr>
<td>Owen Hillcrest</td>
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<td>68.3%</td>
<td>78.8%</td>
<td>59.0%</td>
<td>76.1%</td>
<td>73.2%</td>
<td>81.4%</td>
<td>84.6%</td>
<td>92.3%</td>
<td>72.1%</td>
<td>72.7%</td>
<td>80.6%</td>
<td>74.6%</td>
</tr>
<tr>
<td>Pulmonary Vascular Medicine</td>
<td>88.2%</td>
<td>37.5%</td>
<td>88.9%</td>
<td>62.5%</td>
<td>47.1%</td>
<td>81.5%</td>
<td>95.5%</td>
<td>68.0%</td>
<td>75.0%</td>
<td>50.0%</td>
<td>67.9%</td>
<td>45.5%</td>
<td>57.9%</td>
</tr>
<tr>
<td>Pulmonary/Critical Care</td>
<td>63.3%</td>
<td>70.4%</td>
<td>82.8%</td>
<td>65.2%</td>
<td>73.9%</td>
<td>76.9%</td>
<td>100.0%</td>
<td>72.7%</td>
<td>77.3%</td>
<td>81.8%</td>
<td>78.9%</td>
<td>81.8%</td>
<td>81.0%</td>
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<tr>
<td>Grand Total</td>
<td>78.3%</td>
<td>79.6%</td>
<td>82.4%</td>
<td>76.8%</td>
<td>81.5%</td>
<td>81.2%</td>
<td>82.4%</td>
<td>83.5%</td>
<td>81.9%</td>
<td>81.3%</td>
<td>82.4%</td>
<td>85.5%</td>
<td>83.0%</td>
</tr>
</tbody>
</table>
DC Summaries – General Surgery Service Lines

Discharge Summaries Signed within 48 hours of Discharge
October 2011 - September 2012

<table>
<thead>
<tr>
<th></th>
<th>October '11</th>
<th>November '11</th>
<th>December '11</th>
<th>January '12</th>
<th>February '12</th>
<th>March '12</th>
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<th>June '12</th>
<th>July '12</th>
<th>August '12</th>
<th>September '12</th>
<th>FY YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Surgery DC Summaries win 48 hrs</td>
<td>114</td>
<td>139</td>
<td>179</td>
<td>168</td>
<td>90</td>
<td>121</td>
<td>107</td>
<td>128</td>
<td>171</td>
<td>145</td>
<td>168</td>
<td>163</td>
<td>476</td>
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<tr>
<td>General Surgery Total DC Summaries</td>
<td>156</td>
<td>152</td>
<td>193</td>
<td>188</td>
<td>161</td>
<td>198</td>
<td>185</td>
<td>184</td>
<td>201</td>
<td>180</td>
<td>193</td>
<td>186</td>
<td>559</td>
</tr>
<tr>
<td>General Surgery DC Summaries win 48 hrs %</td>
<td>73.1%</td>
<td>91.4%</td>
<td>92.7%</td>
<td>89.4%</td>
<td>55.9%</td>
<td>61.1%</td>
<td>57.8%</td>
<td>69.6%</td>
<td>85.1%</td>
<td>80.8%</td>
<td>87.0%</td>
<td>87.6%</td>
<td>85.2%</td>
</tr>
</tbody>
</table>

*General Surgery defined as the following discharge service lines: General Surgery, Hospitalsist Sur Team, Surgery, Surgery Blue, Surgery Green, Surgery Red, Surgery Silver, Surgery White, Surgery Yellow, Surgical Oncology

UC San Diego Health System
UCSD All Cause Hospital Readmissions

30 Day

<table>
<thead>
<tr>
<th>MDC Category</th>
<th>Total Cases</th>
<th>30 Day Readmits</th>
<th>Readmit %</th>
<th>Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes / endocrine</td>
<td>271</td>
<td>49</td>
<td>18.1%</td>
<td>20.3%</td>
</tr>
<tr>
<td>Pulmonary Embolus</td>
<td>68</td>
<td>9</td>
<td>13.2%</td>
<td>27.7%</td>
</tr>
</tbody>
</table>

UCSD All Cause Hospital Readmissions

7 Day
Questions / Answers