Post-Acute Remote Care Management to Lower 30-day Readmissions

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** BACKGROUND**

Post-acute home telemonitoring of patients at risk of readmission has been shown to improve 30-day readmission rates (1-3), particularly when the quality of care transition, care coordination, and patient self-management can be enhanced. At University of Virginia Medical Center (UVAMC), we developed a comprehensive post-acute care coordination solution (C3), combining remote clinical services with detailed performance and outcomes analytics to positively impact patients at home and prevent readmissions.

Remote services included:
- Care transition and support
- Daily vital signs and symptoms
- Health coaching
- Facilitating intervention by providers and/or ancillary services

We designed and funded the solution with the goal of eliminating future Medicare readmission penalties, but provided C3 services to an All Payer population, tracking both Medicare and All Payer outcomes.

**OBJECTIVES**

- To determine whether a post-acute care coordination solution utilizing remote care management would lower 30-day all-cause readmission rates
- To identify opportunities to enhance UVAMC’s management of post-acute at-risk patient populations, both before and after discharge

**METHODS**

Eligible patients were identified and enrolled in the C3 program during their index stay in the Medical Center, with the following criteria:
- Primary discharge diagnosis:
  - Acute Myocardial Infarction (AMI)
  - Heart Failure (HF)
  - Pneumonia (PN)
  - Chronic Obstructive Pulmonary Disease (COPD)
- Identified based on predicted discharge codes used by Center for Medicare/Medicare Services (CMS) to determine eligible discharges for the Hospital Readmission Reduction Program
- All patients, including uninsured
- Discharged to patient home (-/- home health service)
- Resident in 11-county geography surrounding UVAMC

UVAMC benchmark readmissions (all-cause readmissions to any acute care facility) were established as follows:
- Medicare benchmarks based on most currently reported Hospital Compare data (evaluation period July 2010 – June 2013) for UVAMC (4-5)
- All Payer benchmarks as reported by Virginia Hospitals and Healthcare Association for UVAMC (evaluation period September 2012 – August 2013) (6,7)

**RESULTS**

Medicare Performance vs. Benchmark, by Condition: Program-to-Date (9/1/13 – 1/31/15)

<table>
<thead>
<tr>
<th>Condition</th>
<th>UVAMC Benchmark</th>
<th>C3</th>
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</thead>
<tbody>
<tr>
<td>AMI N=94</td>
<td>14.7%</td>
<td>10.0%</td>
</tr>
<tr>
<td>HF N=38</td>
<td>17.4%</td>
<td>10.0%</td>
</tr>
<tr>
<td>PN N=44</td>
<td>14.3%</td>
<td>10.0%</td>
</tr>
<tr>
<td>COPD N=48</td>
<td>22.2%</td>
<td>10.0%</td>
</tr>
</tbody>
</table>

All Payer Performance vs. Benchmark, by Condition: Program-to-Date (9/1/13 – 1/31/15)

<table>
<thead>
<tr>
<th>Condition</th>
<th>UVAMC Benchmark</th>
<th>C3</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMI N=288</td>
<td>12.7% – 13.1%</td>
<td>10.0% – 10.4%</td>
</tr>
<tr>
<td>HF N=281</td>
<td>12.3% – 12.7%</td>
<td>10.0% – 10.4%</td>
</tr>
<tr>
<td>PN N=37</td>
<td>13.2%</td>
<td>10.0%</td>
</tr>
<tr>
<td>COPD N=102</td>
<td>12.8%</td>
<td>10.0% – 10.4%</td>
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**CONCLUSIONS**

C3 successfully improved readmission rate performance in 3 of 4 key conditions both in the Medicare population and on an All Payer basis:
- Where readmission rate performance significantly improved, the percentage improvement ranged from 16% to 37% in the Medicare population, and from 27% to 36% in the All Payer population
- Enrollment: 70.3% of eligible - past 12 months: 75.3% of eligible - past 3 months
- Compliance: 90.4% program to date (based on expected patient participation days)

Opportunities for the Medical Center to improve performance emerged in both the AMI and COPD populations. The C3 team worked with UVAMC to identify specific initiatives for each of these populations, including:
- Creation of a post-acute AMI clinic for patients
- Focus on medication usage for COPD patients in first and second weeks following discharge

**REFERENCES**

3. Hospice Provider - University of Virginia Medical Center (2015). Hospital Compare.