Impact of a Multifaceted Quality Improvement Initiative to Implement JCAHO Core Measures for AMI and CHF

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Impact of a Multifaceted Quality Improvement Initiative to Implement JCAHO Core Measures for AMI and CHF

By Michael Rossi MD, Zubina Mawji MD, Patricia Parker RN, BSN, BC, Joshua Skibba MD, Katrina Fritz RN, BSN, Tamara Masiado MS, Thomas Wasser PhD

Supported through a grant from the Dorothy Rider Pool Health Care Trust

Introduction:

Nearly 5 million Americans are diagnosed with Congestive Heart Failure (CHF) each year and CHF is the number one admitting diagnosis for patients ages 65 years and older. Acute Myocardial Infarction (AMI) is often a precursor to CHF which makes the effective treatment of this condition crucial to stimulating the increasing incidence of CHF. Equally alarming are the 1,400 CHF patients and the 1,900 AMI patients admitted and treated at Lehigh Valley Hospital and Health Network (LVH)-Hilltop each year. The purpose of this research was to measure the impact of a multifaceted Quality Improvement (QI) initiative to implement JCAHO Core Measures for AMI and CHF.

Objectives:

1. To improve performance on JCAHO Core Measures for AMI and CHF, and to ensure compliance with all reporting.
2. To improve our clinical outcomes for AMI and CHF patients.
3. To improve multidisciplinary communication and help to educate attending medical staff, residents, nurses and patients on the value of practicing evidence-based medicine guidelines for AMI and CHF.
4. To develop a set of process and outcomes indicators that will allow a measure of clinical outcome the right intervention, by the right staff, at the right time and the right place, and the capacity for ongoing quality improvement processes.
5. To encourage the use of M&CHF standardized order sets.

Methods:

There have been three observational phases:

Baseline (prior to 7/00)

Phase one (7/00-6/01) - A Hospital Campaign to promote the importance of secondary cardiac disease prevention utilizing standardized admission order sets

Phase two (7/00-7/02) - Two Cardiac Quality Nurses were hired to intervene on patients. These nurses utilize an Interdepartmental database that pulls laboratory and medication data to identify patients that may not satisfy the Cardiac Core Measures reported to JCAHO. Cardiac Quality Nurses review the identify patient's medical records and communicate with physicians and nurses to ensure those patients get the appropriate medications, testing, treatment and education. Emphasis for AMI patients is placed on getting the appropriate care such as ASA and Beta Blocker administration within first 16 hrs and on discharge, LVEF assessment, an ACE-I or ARB ordered if the EF <40% and tobacco cessation. For CHF patients, emphasis is placed on LVEF assessment, an ACE-1 or ARB ordered if the EF <40%, tobacco cessation, and Heart Failure Home Advisor to decrease the incidence of readmissions. These nurses also implemented a Cardiac Core Measure Progress Note to serve as a memory tool to cut physician compliance.

Data were obtained by retrospective chart review using a multi-system hospital database. On-site review was used to confirm Baseline versus Phase one and two compliance. Any value less than 0.05 was considered significant for this analysis.

Results:

Percentage AMI Patients with JCAHO Core Measures Appropriately Received

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Baseline n = 473</th>
<th>Phase One n = 473</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Baser within 24 hours of admission</td>
<td>459 (97%)</td>
<td>463 (98%)</td>
<td>0.717</td>
</tr>
<tr>
<td>Beta blockers within 30 minutes of discharge</td>
<td>130 (52%)</td>
<td>108 (53%)</td>
<td>0.690</td>
</tr>
<tr>
<td>Aspirin within 24 hours of admission</td>
<td>419 (89%)</td>
<td>427 (89%)</td>
<td>0.941</td>
</tr>
<tr>
<td>Aspirin ordered on discharge</td>
<td>377 (91%)</td>
<td>355 (96%)</td>
<td>0.233</td>
</tr>
<tr>
<td>ACE-I ordered when appropriate</td>
<td>215 (69%)</td>
<td>202 (60%)</td>
<td>0.291</td>
</tr>
<tr>
<td>Smoking Cessation counseling</td>
<td>143 (57%)</td>
<td>203 (80%)</td>
<td>0.067</td>
</tr>
<tr>
<td>Initial NPO</td>
<td>387 (97%)</td>
<td>397 (93%)</td>
<td>0.848</td>
</tr>
</tbody>
</table>

Percentage CHF Patients with JCAHO Core Measures Appropriately Received

<table>
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<th>Phase One n = 473</th>
<th>p value</th>
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<tbody>
<tr>
<td>Discharge Instructions- Chokes</td>
<td>494 (38%)</td>
<td>1337 (45%)</td>
<td>0.012</td>
</tr>
<tr>
<td>ACE-I ordered when appropriate</td>
<td>454 (81%)</td>
<td>453 (86%)</td>
<td>0.083</td>
</tr>
<tr>
<td>Smoking Cessation counseling</td>
<td>170 (40%)</td>
<td>47 (10%)</td>
<td>0.019</td>
</tr>
<tr>
<td>LVEF Assessment Completed</td>
<td>132 (96%)</td>
<td>197 (91%)</td>
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Discussion:

- LVHNN focused on developing an efficient process to identify patients that would not meet the JCAHO Core Measures for AMI or CHF in "real time" in order to have an effect on patient care during their hospital stay.
- Another main focus was to identify ways to communicate with and educate physicians and nurses in order to improve documentation of concomitant medications evidenced-based medicine and treatment of CHF and AMI patients prior to patient discharge.
- When the Cardiac Quality Nurses concentrated their efforts consistently with one unit, one champion or one physician practice, which were shown to have the greatest impact with the JCAHO Core Measures and staff compliance rates.
- Constant reinforcement and education is necessary for this cardiac quality initiative to be most effective.
- These interventions have progressively increased compliance with the publicly reported JCAHO Core Measures for AMI and CHF and are showing improvement trends on patient outcomes.

Next Steps:

Critical interventions include the following strategies:

- Continuous education and support of all involved personnel.
- o ED and ICU staff to include all personnel in the commitment to implement and improve compliance with these core measures.
- o Hospital staff to include all personnel in the commitment to implement and improve compliance with these core measures.
- o Physicians to understand the importance of these measures and to support the implementation of these measures.
- o Nurses to understand the importance of these measures and to support the implementation of these measures.
- o Patients to understand the importance of these measures and to support the implementation of these measures.

CHF Core Measure Results for LVH

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