A Process Improvement Initiative with the goal to decrease inpatient length of stay was performed at a 161-bed community hospital in Biddeford, Maine. Three interventions were developed, implemented, and monitored in order to achieve our goal:

1. Early Mobilization
2. Interprofessional Bedside Rounding
3. Discharge Plan Optimization

Aim

Achieve a 10% or greater reduction in inpatient length of stay from baseline, measured with both unadjusted and risk-adjusted length of stay measures.

Multi-Disciplinary Team

Hospital Medicine, Nursing, Pharmacy, Case Management, Rehab, Quality, Project Management, Chief Nursing Officer, Chief Medical Officer

Methodology

A multimodal intervention was designed by utilizing the Science of Improvement framework:

- **PLAN:** A multidisciplinary team participated in developing the intervention in the fall/winter of 2022;
- **DO:** Interdisciplinary workgroups were designed to support implementation of each intervention (Table 1);
- **STUDY:** Process- and outcome- measures were monitored regularly;
- **ACT:** Initiatives were modified in real-time based on results. Results were reported out weekly to the full Leadership Team to maintain organizational focus.

<table>
<thead>
<tr>
<th>Table 1. Primary Tactics for Length of Stay Interventions</th>
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</thead>
<tbody>
<tr>
<td><strong>Early Mobilization</strong></td>
</tr>
<tr>
<td>1. Bedside Mobility Assessment Tool (BMAT)</td>
</tr>
<tr>
<td>2. Daily mobility goals established for patients who were independent or minimal assist (BMAT: 36/4)</td>
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<tr>
<td>3. Progress towards goal captured by nursing</td>
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<td>4. Twice weekly audits &amp; weekly report out of data to leadership</td>
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<td>5. Goal documented on bedside whiteboard</td>
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<tr>
<td><strong>Interprofessional Bedside Rounding</strong></td>
</tr>
<tr>
<td>1. Nursing and Provider assigned to geographically colocated patients</td>
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<tr>
<td>2. Optimal ratio of 15 patients supported by one Provider, three RNs, one Case Manager</td>
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<tr>
<td>3. Bedside Rounds with Provider and Nurse (Modeled on iPACE)</td>
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<tr>
<td>4. Nurses sign out to Case Manager</td>
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<tr>
<td>5. Removal of hospitalists from discharge planning rounds to increase time spent on units</td>
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<tr>
<td>6. Badges Buddies with key topics and prompting</td>
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<tr>
<td><strong>Discharge Plan Optimization</strong></td>
</tr>
<tr>
<td>1. Identify Estimated Date of Discharge based on Expected Geometric Mean Length of Stay for the admitting diagnosis</td>
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<tr>
<td>2. Inpatient Discharge Rounds focus on barriers to discharge: Estimated Date of Discharge may be rescheduled</td>
</tr>
<tr>
<td>3. Implementation of an afternoon escalation huddle to address any remaining barriers</td>
</tr>
</tbody>
</table>

Table 1. Primary Tactics for Length of Stay Interventions

**Description**

**Process Measures:**

Compliance rates with our three interventions are reported below (Figure 1). Our goal was 80% compliance for each intervention. The Discharge Plan Optimization achieved target and audits were discontinued after three months. Bedside Rounding was observed to achieve the goal more frequently than Early Mobilization.

**Outcome Measures:**

Length of Stay is reported as the unadjusted Average Length of Stay (ALOS) and as the Risk-Adjusted Geometric Mean Length of Stay (GMLS Index).

Our observed ALOS decreased from 6.33 in 2022 days to 5.46 days in 2023 (p < 0.001; Figure 2). The ALOS for the prior two years are included for reference. Reduction in the GMLS Index was also observed (Figure 3).

**Discussion**

Following Susan Hannah’s advice to “plan for scale from the start” we designed our initiative to be hospital-wide from the outset. Preliminary data collected over six months showed a reduction in inpatient ALOS, as well as additional benefits that we believe are related to the interventions. Others have shown an improvement in Relational Coordination as a result of interprofessional bedside rounding. We believe that patients going home sooner can translate into less exposure to harm or injury while hospitalized, less loss of function, and an improvement in Patient Experience. We look forward to testing these hypotheses in future analyses.

Our team has learned the benefits of applying Science of Improvement methodology to a problem impacting our hospital and our patients. This fosters additional hypotheses for testing (e.g., what is impact of adding a Pharmacist to the Rounding team on our “Communication About Meds”, as measured by the HCAHPS) vs. the current practice.

**Other Benefits Observed:**

**Financial Savings:**

Estimated Annualized Savings of $3.5 Million from the LOS reduction

**Patient Placement:**

8.4% increase in the percentage of patients discharged home versus to SNF/Rehab

**Patient Experience:**

5% increase to Overall Rating & 6% increase to the ‘Doctors Listened’ as measured by Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores

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We are grateful to the following leaders who participated in the design and implementation of the initiatives:

- Joy Moody, RN, CNIO
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**References**

1 Schall, M. 2018. “Do These 4 Things When you are Scaling up Improvement”. Institute for Healthcare Improvement. Blog post April 17.