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### Administration & Leadership

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# 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

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## 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 stemming the increasing incidence of CHF. Equally alarming are the 1,400 CHF patients and the 1,200 AMI patients admitted and treated at Lehigh Valley Hospital and Health Network (LVHNN) each year. The purpose of this research was to assess the impact of a multifaceted Quality Improvement (QI) Initiative to Implement JCAHO Core Measures for AMI and CHF.

## Objectives:

- To improve performance on JCAHO Core Measures for MI and CHF, and to ensure compliance with public reporting.
- To improve our clinical outcomes for AMI and CHF patients.
- 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.
- 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.
- To encourage the use of MI and CHF standardized order sets.

## Methods:

There have been three observational phases:

Baseline (prior to 7/03)

Phase one (7/03-6/04) - A network campaign to promote the importance of secondary cardiac disease prevention utilizing standardized admission order sets

Phase two (7/04-Present) - 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 patients' medical records and communicate with physicians and nurses to ensure these 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 administered within first 24 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-I 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 cue physician compliance.

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

## Results:

Percentage AMI Patients with JCAHO Core Measures Appropriately Received

Indicators	Baseline		Phase One		p value
	n	%	n	%	
Beta Blocker within 24 hours of admission	600	93%	610	92%	0.717
Beta Blocker ordered on discharge	1089	93%	1068	95%	0.095
Aspirin within 24 hours of admission	722	96%	777	95%	0.401
Aspirin ordered on discharge	927	97%	959	96%	0.203
ACE-I ordered when appropriate	329	69%	296	70%	0.051
Smoking Cessation counseling	309	89%	299	93%	0.087
Inpatient Mortality	987	7%	638	7%	0.866

Indicators	Baseline		Phase Two		p value
	n	%	n	%	
Beta Blocker within 24 hours of admission	600	93%	302	93%	0.979
Beta Blocker ordered on discharge	1089	93%	521	94%	0.323
Aspirin within 24 hours of admission	722	96%	358	95%	0.500
Aspirin ordered on discharge	927	97%	443	98%	0.396
ACE-I ordered when appropriate	329	69%	106	89%	<0.001
Smoking Cessation counseling	309	89%	155	97%	0.004
Inpatient Mortality	987	7%	510	6%	0.705

Percentage CHF Patients with JCAHO Core Measures Appropriately Received

Indicators	Baseline		Phase One		p value
	n	%	n	%	
Discharge Instructions Given	984	39%	1037	45%	0.012
ACE-I ordered when appropriate	485	64%	499	66%	0.553
Smoking Cessation counseling	110	43%	95	44%	0.715
LVEF Assessment Completed	1221	93%	1317	92%	0.658

Indicators	Baseline		Phase Two		p value
	n	%	n	%	
Discharge Instructions Given	984	39%	472	59%	<0.001
ACE-I ordered when appropriate	485	64%	234	73%	0.019
Smoking Cessation counseling	110	43%	58	59%	0.050
LVEF Assessment Completed	1221	93%	597	92%	0.526

## 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 contraindications to 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, more improvement with the JCAHO Core Measures and staff compliance resulted.
- 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.

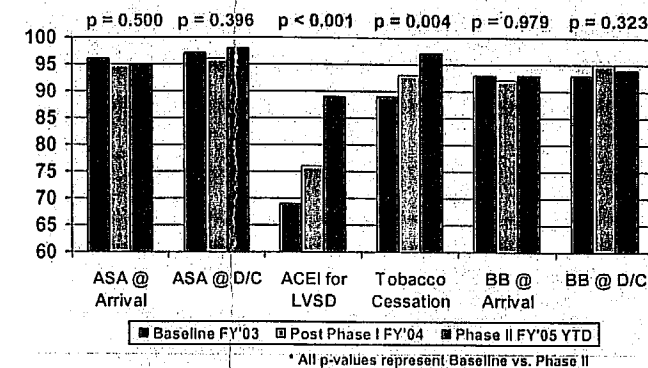
## Next Steps:

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 ascertained largely through patient symptoms and testing which is supported by laboratory results. Often other diagnoses with similar presentation have to be ruled out before a definitive diagnosis can be made which may not happen until the latter part of the admission. Prompt identification of these patients enables Cardiac Quality Nurses to intervene early in their care.

AMI Core Measure Results for LVH



CHF Core Measure Results for LVH

