Using Quality Improvement to Optimize Pediatric Discharge Efficiency

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This presenter has nothing to disclose
Objectives

• Describe strategies for focusing discharge planning processes around medical readiness criteria, regardless of time of day

• Describe the application of quality improvement principles to improving discharge efficiency

• Highlight the key high reliability processes used for implementing and sustaining improvement
Case

At 8am, a 3 year old female admitted with community acquired pneumonia has been stable on room air all night without respiratory distress

- Afebrile x 24 hours
- Tolerates her first oral antibiotic dose
- Drinking well
But…

Why does she stay until 1:00pm?

Can we eliminate this waste?
Background

• The Institute of Medicine urges us to provide care that is *timely* and *efficient*.

• A 2009 study by Srivastava et al found that nearly 1 in 4 patients experienced a medically unnecessary prolonged hospital stay of at least 1 day.

• Prior studies focused on set discharge time goals such as 11:00 am.
In 2012, there were 7000 admissions to our 3 Hospital Medicine units

- Highest admitting units from Emergency Department and Pediatric Intensive Care Unit
- Thus, Hospital Medicine discharge delays affect flow throughout the hospital which may lead to
  - Delayed admissions or transfers
  - Canceled or delayed surgeries
Discharge Prediction

- In 2008, CCHMC began predicting the time of discharges in 4 hour time buckets to
  - Anticipate bed availability
  - Place patients on the appropriately skilled nursing unit
- These predictions took into account medical, social and system level factors
- Success defined as patient going home in the predicted bucket or the bucket prior
- By 2010, discharge predictions had improved but flow hadn’t and system delays persisted
A6N - Discharge Predictions per Discharge Bucket

- 7AM-11AM: 0
- 11AM-3PM: 2 (Before Bucket), 7 (Within Bucket), 2 (After Bucket)
- 3PM-7PM: 20 (Before Bucket), 13 (Within Bucket), 2 (After Bucket)
- 7PM-11PM: 14 (Before Bucket), 2 (Within Bucket)
- 11PM-7AM: 0
We needed to address system issues to improve efficiency:

- **Lack of shared discharge goals for patients**
  - Patients with the same diagnoses had goals that varied by physician
  - Goals were not shared with nursing staff or families
- **Discharge planning occurred last minute**

- Shift focus to plan discharge around medical readiness, regardless of time of day
AIM

To increase the percentage of Hospital Medicine patients admitted to one of three inpatient units with one of 11 common diagnoses discharged within two hours* of meeting medically-ready criteria from 42% to 80% by June 30, 2013

*If criteria were met between 9:00 pm – 7:00 am, patients were not expected to leave until 9am.
Other Measures

• Nurse and Physician Process Measures
• Secondary Measures:
  • Length of stay (LOS)
  • Average daily census
    • Total occupied beds at 8am / number of days in the month
Balancing Measures

- 30-day Readmission Rates
- Family Satisfaction
Increase the percentage of Hospital Medicine patients with one of 11 common inpatient diagnoses discharged within two hours of meeting medically ready criteria from 42% to 80% by June 30, 2013.

- Discharge Criteria Defined
- Frontline Staff Buy-in and Shared Ownership
- Discharge Barrier Identification with Mitigation Plans established
- Team Performance Transparency with Preoccupation with Failure
11 Diagnoses

- Asthma
- Bronchiolitis
- Osteomyelitis
- Hyperbilirubinemia
- Fever of Uncertain Source
- Cellulitis
- Gastroenteritis/Dehydration
- Urinary Tract Infection
- Pneumonia
- Croup
- Constipation
The Process

1. Physicians define criteria in EMR on admission
2. Patient meets medically-ready criteria
3. Nurse places time stamp in EMR
4. If patient does not leave within 2 hours, nurses document reason why
Process Measures

- Physician process measure: the percentage of admitted patients with medically-ready discharge orders

- Nurse process measure: the percentage of patients with the medically-ready time stamp placed in the electronic medical record (EMR)
## Physiologic Discharge Criteria for Pneumonia

### Routine, CONT starting Today at 1144 Until Specified

<table>
<thead>
<tr>
<th>Questions</th>
<th>Prompt</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fever trending downward</td>
<td>for at least 12 hours</td>
<td>for at least 24 hours</td>
</tr>
<tr>
<td>2. Antibiotic regimen confirmed</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3. Oxygen saturations greater than or equal to</td>
<td>91% on room air for 6 hours</td>
<td>91% on room air for 12 hours</td>
</tr>
<tr>
<td></td>
<td>91% on room air for 24 hours</td>
<td></td>
</tr>
<tr>
<td>4. No evidence of respiratory distress</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>5. Additional discharge criteria</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments (F6): [Click to add text](#)
<table>
<thead>
<tr>
<th>Start</th>
<th>12/08/13 0923</th>
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</thead>
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<tr>
<td><strong>Physiologic Discharge Criteria</strong> CONT, Routine</td>
<td></td>
</tr>
<tr>
<td><strong>Question</strong></td>
<td><strong>Answer</strong></td>
</tr>
<tr>
<td>O2 sats greater than or equal to 91% on room air or home oxygen level</td>
<td>yes for at least 12 hours</td>
</tr>
<tr>
<td>No evidence of respiratory distress</td>
<td>yes</td>
</tr>
<tr>
<td>Fever trending down</td>
<td>yes</td>
</tr>
<tr>
<td>Antibiotic regimen confirmed</td>
<td>yes</td>
</tr>
<tr>
<td>Tolerating PO antibiotic without emesis</td>
<td>yes, at least one dose</td>
</tr>
</tbody>
</table>

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Time Stamp Documentation

© 2013 Epic Systems Corporation. Used with permission.
### Nurse Documentation of Failure

<table>
<thead>
<tr>
<th>Anticipated Discharge Date</th>
<th>Anticipated Discharge Time</th>
<th>All physiologic discharge criteria met</th>
<th>Reasons for discharge &gt;2 hrs after</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/14/11</td>
<td>10/17/11</td>
<td>1526</td>
<td>1217</td>
</tr>
</tbody>
</table>

#### Selection Form

- Interpreter delay
- Meds-flu shot
- Meds-pharmacy delay
- Meds-script not written/faxed
- Nursing delay
- Patient/parent delay
- Physician delay
- Status change/not improving

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Baseline Failure Reasons

Medically-Ready - Hospital Medicine Units Discharge Failure Reasons

- Medication: 21%
- Consult: 14%
- Patient/Parent: 11%
- Physician Delay: 11%
- Goals Not Clearly Defined: 10%
- Unknown: 9%
- Transportation: 9%
- Other: 5%
- Rounds: 5%
- Home Health: 3%
- Interpreter: 2%

FY11-Q1
Optimizing Discharge Efficiency

% Discharged within 2 Hours of Medically Ready

Desired Direction of Change

% Discharged within 2 Hours

Week Start Date (Patients Discharged)

Last Updated 11/02/2016 by S. Neogi, James M. Anderson Center for Health Systems Excellence
Optimizing Discharge Efficiency

% Discharged within 2 Hours of Medically Ready

Key Intervention Period for General Medical Teams

Week Start Date (Patients Discharged)
Optimizing Discharge Efficiency
% Discharged within 2 Hours of Medically Ready

Key stakeholder buy-in and shared ownership

Week Start Date (Patients Discharged)
Standardization of Discharge Criteria

• Based on available evidence and expert consensus
• Diagnosis-specific goals
  • For example, stable without supplemental oxygen for 6 hours for patients with bronchiolitis
• Did not include non-medical items
  • For example, medications filled by pharmacy
• Embedded in physician admission order sets
  • Modifiable
### Physiologic Discharge Criteria for Pneumonia

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<th>Prompt</th>
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<td>91% on room air for 6 hours 91% on room air for 12 hours 91% on room air for 24 hours</td>
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<td>5. Additional discharge criteria</td>
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</tr>
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</table>

Comments (F6): [Click to add text](#)

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Leveraging of Nursing Performance Management System

• A pay-for performance managerial system to plan, evaluate and reward individual employee performance
  • Goals align with strategic priorities

• In Oct 2011, one unit included the discharge outcome as the unit’s goal
  • That unit’s performance improved from 34-60%
Unit A - Impact of Performance Management on Outcome Measure

Performance management goals set for unit
Unit B - Impact of Performance Management on Outcome Measure

% Discharged within 2 Hours

Date (Patients Discharged)

- Desired Direction of Change
- Performance management goals set for unit

- % Discharged 2 Hrs
- Median
- Goal
Optimizing Discharge Efficiency
% Discharged within 2 Hours of Medically Ready

- Second and third unit performance management
- Key stakeholder buy-in and shared ownership

Week Start Date (Patients Discharged)
Discharge Barriers Defined and Mitigation Plans Established

• Focused on the top 2 failure reasons:
  • Subspecialty Consult timeliness
  • Medication Delays

• Accounted for 35% of the failures
Optimizing Discharge Efficiency
% Discharged within 2 Hours of Medically Ready

Timeliness of consults

Key stakeholder buy-in and shared ownership

Week Start Date (Patients Discharged)
Subspecialty Consult Timeliness

- Many patients admitted with asthma exacerbations receive an asthma team consult
  - Staffed by pulmonary medicine or allergy/immunology attendings
  - Help with medication adjustment, diagnostic testing and outpatient follow-up
Asthma Team Consult Timeliness Interventions

- Prioritized consults based on predicted discharge time
- Instituted a brief consult note with asthma team recommendations
**Optimizing Discharge Efficiency**

% Discharged within 2 Hours of Medically Ready

- **Key stakeholder buy-in and shared ownership**
- **Timeliness of consults**
- **Pharmacy process optimization**

Week Start Date (Patients Discharged)
Pharmacy Process Optimization

• On admission, nurses documented the families’ preferred pharmacy in the EMR

• At CCHMC Pharmacy:
  • Filling prioritization based on predicted discharge time
  • Pharmacist start time shifted to 7 am
  • Delivery of medications Mon-Fri from 8 am to 5 pm
Pharmacy Process Optimization

• Flu shot
  • Order modified to eliminate “upon discharge” phrase
  • Stocked on the floor
Optimizing Discharge Efficiency
% Discharged within 2 Hours of Medically Ready

- Key stakeholder buy-in and shared ownership
- Timeliness of consults
- Pharmacy process optimization
- Preoccupation With Failure

Week Start Date (Patients Discharged)
Preoccupation with Failure

• Daily automated reports generated from the EMR:
  • Detailed all the process and outcome failures from the day prior

• Allowed for:
  • Identification & mitigation of physician process failures
  • Learn about outcome failures
### Numerator for the outcome measure

<table>
<thead>
<tr>
<th>Numerator</th>
<th>Denominator</th>
<th>Encounter CSN</th>
<th>MRN</th>
<th>Patient Name</th>
<th>Admission Time</th>
<th>Discharge Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>Jun 12 2015 4:50PM</td>
<td>Jun 13 2015 1:31PM</td>
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<td></td>
<td></td>
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<td>Jun 11 2015 11:27PM</td>
<td>Jun 13 2015 10:15AM</td>
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<tr>
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<td>1</td>
<td></td>
<td></td>
<td></td>
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<td>Jun 12 2015 4:04PM</td>
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<tr>
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<td>1</td>
<td></td>
<td></td>
<td></td>
<td>Jun 10 2015 9:02PM</td>
<td>Jun 12 2015 1:57PM</td>
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<tr>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<td>Jun 12 2015 12:09PM</td>
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<tr>
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<td>1</td>
<td></td>
<td></td>
<td></td>
<td>Jun 11 2015 12:03AM</td>
<td>Jun 12 2015 11:48AM</td>
</tr>
</tbody>
</table>

### Denominator for the outcome measure

### Time the patient left the hospital
**Daily Report**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<tr>
<td>Hospital Medicine</td>
<td>Jun 12 2015 8:29PM</td>
<td>Jun 13 2015 12:45PM</td>
<td>POE, CLARICE</td>
<td>Jun 13 2015 12:51PM</td>
<td>POE, CLARICE</td>
<td></td>
</tr>
<tr>
<td>Hospital Medicine</td>
<td>Jun 11 2015 1:33AM</td>
<td>Jun 12 2015 1:45PM</td>
<td>GUENTHER, STEPHANIE</td>
<td>Jun 12 2015 1:45PM</td>
<td>GUENTHER, STEPHANIE</td>
<td></td>
</tr>
</tbody>
</table>
Optimizing Discharge Efficiency

% Discharged within 2 Hours of Medically Ready

Key stakeholder buy-in and shared ownership

Pharmacy process optimization

Timeliness of consults

Process Expansion

Preoccupation With Failure

Week Start Date (Patients Discharged)
Expansion to all diagnoses

• Challenging for frontline providers to remember which patients qualified

• Shift from work by exclusion model to an all inclusive model
  • In Nov 2012, we applied the processes to ALL HM patients
  • General admission order set
## Discharge

Note: You must select at least one criterion from the list or write additional discharge criteria of your own. PI patient.

### Physiologic Discharge Criteria

<table>
<thead>
<tr>
<th>Question</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>O2 sat greater than or equal to 91% on room air</td>
<td>x 6 hours, x 12 hours, x 24 hours</td>
</tr>
<tr>
<td>No evidence of respiratory distress</td>
<td>yes</td>
</tr>
<tr>
<td>Fever trending down</td>
<td>for at least 12 hours, for at least 24 hours</td>
</tr>
<tr>
<td>Afebrile (&lt;38.0)</td>
<td>for 24 hours, for 48 hours, for 72 hours</td>
</tr>
<tr>
<td>Pain controlled with PO pain meds</td>
<td>yes</td>
</tr>
<tr>
<td>Blood culture observed for</td>
<td>36 hours, 48 hours</td>
</tr>
<tr>
<td>Sufficient rehydration complete as evidenced by improved clinical status or weight gain</td>
<td>yes</td>
</tr>
<tr>
<td>Intake exceeds losses</td>
<td>yes</td>
</tr>
<tr>
<td>Antibiotic regimen confirmed</td>
<td>yes</td>
</tr>
<tr>
<td>Tolerating PO antibiotic without emesis</td>
<td>yes, at least one dose</td>
</tr>
<tr>
<td>Observed on monitors without events</td>
<td>x 12 hours, x 24 hours</td>
</tr>
<tr>
<td>Documented weight gain</td>
<td>x 24 hours, x 48 hours, x 72 hours</td>
</tr>
</tbody>
</table>

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Optimizing Discharge Efficiency
% Discharged within 2 Hours of Medically Ready

- Timeliness of consults
- Process Expansion
- Transparency of Data
- Preoccupation With Failure
- Pharmacy process optimization
- Key stakeholder buy-in and shared ownership

Week Start Date (Patients Discharged)
Transparency of Data

• Feedback to physician teams:
  • Weekly emails to attendings
  • Poster in resident conference rooms with team compliance
  • Daily emails about outcome failures

• Feedback to nursing units:
  • Run charts posted on the unit
  • Discussions at monthly staff meetings
## Resident Team Weekly Performance

<table>
<thead>
<tr>
<th>Week Start</th>
<th>HM Team #1</th>
<th>HM Team #2</th>
<th>HM Team #3</th>
<th>HM Team #4</th>
<th>HM Team #5</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>% Orders</td>
<td>% Discharged 2 Hr</td>
<td>% Orders</td>
<td>% Discharged 2 Hr</td>
<td>% Orders</td>
</tr>
<tr>
<td>1/6/2013</td>
<td>100%</td>
<td>70%</td>
<td>82%</td>
<td>100%</td>
<td>38%</td>
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<tr>
<td>1/13/2013</td>
<td>100%</td>
<td>70%</td>
<td>92%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>1/20/2013</td>
<td>100%</td>
<td>90%</td>
<td>92%</td>
<td>100%</td>
<td>80%</td>
</tr>
<tr>
<td>1/27/2013</td>
<td>89%</td>
<td>71%</td>
<td>96%</td>
<td>75%</td>
<td>100%</td>
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<tr>
<td>2/3/2013</td>
<td>80%</td>
<td>92%</td>
<td>100%</td>
<td>56%</td>
<td>70%</td>
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<tr>
<td>2/10/2013</td>
<td>81%</td>
<td>90%</td>
<td>92%</td>
<td>77%</td>
<td>82%</td>
</tr>
<tr>
<td>2/17/2013</td>
<td>83%</td>
<td>75%</td>
<td>86%</td>
<td>56%</td>
<td>93%</td>
</tr>
<tr>
<td>2/24/2013</td>
<td>70%</td>
<td>70%</td>
<td>95%</td>
<td>60%</td>
<td>95%</td>
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<tr>
<td>3/3/2013</td>
<td>88%</td>
<td>83%</td>
<td>93%</td>
<td>60%</td>
<td>89%</td>
</tr>
<tr>
<td>3/10/2013</td>
<td>78%</td>
<td>75%</td>
<td>93%</td>
<td>92%</td>
<td>94%</td>
</tr>
<tr>
<td>3/17/2013</td>
<td>79%</td>
<td>100%</td>
<td>85%</td>
<td>63%</td>
<td>91%</td>
</tr>
<tr>
<td>3/24/2013</td>
<td>93%</td>
<td>67%</td>
<td>100%</td>
<td>81%</td>
<td>85%</td>
</tr>
<tr>
<td>3/31/2013</td>
<td>80%</td>
<td>77%</td>
<td>92%</td>
<td>67%</td>
<td>70%</td>
</tr>
<tr>
<td>4/7/2013</td>
<td>79%</td>
<td>83%</td>
<td>100%</td>
<td>89%</td>
<td>64%</td>
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<tr>
<td>4/14/2013</td>
<td>71%</td>
<td>50%</td>
<td>93%</td>
<td>73%</td>
<td>92%</td>
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<tr>
<td>4/21/2013</td>
<td>92%</td>
<td>25%</td>
<td>100%</td>
<td>63%</td>
<td>83%</td>
</tr>
<tr>
<td>4/28/2013</td>
<td>92%</td>
<td>69%</td>
<td>100%</td>
<td>71%</td>
<td>88%</td>
</tr>
</tbody>
</table>

**Green:** 70-100%
**Yellow:** 50-69% of patients
**Red:** 0-49% of patients
Optimizing Discharge Efficiency
% Discharged within 2 Hours of Medically Ready

- Timeliness of consults
- Process Expansion
- Second and third unit performance management
- Transparency of Data
- Preoccupation With Failure
- Pharmacy process optimization
- Key stakeholder buy-in and shared ownership

Week Start Date (Patients Discharged)
Discharge Failure Reasons Comparison

**Medically-Ready - Hospital Medicine Units Discharge Failure Reasons**

- **Medication**
  - FY11-Q1: 21%
  - FY13-Q3: 17%

- **Consult**
  - FY11-Q1: 5%
  - FY13-Q3: 14%

- **Patient/Parent**
  - FY11-Q1: 11%
  - FY13-Q3: 22%

- **Physician Delay**
  - FY11-Q1: 19%
  - FY13-Q3: 11%

- **Goals Not Clearly Defined**
  - FY11-Q1: 10%
  - FY13-Q3: 0%

- **Unknown**
  - FY11-Q1: 4%
  - FY13-Q3: 9%

- **Transportation**
  - FY11-Q1: 9%
  - FY13-Q3: 0%

- **Other**
  - FY11-Q1: 11%
  - FY13-Q3: 5%

- **Rounds**
  - FY11-Q1: 0%
  - FY13-Q3: 5%

- **Home Health**
  - FY11-Q1: 0%
  - FY13-Q3: 3%

- **Interpreter**
  - FY11-Q1: 0%
  - FY13-Q3: 2%
Optimizing Discharge Efficiency
% Discharged within 2 Hours of Medically Ready
General Medical Teams

Desired Direction of Change

Increase in Medically Clear Mental Health Patients Admitted to General Medical Teams

Week Start Date (Patients Discharged)
Other Measures
Physician Process Measure - Medical
Managing Discharge when Medically Ready
Includes patients on selected Medical Units

% Admitted Patients with Phys. Orders

Week Start Date (Patients Admitted)

- % With Physician Orders
- Median
- Goal

Incorporated into new intern orientation
Expansion to all diagnoses
Feedback provided to all physician teams
Daily Feedback reports

Desired Direction of Change
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

01/01/12 (n=76) 01/22/12 (n=112) 02/23/12 (n=82) 03/04/12 (n=109) 04/15/12 (n=77) 05/06/12 (n=86) 06/07/12 (n=41) 07/08/12 (n=60) 08/09/12 (n=67) 09/10/12 (n=80) 10/11/12 (n=83) 11/12/12 (n=86) 12/13/12 (n=76) 01/03/13 (n=88) 02/04/13 (n=124) 03/05/13 (n=86) 04/06/13 (n=88) 05/07/13 (n=103) 06/08/13 (n=89) 07/09/13 (n=86) 08/10/13 (n=111) 09/11/13 (n=86) 10/12/13 (n=83) 11/13/13 (n=88) 12/14/13 (n=101) 01/05/14 (n=111) 02/06/14 (n=107) 03/07/14 (n=108) 04/08/14 (n=128) 05/09/14 (n=167) 06/10/14 (n=88) 07/11/14 (n=88) 08/12/14 (n=142) 09/13/14 (n=132) 10/14/14 (n=128) 11/15/14 (n=132) 12/16/14 (n=119) 01/18/15 (n=76)
Nurse Process Measure - Medical
Managing Discharge when Medically Ready
Includes patients on Medical Service on Selected Units

% Patients with Discharge Criteria Met Button Pushed

Performance Management on all Units
Performance Management Goals reestablished on all Units
Expansion to All Diagnoses
Daily Feedback Reports

Week Start Date (Patients Discharge Date)

- % Medical Button Pushed (All Patients)
- Medical Median (All Patients)
- Goal
Secondary Measures

- Median Length of Stay significantly decreased from 1.57 to 1.44 days ($p=0.01$)
  - Asthma was the only individual admission diagnosis with a statistically significant improvement in LOS
  - Exclusion of asthma patients still demonstrated a significant decrease in LOS for the remaining compiled diagnoses

- Average daily census increased from 36.4 to 42.9 (17.5% increase in occupancy)
Balancing Measures

- Readmission rates remained similar for individual diagnoses and overall (4.60% to 4.21%; p=0.24)

- Family satisfaction remained high
Lessons Learned

• Discharge prediction was the framework for our study but didn’t improve flow

• Decreasing clinical variability in discharge criteria was an essential first step

• Taking advantage of habits and patterns was necessary

• Multidisciplinary collaboration was key to our success
Where are We Now?

- Improving discharge efficiency:
  - Focusing Hospital Medicine complex patients with chronic conditions
  - Spread to other services and units

- Working on consistent modification of the medically ready orders based on clinical course

- Working on improving the timeliness of the EMR timestamp
<table>
<thead>
<tr>
<th>Division</th>
<th>Unit</th>
<th>Service Type</th>
<th>Project Introduced to MD's</th>
<th>Discharge Criteria Identified &amp; Reviewed by Team</th>
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Cardiology: Patients Discharged Before Noon

Last Updated 09/23/2016 by Smriti Neogi, James M. Anderson Center for Health Systems

* due to construction on A6C, April 2015
data is from med ready population

Month & Year (Total Patients Discharged)

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% Discharged before noon

- **I2S2 Project**
- **RCIC project**
- **Baseline Period**

Desired Direction of Change

Centerline - Control Limit

Due to construction on A6C, April 2015, data is from med ready population.
Next Steps

• Shifting focus of interventions to address:
  • Parent/patient concerns
  • Transportation

• Continue spread to other services, units and hospitals
Publications


Thank You to Our Team

- Angela Statile, MD, MEd
- Denise L. White, PhD, MBA
- Amanda Schondelmeyer, MD
- Dena Elkeeb, MD
- Karen Tucker, MSN, MBA, RN
- Stephen D. Warrick, MD
- Denise M. Warrick, MD
- Matthew Carroll, MD
- Paul Yelton, MSCS
- Shelly Miller, Family Member
- Julie Hausfeld, BSN, RN
- Pamela Kiessling, MSN, RN
- Michael Farrell, MD
- Uma Kotagal, MBBS, MSc
- Frederick C. Ryckman, MD
- David Mayhaus, MS, PharmD
- Melissa Healy, RPH
- Karen McDowell, MD
- Patrick Brady, MD, MSc
- Laura Brower, MD
Questions or Comments?
Iantorno S, Fieldston E. Hospitals are not hotels: high-quality discharges occur around the clock. *JAMA Pediatr* 2013;167(7):596-97

