The Health Care Improvement Foundation
2017 Delaware Valley Patient Safety and Quality Award
Entry Form

1. Hospital Name

   Aria - Jefferson Health

2. Title Of Initiative

   Progressive Mobility: Evidence Based Program Improves Outcomes in Critically Ill Patients

3. Abstract (Please limit this description to 250 words.)

Evidence supports that critically ill patients are at risk for developing delirium and or weakness related to their stay in an Intensive Care Unit (ICU), which can impact their outcome. The ABCDEF Bundle is designed to reduce sedation, immobility and delirium through interdisciplinary collaboration and care. The bundle is a 6-step process: awakening ventilated patients, breathing trials, coordinated efforts between nurses and respiratory therapists to decrease sedation/analgesics while attempting spontaneous breathing trials, delirium assessment including prevention and treatment, early mobilization and family involvement. Early mobilization is a key component which reduces complications of ICU stays, such as ventilator associated events (VAE), days patients are on the ventilator and length of stay in the ICU.

The purpose of implementing a Progressive Mobility Program (PMP) is to apply evidence based practices related to mobility in the critical care environment to improve key patient outcomes, such as length of stay in ICU (LOS), time on ventilator and ventilator associated events (VAE) without increasing hospital acquired events, such as fall related injury or skin injury related to pressure.

We created a multidisciplinary task force, developed an implementation plan, reviewed and purchased equipment and piloted this program in two of our Intensive Care Units. A five level PMP was agreed upon which advanced patients from tilting in their bed through sitting, dangling and walking based on their clinical condition and response to activity. We had meaningful improvement in key measures, including LOS in the ICU, mean days on ventilators and ventilator associated events.

4. What were the goals of your initiative?

   The team's overarching goal is to prevent complications of reduced mobility in critically ill patients. Our specific goals included:

   1. LOS in ICU: Reduce LOS by 5%
   2. Mean Days on Ventilator: Reduce mean days by 10%
   3. Ventilator Associated Events: Reduce by 25%
   4. Hospital Acquired Pressure Injures (Stage II or Greater)- target of zero occurrences
   5. Falls with Injury (utilizing National Database of Nursing Quality Indicators Injury definitions including Minor Injuries) – target is zero occurrences
   6. Staff Injuries related to Patient Handling – target is zero occurrences

5. What were your initiative's baseline data and the results of your initiative?

Outcome data was analyzed using two different time periods. The initial analysis included baseline data from five months pre-implementation and five months post-implementation to determine the effectiveness of the pilot (See Appendix B). There were decreases in the time patients are on a ventilator and their length of stay (LOS) in the ICU. Mean LOS prior to PMP implementation was 3.92 and was 3.36 post PMP implementation. This is a 0.56 mean day decrease and was demonstrating performance better than goal. Mean days on a ventilator prior to PMP was 6.62 pre-implementation and was 5.48 post PMP implementation. This is a 1.14 mean day decrease, demonstrating performance better than goal and an estimated $117,000 savings/month. A 70% reduction in VAEs was also noted, which exceeded the goal. There were no unit acquired pressure injuries identified during prevalence studies, compared to four UAPIs (rate of 1.34) in CY15. There were no fall related injuries or staff injuries related to patient mobility handling.

Our team continued to monitor progress and conducted additional analysis of pre and post implementation data after one year. While improvement was sustained, it was not as significant as the first five month period (See Appendix C). This may have been impacted by increase in the severity of illness (as demonstrated by an increase in case mix index). The mean LOS in the ICU in the 12 months prior to the PMP implementation was 3.69 and is 3.44 for the 12 months following PMP implementation, which is demonstrating performance better than goal. This represents a 0.25 day decrease, which is estimated to save $162,000 monthly and close to $2,000,000 annually. The mean days on a ventilator prior to the PMP implementation was 5.90 and is 5.57 post PMP implementation. This represents a 0.33 day decrease, which is performing better than goal. A 45% reduction in VAEs was also noted. This accounts for 20 VAEs in the year prior compared to nine VAEs in the year following implementation and is demonstrating performance better than goal. There continued to be no pressure injuries identified during prevalence studies, compared to 4 UAPIs (rate of 1.34) in CY15. There were no patient fall related injuries or staff injuries related to patient handling.

6. Describe the interventions that were instrumental in achieving the results for your initiative.

We continued to follow the Iowa Model for Implementation of Evidence Based Practice (See Appendix A) as we planned our program. In August 2015 an interdisciplinary team, including both a physician and an administrative leader, was developed to assemble and evaluate current research related to Progressive Mobility. After review of the literature, the team determined that there was sufficient evidence to develop the program and identified a specific five level mobility program to implement. We partnered with one of our vendors who provided expert consultation, educational materials and support for the initiative. One of our ICUs was identified to be the pilot unit for this program.

The outcome metrics chosen for the progressive mobility program (PMP) included length

of stay (LOS) in ICU, mean days on a ventilator and the occurrence of Ventilator Associated Events (VAE). Additional outcome metrics were monitored to ensure there was no increase in harm related to mobilizing patients, which included Unit Acquired Pressure Injuries (UAPI), falls with injury (minor or great injury), and staff injuries related to patient handling.

Implementation Plan:
• Safe Patient Handling audit was completed.
• Specialty walkers with capacity to mobilize the patient with their critical care equipment, such as portable ventilators, monitors, oxygen, intravenous pumps and battery power source, were evaluated. An additional benefit identified was that the specialty walker could remain at the bedside with all the equipment in place to allow for easier transition with mobility and avoid repeated set ups. Recliners were made available in each room to facilitate chairing the patient.
• Purchase of specialty walkers was approved.
• Ceiling lifts were installed in the 24 bed ICU and 6 bed Neuro Intensive Care Unit. Having these lifts available in every patient care room allowing for more complex patients to be mobilized without risking the safety of our staff.
• Educational grant obtained to have a consultant and expert on PM visit our organization over two days to provide education, insight and conduct a needs assessment. Our implementation plan was further refined after this consultation.
• A five level PMP was agreed upon which advanced patients from tilting in their bed through sitting, dangling and walking based on their clinical condition and response to activity.
• Education was provided to staff members, including nurses, intensivists and physical therapists, through the unit's Shared Governance council and Education Specialist.
• Prior to the implementation of the protocol we had an in-service and signed off competencies pertaining to specialized equipment such as, the specialty walker and overhead lifts.
• Instituted the five level PMP and use of specialty walkers in the ICU/NICU pilot units in March 2016. (See Appendix B).
• Ongoing prevalence/audits is conducted on levels of mobility, days on the ventilator, length of stay, pressure injuries, falls and staff injuries.
• To reinforce the program, a Mobility Fair was held, including interactive stations, hands-on training with equipment and educational games in August 2016.
• An interdisciplinary rounding tool to address mobility, agitation and delirium has been developed and implemented.
• A nurse-driven protocol order and electronic documentation related to mobility levels and interventions was developed and implemented.

7. How can this initiative be replicated through the region? (Please limit this description to 100 words.)

Creating an interdisciplinary team approach will provide the foundation for a successful progressive mobility (PM) program and optimize outcomes. Assessment of staff's

knowledge is the key to ensure understanding and proper utilization. Engaging staff in progressive mobility can be achieved through creative educational initiatives, demonstrations and presentations customized to their learning needs.

We have replicated this PM program in all our organization's critical care areas. We have been asked to assist two hospital organizations with creating a PM program and have disseminated our results through a variety of presentations both regionally and nationally.

8. Explain how the initiative demonstrates innovation (Please limit this description to 100 words.)

An innovative approach was utilized in creating our PM program. Through presentations, staff produced videos and a PM mobility fair (consisting of a poster contest, t-shirts, games, vendors, equipment demonstrations and hands on learning), our pioneering approach to education and engagement led to a successful program. Our unit has state of the art ceiling lifts and specialized walkers to support our staff in safely mobilizing patients.

Our five level PM program continues to evolve with the addition of a nurse driven protocol and electronic documentation which records our patient's progress within our mobility model.

9. How does this initiative demonstrate collaboration with other providers within the continuum of care? (Please limit this description to 100 words.)

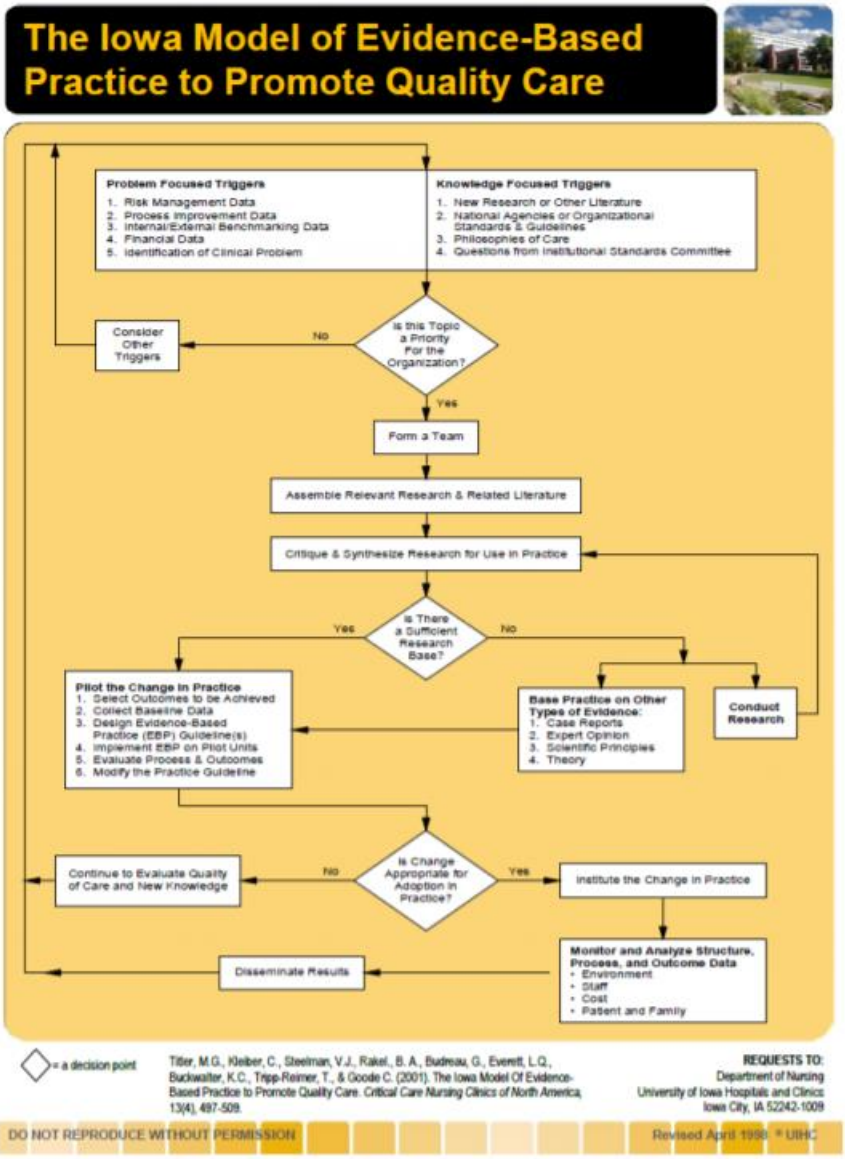
This is a true example of interdisciplinary care approach consisting of Physicians, Nursing, Physical Therapist, Respiratory Therapist and, most importantly, the patient and their family. The multidisciplinary workgroup conducted literature reviews, evaluated products and created the program with an implementation plan. Once implemented, collaborative PM discussions regarding the patient's progression through the levels and goals for the day occurs with our team each morning and at bedside rounds. This patient-centered team approach ensures the patient and/or family have a voice in goal setting and the care provided.

10. Explain ways in which senior leadership exhibited commitment to the initiative (Please limit this description to 100 words.)

The Senior Leadership Team (SLT) supported this initiative since its inception. Nursing staff attended a national critical care conference and learned about several best practices including progressive mobility. The staff presented a proposal to SLT to initiate a PM program and received approval. They supported the initiative and related purchases such as specialty walkers and ceiling mounted patient lifts. This support greatly contributed to the success of the PMP and in turn, the PM Program has been able to demonstrate cost savings and improved outcomes.

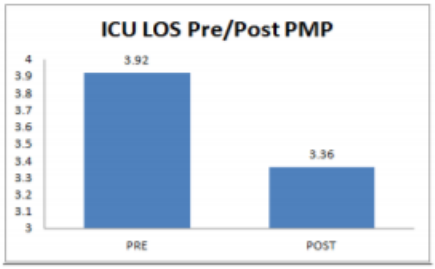
11. Appendices (i.e., tables and graphs)

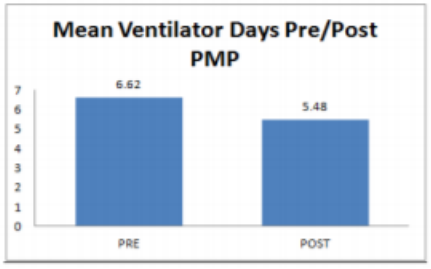
Appendix A: The Iowa Model of Evidence-Based Practice

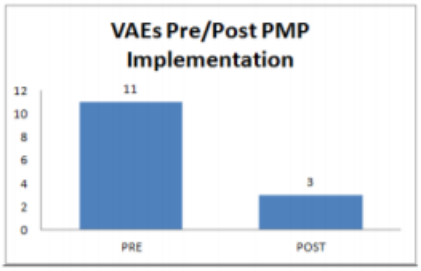


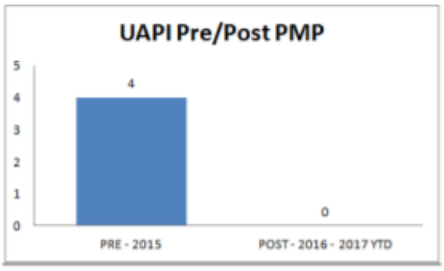
**Used with Permission*

Appendix B: Data 5 Months Pre/Post PMP Implementation









Appendix C: Data 12 Months Pre/Post Implementation