**Aim**

Improve rate of preoperative beta blocker administration for CABB patients from 93% to >99%.

**Actions Taken**

1. Failure modes were evaluated for root cause
2. Small multidisciplinary provider groups utilized to identify and mitigate omissions for each pathway
3. Standard medication checks were embedded in consultation notes
4. Multidisciplinary redundancy in preoperative medication checks
5. Clarified/trained standard responsibilities
6. Standard day-of-surgery medication checks

**Results**

Advanced practice provider groups implemented improved standard medication checks and beta blocker initiation processes. Improved recognition of medication omissions, communication between multidisciplinary services, and initiation of beta blocker prescriptions occurred. Day-of-surgery nurses implemented routine medication checks and provider notification processes. Preoperative beta blocker administration improved to 100% for 6 months.

**Description**

Preoperative beta blockade is considered standard of care for eligible patients undergoing coronary artery bypass grafting surgery. We tracked preoperative beta blocker administration success rates using data from the Society of Thoracic Surgeons National Adult Cardiac Surgery database. Failures were analyzed for root causes. Six different clinical pathways were identified through which patients received their preoperative optimization. Recognizing the complexity of the system and the level of reliability required for success changes were made to increase preoccupation with failure, sensitivity to operations, commitment to process resilience, and deference to microsystem expertise.

**Variables Contributing to Composite CABG Score**

- Presence of Independent Morbidity
- Absence of Major Morbidity
- Use of IV
- Use of All Preoperative Beta Blockade Mediations

**Composite CABG Score and Medication Performance**

Panel A: Depicts the outcome and process measures that contribute to an institution’s composite CABG score.

Panel B: Depicts UCMC performance on all preoperative medications of the institution and all STS participants (Adapted from June 2019 STS Report).

Panel C: Depicts the performance on preoperative beta blocker administration of the institution and all STS participants. (Adapted from June 2019 STS Report.)

**Figure 1**

Aim: Improve Cardiac Surgical Care – Surveillance 

SMART AIM: Improve preoperative beta blocker administration for isolated CABG patients at UCMC.

**Figure 2**

Pathways to the Operating Room for CABG Patients at UCMC

**Figure 3**

Pareto Charts Preoperative Beta Blocker Administration Failures

Panel A: Categorized by Urgency of Cases

Panel B: Categorized by Source of Admission

Analysis of preoperative beta blocker administration failures revealed both inpatient urgent and outpatient elective cases were pathways requiring process change.

**Figure 4**

Days Between Preoperative Beta Blocker Failouts UCMC Jan 2017 - June 2019

- Days Between Previous Event
- Average Days Between Events

**Figure 5**

Key Driver Diagram

Depicts the Global Aim (left top), SMART Aim (left middle), key drivers that influence the system (middle), and change interventions (right) aimed at increasing the presence of key drivers.

**Figure 6**

Key Driver Diagram

Depicts the Global Aim (left top), SMART Aim (left middle), key drivers that influence the system (middle), and change interventions (right) aimed at increasing the presence of key drivers.