Revitalizing a Targeted Temperature Management (TTM) Program in a Community Hospital
Shawn Blouin DNP, ARNP, AGACNP-BC, Samuel Williams DNP, ARNP, AGACNP-BC, Alan Todd DNP, CRNA, CHSE

Purpose and Scope

- **Purpose**
  - Improve delivery of TTM at Mease Countryside Hospital (MCH).
- **Scope**
  - Phase II: Revitalization of MCH's TTM infrastructure through a longitudinal quality improvement project.

Background

- Each year, nearly 600,000 people suffer a sudden cardiac arrest (SCA) in the U.S..
- Survival ranges from 5.5 - 24%
- Anoxic brain injuries (ABI) account for two-thirds of SCA related deaths.
- The economic burden of SCA is estimated at $35 billion annually.
- TTM has emerged as a safe/cost effective strategy to improve functional survival by 2-3 fold after SCA.
- Result of Phase I showed:
  - A 6% TTM utilization rate among eligible patients at MCH.
  - No statistical difference in survival in the TTM cohort (41 vs 42%).
  - NMBAs were overused (92%)
  - Elderly patients were disproportionately excluded from TTM.
- Phase I of this longitudinal quality improvement project recommended TTM infrastructure revitalization to improve the consistency and delivery of care and ultimately improve the functional survival of SCA victims.

Objectives

- The goals of Phase II were to develop an evidence-based TTM protocol and standardized workflow process consistent with national guidelines.
- The overarching aim of this longitudinal quality improvement project is to improve functional survival of SCA victims within the community hospital setting.

Setting

- MCH is a 311-bed community hospital in Safety Harbor, FL that treats approximately 58,000 patients annually.
- TTM patients are treated in MCH’s emergency department and two 14 bed intensive care units.

Methods

- The theoretical framework for this project was the Donabedian Quality Improvement Model.
- An integrative literature review was performed, and critically appraised using the Johns Hopkins Nursing Evidence-Based Appraisal tool. Results showed:
  - TTM is safe and effective following SCA.
  - The use of evidence-based protocols and standardization of care improves TTM outcomes.
  - There is no single comprehensive clinical guideline.

Multiphase Implementation

- **Phase I: Evaluation**
  - Evaluated current TTM program and outcomes

- **Phase II: Infrastructure Revitalization**
  - I. A multidisciplinary team of key stakeholders from MCH was assembled to develop a shared vision for the project.
  - II. A comprehensive protocol was synthesized from national guidelines and high-quality evidence.
  - III. A workflow process was designed to promote consistency of TTM care.

- **Phase III: Education & Implementation**
  - Provide staff education and implement the protocol

- **Phase IV: Re-evaluation**
  - Evaluate the impact on functional survival

Discussion

- The project was evaluated by an assessment of the capacity of the work to influence quality by the faculty supervisor, end users, and MCH leaders.
- Several challenges and limitations arose during the project:
  - Limited access to critical care providers at MCH
  - Due to the complexity of the project, staff education had to be reassigned to Phase III.

Acknowledgments

The study team would like to thank Dr. John Maye, Dr. Melanie Michael, Dr. Jovielle Maire, and the MCH staff.