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

**Introduction:**

Nearly 5 million Americans are diagnosed with Consecutive 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 stemming the increasing Incidence of CHF. Equally alarming is the 1,400 CHF patients and the 1,500 AMI patients admitted and treated at Lehigh Valley Hospital and Health Network (LVH-NN) each year. The purpose of this research was to examine 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 MT and CHF, and to improve 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 outcome 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 MT and CHF standardized order sets.

**Methods:**

There have been three observational phases:

- **Baseline (prior to 7/16)**
  - Phase one (7/03-6/04): A hospital campaign to promote the importance of secondary cardiac disease prevention utilizing standardized admission order sets.
  - Phase two (7/04-7/05): 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 identified 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 blockers administered within first 16 hrs and on discharge. LVES assessment, an ACE-i or ARB ordered if the EF >40% and tobacco cessation. For CHF patients, emphasis is placed on LVES assessment, an ACE-i or ARB ordered if the EF <40%, tobacco cessation, and Heart Failure Home Adviser 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 ensure that the baseline and intervention phases were followed. Compliance was measured using the overall compliance rate and the rate of each individual indicator.**

**Results:**

<table>
<thead>
<tr>
<th>Percentage AMI Patients with JCAHO Core Measures Appropriately Received</th>
<th>Baseline</th>
<th>Phase One</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Breake within 24 hours of admission</td>
<td>60%</td>
<td>85%</td>
<td>41%</td>
</tr>
<tr>
<td>Data Breake within 6 hours of discharge</td>
<td>166%</td>
<td>61%</td>
<td>39%</td>
</tr>
<tr>
<td>Aspirin within 24 hours of admission</td>
<td>72%</td>
<td>90%</td>
<td>28%</td>
</tr>
<tr>
<td>Aspirin within 6 hours of admission</td>
<td>72%</td>
<td>90%</td>
<td>28%</td>
</tr>
<tr>
<td>ACE-i initiated within appropriate</td>
<td>12%</td>
<td>80%</td>
<td>40%</td>
</tr>
<tr>
<td>Smoking Cessation Counseling</td>
<td>30%</td>
<td>85%</td>
<td>20%</td>
</tr>
<tr>
<td>Inpatient Mortality</td>
<td>67%</td>
<td>67%</td>
<td>3%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percentage CHF Patients with JCAHO Core Measures Appropriately Received</th>
<th>Baseline</th>
<th>Phase One</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge Instructions Given</td>
<td>94%</td>
<td>90%</td>
<td>6%</td>
</tr>
<tr>
<td>ACE-i initiated within appropriate</td>
<td>80%</td>
<td>80%</td>
<td>80%</td>
</tr>
<tr>
<td>Smoking Cessation Counseling</td>
<td>80%</td>
<td>80%</td>
<td>80%</td>
</tr>
<tr>
<td>LVES Assessment Completed</td>
<td>12%</td>
<td>12%</td>
<td>12%</td>
</tr>
</tbody>
</table>

**Discussion:**

- LVPHN 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 concomitants to evidenced-based medicine and treatment of CHF and AMI patients prior to patient discharge.
- When the Cardiac Quality Nurses coordinated their efforts consistently with one unit, one champion or one physician practice, they were able to improve on the JCAHO Core Measures and staff compliance.
- 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 in patient outcomes.

**Next Steps:**

Continued focus is needed to further improve physician and staff compliance and attitudes. Our physicians and staff play an integral role in making this quality improvement initiative a success.

- Constant reinforcement, education, positive feedback, and intervention have been found to improve the reception of this project. Cardiac Quality Nurses plan to continue this approach and identify more champions within physician groups and nursing units to assist in this endeavor.

Continued efforts are needed to identify all CHF patients in a timely manner. CHF is a clinically driven diagnosis ascertainment largely through patient symptoms and testing which is supported by laboratory results. Often other diagnoses with similar manifestation have to be ruled out before a definitive diagnosis can be made which may not happen unless the latter part of the admission.

As the project identification of three patients enables Cardiac Quality Nurses to intervene early in their care.