Touro University Nevada

Optimizing Heart Failure Guideline Directed Medical Therapy in Cardiology

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Introduction

- Heart Failure (HF) is a complex, chronic, and debilitating disease, characterized by deficiencies of the heart to pump adequate blood flow that is sufficient to meet body requirements.

- Suboptimal treatment of heart failure poses the risk for damage and weakening of the heart muscle and can chronically progress toward an interference of normal everyday activities of daily living.

- Continuous tension between current evidence-based care at the individual patient level, and the concerns at the level of society and health systems.

- Suboptimal treatment has been linked to higher mortality rates, significant morbidity, and recurrent hospitalizations

Background

- Guideline directed medical therapies (GDMT) remain the cornerstone of therapy for HF management, shown to improve symptoms, cardiac function, and mortality rates (Arnett et al., 2019)

- Despite modern therapeutic innovations of GDMT, the increasing prevalence/mortality rate remains unacceptably high.
  - Approximately 5.7 million adults in the United States have HF and the associated-spending surrounding treatment are financially estimated to cost 30.7 billion dollars per year (CDC, 2019).
  - According to the American Heart Association (2019), prevalence rates are projected to increase approximately 46% from 2012 to 2030.

- Guidelines are only effective if clinicians and patients adhere to the evidence-based recommendations (Arnett et al., 2019)

Problem, Aim, Purpose

- **Problem**: Compliance and understanding remain an adversity for clinician application, due to the complexities and confusions surrounding therapy.
- **Aim**: The following quality improvement initiative is based on the development of a consolidated standardized GDMT protocol in an outpatient cardiology clinic.
- **Purpose**: From a cardiology standpoint, effectively implementing a consolidated protocol hopes to optimize cardiology clinicians' adherence to GDMT, while also indirectly impacting cardiovascular function by improving patient outcomes and increasing clinic performance scores overall.

Project Question and Objectives

- **Question:** Within a four-week timeframe, will cardiology clinicians in an outpatient clinic benefit from the implementation of a consolidated GDMT protocol by promoting consistency, adaptation, and utilization of optimal HF therapies, while also improving patient and clinic outcomes?

- **Objectives**:
  - Develop a standardized HF protocol that incorporates current GDMT that is more comprehensible and manageable for clinician assistance.
  - Promote the expansion of knowledge and increase compliance by cardiology providers by providing education of current GDMT using a PowerPoint tool.
  - Optimize care deliverance by clinicians, evident by 100% utilization of protocol.
  - Ensure 100% adherence by conducting weekly chart audits over a four-week timeframe

Synthesis Review

Review of Literature

- Morbidity & Mortality Impact
- Guideline Directed Medical Therapy
  - Pharmacological Therapy
  - Clinical Improvement
- Barriers
  - Education/Awareness
  - Inexperienced clinicians
  - Pharmacotherapies
  - Patient variables

Model for Improvement

- Successfully proven risk reducing, methodological approach used extensively in healthcare to quickly improve processes/outcomes.
- Part one involves forming the project plan by establishing the aims, measures, and interventions necessary to answer three essential questions. The purpose, goals, and measures will determine if change leads toward improvement.
- Part 2 involves the Plan-Do-Study-Act cycle that tests change in real-world settings.

Methodology (Project Plan)

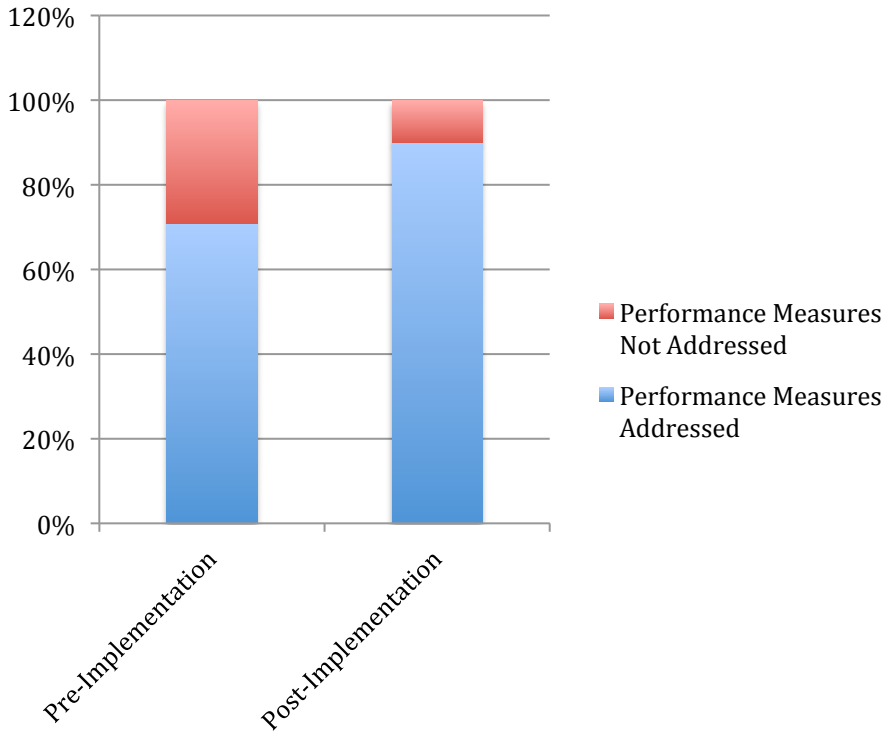
- **Population of interest**: 3 Cardiology providers
  - Two Cardiology Physicians, one Advanced Nurse Practitioner.
- **Setting**: 8 rooms, privately owned outpatient cardiology clinic in Las Vegas, NV.
- **Recruitment Method**: Convenience sampling approach to obtain clinician charts.
  - Participation mandated by all stakeholders, but not a requirement/stipulation that affects employment.
  - First week educational day reserved to review the project design, objectives, goals, and timeframe Project lead's contact provided for any questions or concerns.
  - All patient and clinician identifiers extracted to maintain confidentiality.
- **Tools for Implementation**
  - Standardized GDMT protocol development
  - Heart failure educational Power Point.
  - Chart Audit Tool
- **Data Collection & Analysis**
  - 30 clinician charts were audited in the 1st week of implementation to measure the percentage of clinician compliance, utilization, and adherence to current recommended therapies. Thereafter, five clinician charts/day were audited. Remaining two weeks pre-assigned for data collection and analysis,
  - Post four-week implementation, 255 total charts were collected that compared clinician compliance/ noncompliance, CMS benchmarks completion, and feedback from clinicians' knowledge/satisfaction

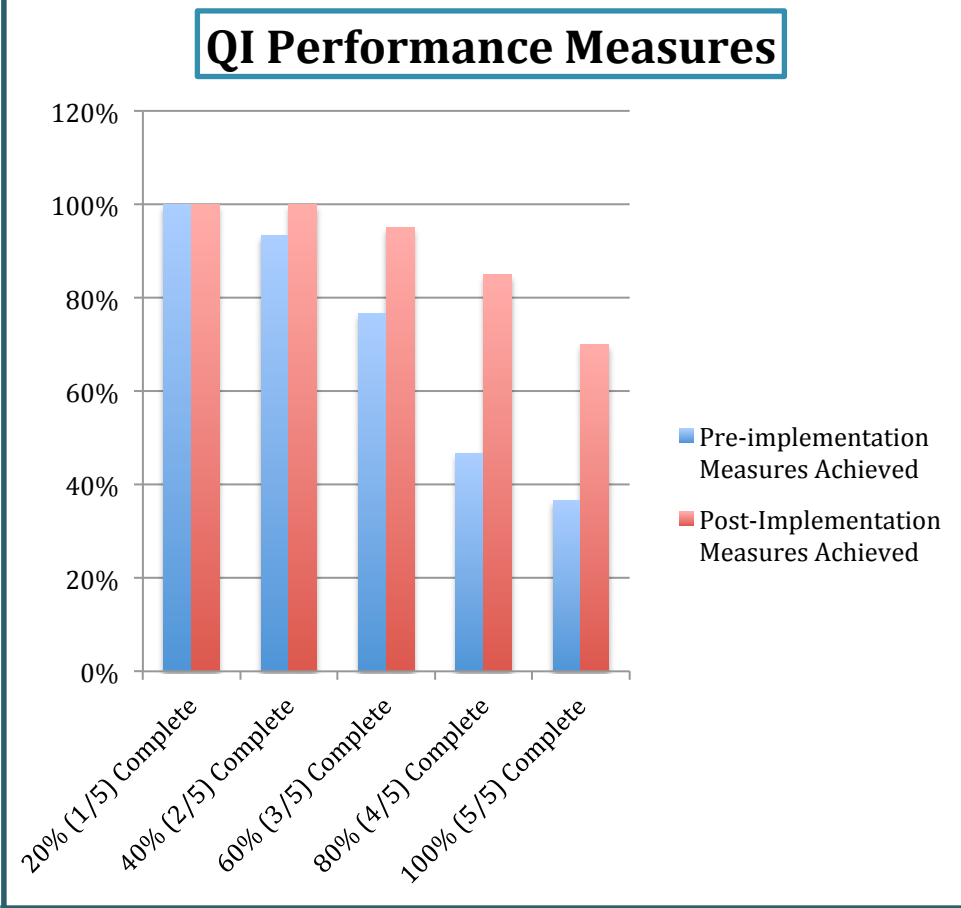
Evaluation

- Compliance and Utilization
- Clinician Quality Improvement Benchmarks
  - Symptom and Activity Assessment
  - Left Ventricular Assessment
  - Angiotensin converting enzyme inhibitor/angiotensin receptor blockade (ACEI/ARB) for left ventricular systolic dysfunction
  - Beta-blocker for left ventricular ejection function < 40%
  - Patient Education Provided
- Fisher's exact test
  - P-value result: 0.0208 – Objective data used to test relationship between compliance/noncompliance
    - Alpha of 0.05 used as cutoff (Sylvia, 2018)

Results

Results			
	Compliance	Noncompliance	***Marginal Row Totals***
Pre-implementation	21	9	30
Post-implementation	198	27	225
Marginal Column Totals	219	36	255 (Grand Total)





Findings and Significance

- Heart Failure Education
  - Rise in confidence, knowledge, and professional growth with decision-making
  - Enhanced interdisciplinary communication and collaboration
  - Improved involvement in clinic and patient care education.
- GDMT Protocol
  - Improved satisfaction and utilization reveal the protocol to be an advantageous resource that can assist with compliance, utilization, and adherence
  - Outcome measures that are related to clinician management of patient' symptoms, their functional level of activity assessment, education provided, and compliance with GDMT increased and documented for completion.
- Data Analysis
  - Uncovered by chart auditing and analysis of the Fisher's exact, although the goal for 100% adherence and utilization was not met, the increased performance measures and satisfactory rates reveal a positive association with the implementation of the protocol and care deliverance.

Strengths, Challenges, Alignment

Strengths

- Strong, participating support
- Continuous/constructive communication
- Clinician input and involvement

Challenges

- Limited days for education
- Limited timeframe of implementation
- Complexity of GDMT

Literature Alignment

- Report titled: Change the Management of Patients with Heart Failure (CHAMP-HF) indicate an opportunity to optimize therapy only if GDMT implementation was further applied by all multidisciplinary specialties (Greene et al., 2018).
- In May 2019, the ACC published "A Call to Action for the Heart Failure Team" to encourage the healthcare community to develop a new optimal broad-based GDMT model (O' Connor, 2019).
- The DNP project aligns with the related literature by fostering a collaborative approach that unifies clinician care deliverance and improves patient outcomes

Limitations

- **Timeframe**
  - Population Sample
  - Schedule
  - Education

- **Data Analysis and Evaluation**
  - Chart Audit
  - Performance Standards
  - QI Fisher's Exact Testing

Discussion with Key Conclusions

The conclusions pave an opportunity to optimize care deliverance.

- Clinician utilization of a consolidated GDMT protocol influences expansion, promotion, and maintenance of optimal HF care by enhancing knowledge, confidence for optimal decision-making
- Continuing education is essential for promoting compliance, utilization, collaboration, and translation of optimal GDMT into practice . An educational platform or tool is a beneficial resource to assist with sustainability.
- The assistance, communication, and support from all stakeholders is pertinent for successful implementation.
- By optimizing the continuity and adherence of clinician care plans to current evidence-based therapies, this presents the potential capabilities to reduce morbidity and mortality, while improving quality outcomes long-term.

Dissemination Plans

- Local community, colleagues, and peers residing in Las Vegas
- Journal of Nurse Practitioners
- Doctor of Nursing Practice scholarly repository
- Continuation in outpatient cardiology clinic

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