Taming Length of Stay Challenges Through Analytics

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Conflict of Interest

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Have no real or apparent conflicts of interest to report.
Agenda

• LOS Management Significance
• Complex Measure – an exponential distribution!! Can we use an average?
• The role of Analytics
• Reasons for longer acute hospitalizations
• A new way of measuring LOS
• Making the Case – Demonstrating the Complexities
• Reduction of LOS – Action Plan Update
• Adequate Case Management Staffing
• Systemic changes
• Results
• Recommendations
Learning Objectives

1. Recognize why Length of Stay Management is a complex problem and how analytics can be utilized to make a case for additional resources

2. Identify the operational factors impacting the discharge process in length of stay management

3. Discuss the role of analytics in understanding the underpinnings of length of stay management

4. List proactive measures you can take to reduce ALOS

5. Summarize insights into the challenges of ALOS management
LOS Management Significance

Improving LOS Management directly improves:

- Improves patient outcomes by minimizing the risk of hospital acquired conditions
- Operational and Clinical Outcomes
- Decreases costs of care for our patients
- Improves expenses for our organization including supplies, as well as staffing including premium pay
- Financial Outcomes
How a LOS Project is Like a Startup
Benefits realized for one or more STEPS™ value categories

- Frustrated and overworked staff are given resources to address ongoing issues (ex. Ability to secure DME resources)
- Patients participate in care decisions and transitions
- Physician liaisons having dialogue with other physicians about obstacles to discharge
- Real conversations when additional treatment is futile
- Revenue gains when patients hospitalized met medical necessity
- Identification of populations of patients that are contributing more to the problem at hand
- Timely and actionable data
How do you measure Length of Stay?

• LOS measure is a complex measure to track and manage
  – Has multiple dependencies
  – Impacts other metrics
  – Has leading and lagging components
  – Is a good measure of the ‘flow’ of your hospital operations

• To observe the blockages in the ‘flow’ you need diagnostic tools
• To understand the underlying dynamics requires tracking and understanding of multiple metrics
  – Requires access to consistent data with slice/dice capabilities

• Our source of data:
  – ECH’s EDW: it integrates data from numerous source systems including, clinical, billing, cost, quality
The role of Analytics
Days Stayed – The New Way of Seeing LOS!

"Days stayed" - Inpatients here in house (All Payers)

<table>
<thead>
<tr>
<th>LOS</th>
<th>Full Name</th>
<th>Location</th>
<th>Age</th>
<th>Payer</th>
<th>Attending MD</th>
<th>Attending Group</th>
<th>Admitting Dx</th>
<th>Account Num</th>
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</table>

"Days stayed" - All payers, Inpatients on units 2C, 3AC, 3AP, 3B, 3C, 4A, 4B

Pivot Table (3)

<table>
<thead>
<tr>
<th>LOS</th>
<th>Patient Count</th>
<th>Sum of Patient Days Used</th>
<th>Average LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grand Total</td>
<td>117</td>
<td>639</td>
<td>5</td>
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<tr>
<td>LOS 20+ days</td>
<td>6</td>
<td>183</td>
<td>31</td>
</tr>
<tr>
<td>LOS 7 to 19 days</td>
<td>23</td>
<td>230</td>
<td>10</td>
</tr>
<tr>
<td>LOS &lt; 7 days</td>
<td>88</td>
<td>226</td>
<td>3</td>
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</tbody>
</table>

Pie chart:

- 20 Plus Days, 1.85%
- 4 - 6 Days, 30.30%
- 7 - 19 Days, 19.81%
- Less than 4, 48.05%
Daily Monitoring of Admitted patients (All Payers)

1. An assessment of 6 Mountain View campus inpatient units (2C, 3AC/AP, 3B, 3C, 4A and 4B) from 3/1/15 to 4/8/15

2. The average number of inpatients per day was 163

3. On average, the “days stayed” for those patients was 960. (total number of days these inpatients stayed as of 4/3/15)

4. This equates to ALOS of 5.85 for admitted patients

5. On average, 11 patients stayed longer than 19 days

6. Patient’s staying longer than 19 days accounted for 42% of the total “days stayed”.
Why Are Patients Staying Longer?

• Patient can be discharged but continues to stay in the hospital
• Unavailability of SNF
• No one at home
• Family not ready to take patient home
• Patient very sick but no further treatment options
• Lack of advanced directives
• No one has talked to the patients about all options
• Who makes these difficult conversations
• International patients
• Average contact time of care coordinator with patient = 15 min
  – Not enough time to explore/research options
• Equipment/resources not available at home (bed/oxygen…)
Big Buckets

For LOS reduction we focused on where we observed the greatest opportunity

Medicare Inpatients, aged over 65, in our acute and intensive care units

*What makes these patients “hard to place”?*

» High Intensity

» End of Life

» Extensive Antibiotics

» Wound Care

» Psych, Dementia and Cognitive problems
How To Go About It?

- Once a patient is deemed dischargeable but is still in hospital
  - Move them to the virtual SNF
  - Track two LOS measurements
    - One with all patients
    - Second with VSNF patients excluded
- Now you have the data in hand to bring awareness to real problems and procure funding for resources:
  - More care coordinators
  - Research options to facilitate patient discharge
  - End of life conversations
  - Hospital owned or co-owned SNF
  - Facilitate relationships & coordinate access to community SNFs
Adequate Case Management Staffing

• **Cost Analysis**
  – May and June Months = 61 days
  – 8 hours a day for 61 days = 488 hours
  – 6 staff x 488 hours = 2,928 hours
  – Cost of staff surge 2,928 x $80/hour = $234,240

• **Staffing**
  – Caseload reduction of 28 to 18 patients per Case Manager
  – On average, each patient would receive 25 minutes of case management per day. Compared to 16 minutes per day currently

*Note: A baseline and post intervention time study of time spent by case managers is in the planning stage.*
Virtual SNF
Opened March 31st, 2015

<table>
<thead>
<tr>
<th>Transfer Date</th>
<th>VSNF Patients</th>
<th>Discharged Patients</th>
<th>LOS</th>
<th>Diagnosis</th>
<th>Primary Insurance</th>
<th>Account Discharge Date</th>
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<td>3/31/2015</td>
<td>8</td>
<td>29</td>
<td>29</td>
<td>Low Intensity</td>
<td>MEDICARE</td>
<td>4/8/2015</td>
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<td>3/31/2015</td>
<td>21</td>
<td>85</td>
<td>85</td>
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<td>3/31/2015</td>
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<td>MEDICARE</td>
<td>4/15/2015</td>
</tr>
<tr>
<td>4/13/2015</td>
<td>72</td>
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<td>72</td>
<td>High Intensity Comfort Care</td>
<td>MEDICARE</td>
<td>5/14/2015</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>104</strong></td>
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</tbody>
</table>
First items on our Action Plan

1. **Lease/secure SNF beds**
   - 6 patient beds (per virtual SNF data)

2. **CM/SW staffing surge (cost evaluation next slide)**
   - Temporary hire 6 Case Managers for May and June this year
   - Assign CM to each unit on Mountain View campus.
   - Eliminate weekly staff shortages
   - Increase discharges by 20-40% on weekends

3. **For sustained LOS Reduction**
   - Hire of a Palliative Care Physician
   - Establishment of medical necessity upon admission
   - Establish Presumptive MediCal at ECH
   - Establish daily discharge rounds
Followed by Systemic changes

- Interqual Training for Care Coordinators
- DME Specialist in place
- Started Oncology Rounds
- Evaluated Premiers Findings and implementation in process
- LOS Steering Committee meets weekly
- Visual Management on each unit
- Outlier Rounds Regularly (7 days or more LOS)
- Palliative Care support
- Daily discharge Rounds on Med/Surg/Tele with physician liaisons in attendance (addressing barriers)
Daily Discharge Rounds

• Held each day on Med/Surg/Tele Units
• Dr. Michelle Pezzani and Dr. Sanjay Agarwal attending rounds as physician liaison 2 days/week on each unit.
• Outlier Rounds 2X/week with physicians in attendance
• Oncology rounds 1x/week with oncologists in attendance
• Standard work created for each member of the discharge rounds team members
Results

CY15 Readmission Rate  CY15 ALOS  CY14 ALOS

Outlier Rounds  Palliative Care Support  Presumptive Medi-Cal  LOS Steering Committee  ECH dedicated Hospice SNF bed  Cancer Rounds  Unit Viz Boards  Discharge Rounds w MDs

Jan: 12.4%  Feb: 11.7%  Mar: 13.6%  Apr: 12.3%  May: 15.2%  Jun: 6%  Jul: 11.7%  Aug: 12.0%  Sep: 10.2%  Oct: 13.7%  Nov: 12.2%  Dec: 8%

NEW EMR

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Recommendations

• Teams need to stay focused on Length of Stay management using real time data, targeted analytics, measure obstacles to discharge and leverage analytics to test hypotheses.

• Discharge Rounds with standard work needs to continue as a best practice with modifications made as indicated to improve the process

• Palliative Care physician support is vital to continued improvements.

• Stay connected with other hospital initiatives on readmission reduction and bundled care payment initiatives that are focused on care transitions and the continuum of care.
Benefits realized for one or more STEPS™ value categories

• Frustrated and overworked staff are given resources to address ongoing issues (ex. Ability to secure DME resources)

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Questions

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