Exemplary Professional Practice: Patient Care Delivery Model(s)

EP7EO Nurses systematically evaluate professional organizations’ standards of practice, incorporating them into the organization’s professional practice model and care delivery system.

EP7EOa: Provide one example, with supporting evidence, of an improvement resulting from a change in clinical practice due to the application of a professional organization’s standards of nursing practice.

Background

Standards are statements that describe the level of care or performance common to the nursing profession by which quality of nursing practice can be judged. The American Association of Critical-Care Nurses (AACN) is the world’s largest nursing specialty organization, with standards of practice built upon ANA’s *Nursing: Scope and Standards of Practice*. The nursing process is used as the framework and includes: assessment, diagnosis, outcomes identification, planning, implementation and evaluation. Standards describing clinical practice and professional performance remain stable over time, but nursing competencies continue to evolve to keep pace with scientific evidence, new technologies, and the needs of patients and families. AACN has developed an online clinical practice resource called AACN PEARL to share new standards of practice and support implementation into patient care. PEARL stands for Practice, Evidence, Application, Resources and Leadership. Critical care nurses use PEARL to guide best practice in the care of patients in the ICU.

Mechanical ventilation is one of the most common interventions implemented in the intensive care unit. Studies have shown that about 40 percent of all patients in the intensive care unit are breathing with the help of a mechanical ventilator. Mechanical ventilation is often a life-saving intervention, but also carries the risk of potential complications including ventilator-associated pneumonia (VAP) and ventilator-induced lung injury. The risk for pneumonia increases 3- to10-fold in patients receiving mechanical ventilation. VAP is associated with increased rates of multidrug-resistant infections, increased antibiotic use, prolonged mechanical ventilation time, increased ICU length of stay, and increased hospital length of stay. The Nursing Database of Nursing Quality Indicators (NDNQI) provided quarterly and annual reporting of VAP per 1000 ventilator days until 2013, when the CDC changed the definition of VAP and broadened surveillance to look at all ventilator-associated events.

Clinical nurses in the Surgical Intensive Care Unit (Blake12), an 18-bed, adult intensive care unit, provide care to critically-ill surgical, transplant, neurological/neurosurgical, and medical patients. Clinical nurses on this unit were aware that mechanically-ventilated patients were at risk for adverse outcomes and identified the need to improve the care of these patients. An AACN best practice was identified as the most appropriate intervention to improve care.
Goal Statement(s):

The goal of this initiative was to reduce the amount of time patients were on a mechanical ventilator as measured by ventilator days per patient in the Surgical ICU (Blake 12).

Description of the intervention(s)/Initiative(s)/Activity(ies)

In early January 2014, Clinical Nurses, Laura Lux, RN, BSN, and Mary Elizabeth Bedenbaugh, RN, BSN, CCRN and their colleagues on the Surgical ICU (Blake 12) began to look at ways to decrease the number of days patients were mechanically ventilated. They were aware of the October-December 2013 rate of ventilator days per patient on their unit of 4.70 as it was shared with them by their Nursing Director, Mary McAuley, RN, MSN, NE-BC. Some of the clinical nurses were members of AACN and were aware of the AACN PEARL site. They utilized this site and found validated, evidence-based clinical knowledge, resources and guidelines for improving the care of mechanically ventilated patients including the ABCDE Bundle.

The major components of the bundle include:

- **A**: Awakening trials for ventilated patients
- **B**: Spontaneous breathing trials
- **C**: Coordinated effort between the registered nurse and respiratory therapist to perform the spontaneous breathing trial when the patient is awakened by reducing or stopping the patient's sedation. The combination of sedation and analgesics being used are reviewed, and changes or reductions in the doses are considered
- **D**: A standardized delirium assessment program, including treatment and prevention options
- **E**: Early mobilization and ambulation of critical care patients

Evidence shows that use of the ABCDE Bundle in the critical care environment benefits patients by decreasing their time on a ventilator, their length of stay in the ICU, and the total number of days in the hospital (Balas et al. 2012). Ventilator weaning occurs faster because patients are less likely to be oversedated, which reduces total ventilator days and its associated complications. Delirium, which research indicates can last as long as a year after discharge from the hospital, can be reduced by identifying patients who develop it and aggressively managing it with medication adjustments and patient care planning. The early ambulation portion of the ABCDE bundle is a process that starts as early as hospital day one and progresses until the critical care patient is ambulating, including those who are ventilated. This reduces muscle wasting, thus decreasing total ventilator days.

On Blake 12, interventions were designed and implemented over a 3-month period, from January through March 2014, through the work of the ABCDE Bundle Workgroup and included the following:
Consulted with Erica Edwards, RN, MSN, CCRN-CMC, clinical nurse in the Cardiac Medicine Critical Care Unit (Ellison 9) who was already working to implement the ABCDE bundle on that unit (January 2014)

Conducted live educational sessions on the Blake 12 on all five components of the bundle during both the day and evening shifts (mid-January 2014- March 2014)

Worked with Edwards to develop an on-line ABCDE Bundle education course for clinical nurses
  - 100% of clinical nurses on Blake 12 completed the course within the 60 day assignment window (February 2014 - March 2014).

Redesigned the Blake 12 Daily Patient Goals of Care Plan to include documentation regarding spontaneous awakening trials (SATs), spontaneous breathing trials (SBTs), pain, delirium and mobility (March 2014).

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**Participants: ABCDE Bundle Workgroup**

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<tr>
<th>Name/Credential</th>
<th>Title</th>
<th>Department/Unit</th>
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<tbody>
<tr>
<td>Mary Elizabeth Bedenbaugh, RN, BSN, CCRN</td>
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<td>Clinical Nurse</td>
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<tr>
<td>Mary McAuley, RN, MSN, NE-BC</td>
<td>Nursing Director</td>
<td>Surgical ICU (Blake 12)</td>
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**Outcome(s)**

There was a reduction in the amount of time patients were on a mechanical ventilator as measured by ventilator days per patient in the Blake 12 Surgical ICU. The graph below shows that pre-intervention there were 4.7 ventilator days/patient and post-intervention there was a reduction in ventilator days/patient ranging from 4.10 to 4.44 for the three quarters spanning from April through December 2014. This improvement resulted from a change in clinical practice through the implementation of the ABCDE Bundle and application of the AACN standards of practice.
References:

AACN PEARL: Implementing the ABCDE bundle at the bedside. [aacn.org/dm/practice/aacnpearl.aspx](aacn.org/dm/practice/aacnpearl.aspx)
