Enhanced Discharge Process to Reduce 30-Day COPD Readmission Rates

A Quality Improvement Project

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**Introduction**

- 30-day hospital readmissions occur in 25% of Medicare’s population.
- Current hospital discharge processes that are inconsistent, disorganized, and/or fragmented can lead to readmission.
- In 2015 – COPD included on CMS list of conditions with reimbursement penalties.
- Organizations must consider process change(s) for continuance of safe and effective care delivery & financial viability of resources.
- Needs Assessment:
  - National COPD readmission rate = 22.4%
  - Organizational historical COPD rate = 19.7%
  - No current standard for COPD discharge process.
  - CMS targeting 20% readmission rate reduction.
  - Places organizations at risk for CMS reimbursement penalties.
- Need to reduce organizational rate to 15.8% or 3 admissions to meet CMS goal.

**Background:** Study Purpose and Aims

- **Purpose:** To reduce 30-day COPD readmission rates by improving transitional care through the redesign of the current discharge process to include comprehensive education information, discharge checklist, and post-discharge phone calls.

- **Primary aim:** To reduce 30-day COPD readmissions by 20%.
- **Secondary aims:**
  - Increase COPD therapy compliance ≥ 60%.
  - Increase knowledge retention ≥ 40%.
  - Decrease financial burden of COPD readmission.

**Methods**

- **Design:** prospective longitudinal intervention project with contemporaneous comparator group.
- **Setting:** Rural hospital in lower Alabama from February 11, 2013 to May 15, 2013.
- **Patients:** Age 19 and older with a primary or secondary diagnosis of COPD assigned to Elberta Family Practice physicians.
- **Intervention:**
  - 20 minute educational session with comprehensive patient self-management information and discharge checklist with discharge instructions for patient that included medications, therapies, and follow-up appointments, and documentation of patient understanding of education.
  - Three post-discharge follow-up calls at Day 2, Day 14, & Day 30.

**Data Collection:**

- Utilized discharge checklist for call script.
- Same questions used for discharge and follow-up calls.
- Patient reported and chart review for verification.
- **Data Analysis:**
  - Quantitative data.
  - Simple descriptive statistics.
  - Compared to national, historical, and literature benchmarks.

**Results**

- A total of 41 patients were included in the study.
  - Interventional cohort: N=16
  - Non-interventional cohort: N=25
  - COPD re-admission rate.
  - Interventional cohort: 12.5%.
  - Non-interventional cohort: 16.0%.

**Results (continued)**

- **Table 1. Demographics**
  - | Gender | Intervention Group | Non-intervention Group |
  - | Total | Male | Female | Total | Male | Female |
  - | 30 | 16 | 14 | 30 | 25 | 5 |

- **Table 2. Compliance assessment for key factors at Day 2, Day 14, and Day 30.**

<table>
<thead>
<tr>
<th>Compliance</th>
<th>Day 2</th>
<th>Day 14</th>
<th>Day 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication</td>
<td>100.0%</td>
<td>87.5%</td>
<td>75.0%</td>
</tr>
<tr>
<td>Oxygen therapy</td>
<td>100.0%</td>
<td>90.0%</td>
<td>98.0%</td>
</tr>
<tr>
<td>Pulmonary rehab</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Proper use of inhaler</td>
<td>100.0%</td>
<td>100.0%</td>
<td>93.8%</td>
</tr>
<tr>
<td>Smoking cessation</td>
<td>21.4%</td>
<td>43.8%</td>
<td>43.8%</td>
</tr>
<tr>
<td>Follow-up apt</td>
<td>75.0%</td>
<td>25.0%</td>
<td>25.0%</td>
</tr>
<tr>
<td>within 1 week of discharge</td>
<td>37.5%</td>
<td>62.5%</td>
<td>62.5%</td>
</tr>
<tr>
<td>within 2 weeks of discharge</td>
<td>50.0%</td>
<td>50.0%</td>
<td>50.0%</td>
</tr>
<tr>
<td>Diagnostic follow-up</td>
<td>12.5%</td>
<td>87.5%</td>
<td>87.5%</td>
</tr>
<tr>
<td>within 1 week of discharge</td>
<td>100.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

- **Table 3. Knowledge Retention for key factors at Day 2, Day 14, and Day 30.**

**Conclusions/Discussion**

- Although the intervention group reached the 20% goal, no statistical difference was noted in the readmission rate when compared to comparator and historical rates.
- The project showed a positive impact on improving transitional care and decreasing readmissions as evidenced by the overall compliance and knowledge retention rates above the defined goals (≥60% and ≥40%, respectively).
- Results should be viewed in light of limitations:
  - Small sample size and Non-randomized design.
  - Hawthorn effect and reporting bias.
  - Unmeasured confounders and potential misclassification of patients.

**References**