MHA Keystone: Intensive Care Unit (ICU)

Collaborative Overview:
Mechanically-ventilated patients are at risk for multiple complications of critical care, including pneumonia, acute respiratory distress syndrome, pulmonary edema, thromboembolism, delirium and atelectasis. Sedation administration is posed as a leading precipitating risk factor for delirium in the intensive care unit (ICU) and repeated studies have shown that daily spontaneous awakening trials (SATs), in which continuous sedation is turned completely off, are associated with fewer ventilator-dependent days, reduction in total sedation agent dose and shorter ICU stay. These outcomes are optimized when daily SATs are coordinated with spontaneous breathing trials (SBTs), leading to improved one-year mortality of 14 percent. Modifying delirium with daily SATs is thought to mediate these relationships, as delirium incidence is associated with a greater number of ventilator-dependent days. Early detection and treatment of delirium are, therefore, promoted with daily screening. Once patients are alert, they are better able to participate in early mobility, which has also been demonstrated to reduce time spent delirious. A recent study increasing the frequency of paired daily SATs and SBTs found an association with lower ventilator-associated event (VAE) rates, shorter ventilation time, and shorter ICU and overall hospital length of stay.

Starting in 2004, the MHA Keystone: ICU team worked on reducing central-line-associated bloodstream infections (CLABSIs) and ventilator-associated pneumonia (VAP) in ICU patients. In 2016 MHA Keystone: ICU will focus on the reduction of CLABSIs and VAP, continue with implementing the Comprehensive Unit-based Safety Program (CUSP), as well as focus on the ABCDEF Bundle introduced at the September 2015 ICU workshop. The ABCDEF bundle will primarily emphasize four areas of clinical practice: improving communication among members of the ICU team; standardizing care processes; breaking the cycle of over-sedation and prolonged mechanical ventilation that can lead to delirium and weakness; and enhancing patient and family engagement.

Implementation of the ABCDFE bundle assists ICU teams in providing excellent care for their patients which helps them to heal sooner with fewer complications. Evidence-based components of the bundle synergistically target leading iatrogenic risk factors for delirium in the ICU and helps to wean patients off ventilators more promptly than they would be without these interventions. The MHA Keystone Center invites your organization to join our efforts by committing to participate in the MHA Keystone: ICU collaborative in 2016. Please note that all hospitals are being asked to complete online enrollment, regardless of prior participation in the collaborative (see page 5).

MHA Keystone Center commits to providing the following resources to support these efforts:

Resource 1: CUSP follows a five-step iterative process to improve patient safety and the culture that drives safety attitudes and practices. Culture is a major focus because it is the set of shared attitudes, values, goals
and practices that characterize an organization (or unit/clinical area). CUSP is continuous and should become a part of daily activities in each unit or clinical area.

**Resource 2:** ABCDEF Bundle. This bundle follows a six-step process to support hospitals in reducing VAEs while improving the quality of life for ICU patients:

- **A: Assess, Manage and Treat Pain** – using self-report or BPS/CPOT reports to: assess pain four or more times per shift; treat pain within 30 minutes of detecting significant pain and then reassess; treat pain first, then sedate (administer pre-procedural analgesia).
- **B: Both SAT and SBT** – SATs and SBTs focus on setting times each day to stop sedative medications, orient the patient to the time and the day, and conduct trials to liberate patients from being on a ventilator.
- **C: Choice of Analgesia and Sedation** – the assessment of pain, agitation, and delirium are all important factors influencing the choice and dose of analgesia and sedative medications. This assessment should be performed on all ICU patients routinely.
- **D: Delirium: Assess, Prevent and Manage** – routinely monitor for delirium in all adult ICU patients by using either the Confusion Assessment Method for ICU (CAM-ICU) or Intensive Care Delirium Screening Checklist (ICDSC). For more information on delirium, click [here](#).
- **E: Early Mobility and Exercise** – a preventative form of physical and cognitive rehabilitation that engages the critically ill person in activity which helps to assist in the recovery of the cardiopulmonary system, prevents muscle deterioration and joint contractures, and being restoration autonomy.
- **F: Family Engagement and Empowerment** – keeping ICU patients and families informed, actively involved in decision making, and actively involved in self-management will help provide physical comfort as well as emotional support to the patient and is a crucial part in the overall patient experience.

For more information on the ABCDEF bundle, click [here](#).

**Resource 3:** CLABSI - Starting in 2004 and going through 2013, Michigan hospitals reduced the incidence of CLABSI by 66 percent. In 2016, MHA Keystone: ICU teams will continue their work to reduce CLABSI rates in hospitals and improving reduction rates; MHA Keystone: ICU will monitor hospital CLABSI rates in participating ICUs as well as looking at non-ICU units.

A CLABSI is a serious infection that occurs when germs (usually bacteria or viruses) enter the bloodstream through the central line. Healthcare providers must follow a strict protocol when inserting the line to make sure the line remains sterile and a CLABSI does not occur. In addition to inserting the central line properly, healthcare providers must use stringent infection control practices each time they check the line or change the dressing. Patients who get a CLABSI have a fever, and might also have red skin and soreness around the central line. If this happens, healthcare providers can do tests to learn if there is an infection present.
For more information on CLABSI, click here.

**Resource 4:** Educational programs, including in-person and multimedia sessions, and member services, such as:

- **Content and coaching webinars** with industry experts, for teams to share success and challenges, ask questions, and network.
- **Safe tables** through MHA and IHA Patient Safety Organizations.
- **Regional meetings** that pull hospital teams together for intensive learning sessions.
- **Site visits** for hospitals that require a more intensive support.
- **Discussion board and blogs** that allow real-time discussion on issues and questions relevant to the particular collaborative.

**2016 Keystone: ICU Events Schedule**

*Monthly webinars are scheduled the second Wednesday of each month from 11 a.m. to noon EST. For a complete list of upcoming events visit the MHA Community.*

**What the MHA Keystone Center will measure:**

This program is evaluated through the collection of outcome measures, which are collected on a monthly basis and imported into the Keystone Data System (KDS).

We will strive to minimize the burden of data collection by using data that is already collected where feasible, to focus on methods to improve performance, and assist with member needs to promote improved patient outcomes.

**Outcome measures (numerator/denominator):**

**ABCDEF Bundle:**

- Percent of patients for whom pain level was assessed (NRS, BPS, CPOT).
- Percent of patients for whom a spontaneous awakening trial was performed.
- Percent of patients for whom a SAT was contraindicated.
- Percent of patients who receive a SBT.
- Percent of patients whom had analgesia and sedation assessed (RASS or SAS).
- Percent of patients who receive delirium screening.
- Percent of patients who have positive delirium screening.
- Percent of patients whom performed early mobility (active and passive?).
- Measure patient and family engagement through interdisciplinary rounds.

**VAE:**

- Total VAEs
CLABSI:
- SIR
- Patient Days
- Line Days
- Number of Events

Hospitals commit to:
1. Identify an ICU champion. This individual may hold any number of roles within the hospital, including nurse, physician, infection preventionist or quality improvement specialist. The ICU champion will be the primary contact responsible for deploying the interventions, collecting data and disseminating the findings among staff. It is essential that this individual be engaged and motivated to improve patient care, and adept at encouraging and enabling staff to contribute.
2. Develop and implement a delirium and sedation bundle processes, according to the ABCDEF bundle.
3. Teams will also be expected to collect data and report on specific measures throughout the duration of the project.
4. Participate in educational activities and regularly and reliably submit data for the duration of the project.

The MHA Keystone: ICU collaborative seeks expert guidance and support from clinical experts made up of representatives from Michigan hospitals and related healthcare organizations. Each participating hospital forms a multifaceted improvement team/committee to guide the hospital’s participation in this initiative.

To enroll in MHA Keystone: ICU please click here.

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