RESEARCH SPOTLIGHTS

Designing sustainable, senior-focused care in the ED:
Acute care at home as an alternative to admission

Amy Stuck, PhD, RN,
Program Manager, West Health Institute
No financial conflicts of interest to disclose
Project Collaborators

**West Health Institute**
Amy Stuck, PhD, RN
Chris Crowley, PhD

**UC San Diego Health System**
Vaishal Tolia, MD
Allyson Kreshak, MD
James Killeen, MD
Edward Castillo, PhD

**AccentCare**
Colette Armstrong, RN
Dave Davis, CNS, RN
70% of senior admissions originate in the ED

3.7x more likely for older adults to be admitted through the ED than other populations
Methods

Quality Improvement with tests of change:
• Clinical order sets
• Home health same day visits
• ED-based care managers & social workers
• HIPAA compliant text messaging
Results

70 patients received acute care at home

Acute Care at Home Most Frequent Diagnoses

- Cellulitis: 30 cases
- Pneumonia: 15 cases
- UTI: 10 cases
- Bacteremia: 5 cases
- Gastritis: 2 cases
- Neutropenic Fever: 1 case
- SOB: 0 cases

70 patients received acute care at home.
# Results

<table>
<thead>
<tr>
<th># of days after ED discharge</th>
<th>ED revisits</th>
<th>Hospitalizations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Related to original complaint</td>
<td>Unrelated to original complaint</td>
</tr>
<tr>
<td>1-7 days</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8-30 days</td>
<td>0</td>
<td>4*</td>
</tr>
<tr>
<td>Total revisits</td>
<td>3</td>
<td>8</td>
</tr>
</tbody>
</table>
## Financial Results

<table>
<thead>
<tr>
<th>Select diagnoses</th>
<th>Least complex DRG</th>
<th>Average inpatient reimbursement</th>
<th>Home Health plus ED reimbursement</th>
<th>Estimated Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cellulitis</td>
<td>603</td>
<td>$8,678</td>
<td>$3,639</td>
<td>$5,039</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>194</td>
<td>$9,541</td>
<td>$3,321</td>
<td>$6,220</td>
</tr>
<tr>
<td>UTI</td>
<td>690</td>
<td>$8,105</td>
<td>$3,498</td>
<td>$4,607</td>
</tr>
</tbody>
</table>

Average DRG reimbursement: $8,139
Average reimbursement: acute care at home episode: $3,796
Savings per patient: $4,343

**Total estimated savings**: $271,444
Limitations

- Cost savings were estimated on what reimbursement would have been (based on the most likely hospital DRG) had the patient been admitted.

- Out-of-pocket expense, prescription medications and durable medical equipment figures were not accessible, therefore overall savings estimates may be lower.

- Costs of setting up and sustaining the program were not part of the cost calculation.
Conclusions

• Processes required several iterations, consistent with established principals of quality improvement studies

• Group text messaging greatly improved care team communication, timeliness, care coordination leading to a high degree of satisfaction

• Leveraged existing personnel and infrastructure that is readily available in most EDs and communities

With further process refinement, acute care at home, using a rapidly-responding home health agency, has the potential to reduce inpatient admissions and lower costs