Transformational Leadership: Strategic Planning

TL1EO: Nursing’s mission, vision, values, and strategic plan align with the organization’s priorities to improve the organization’s performance.

TL1EOb: Provide one example, with supporting evidence, of an initiative identified in the nursing strategic plan that resulted in an improvement due to a change in clinical practice.

Background/Problems(s)

Hospital Acquired Pressure Ulcers (HAPUs) are monitored on an ongoing basis, case-by-case as they occur, and reported on a quarterly basis. At Massachusetts General Hospital (MGH), HAPU prevalence data is collected on one day each quarter and submitted to the National Database of Nursing Quality Indicators™ (NDNQI®). This data is used by nurses as a measure for evaluating practice and patient outcomes because it is a consistent and standard benchmarking measure.

HAPUs are common in patients who undergo surgical procedures that require them to be immobile for prolonged periods of time, those whose acute illness makes them intolerant of movement, and those on critical life sustaining technology that prohibit change in position. These situations are common in the cardiac surgical patient population, and this was found to be true at MGH where there was a high number of HAPUs on the Cardiac Surgical Intensive Care Unit (Blake 8). This was a frustrating challenge for Vivian Donahue, RN, MSN, ACNS-BC, Nursing Director and the clinical nurses on that unit, as they believed that all measures to prevent HAPUs were being utilized. Donahue and the clinical nurses recognized that the patients who were developing HAPUs were those who had undergone prolonged surgical procedures and were unable to be moved in the post-operative period. In addition, there were also patients on Blake 8 that were too critically ill to be moved to the operating room (OR) and underwent surgical procedures in the unit that required them to remain in the same position for several hours, days, or even weeks.

They were aware that Dolphin mattresses had been added to four cardiac surgical OR tables in an effort to prevent HAPUs in this population of patients. The Dolphin mattress is a novel pressure redistribution support surface that utilizes Fluid Immersion Simulation (FIS). This specialized mattress has an advanced microprocessor-driven system that analyzes the pressure waveform generated by the patient as they sink into the mattress. It then adjusts the air density in the mattress to simulate immersion in a fluid medium, which is essentially like floating in water. The FIS reduces undesired soft tissue deformation and compression, thereby preventing impairment in tissue perfusion that can lead to tissue death. Donahue and the clinical nurses noted that patients who had surgery on these mattresses and had uncomplicated recoveries did not develop HAPUs. They believed that having Dolphin mattresses available on the unit for those patients who required long periods of immobility would reduce the incidence of HAPUs.
The use of these mattresses would represent a major change in nursing practice, as the patients would not require frequent turning, one of the most basic and long-held practices for prevention of HAPUs. Donahue realized that this change in nursing practice would be consistent with one of the goals of the 2014 strategic plan which was to “Optimize the patient experience ensuring a coordinated, standardized, evidence-based model of care-delivery throughout the patient journey.” This strategic goal provided overarching support for the ongoing goals and desired outcomes of the Innovation Units’ work that included:

- standardization of processes and care to reduce variation,
- introduction of a systematic approach to improving quality and safety in the inpatient setting, and
- improvement of clinical quality to make care safer.

Similar to the example in TL1EOa, focusing on the prevention of HAPUs was one of the Annual Performance Measures in the 2014 N&PCS Strategic Plan (attachment TL1EOb.a). Improving hospital-acquired pressure ulcer rates was also a stated goal in the 2014 Nursing & Patient Care Services Quality & Safety Strategic Plan: Participate in efforts to improve nursing sensitive indicators and reduce healthcare associated infections: Falls, Pressure Ulcers, CAUTI and CLABSI (attachment TL1EOb.b).

The use of Dolphin mattresses for the prevention of stage II and greater HAPUs represented an evidence-based initiative geared toward better quality of care. Expanding the use of Dolphin mattresses beyond the cardiac OR to patients who had surgical procedures on Blake 8 was a step toward standardizing the care of cardiac surgical patients by providing the same care, regardless of their location.

**Goal Statement(s)**

The goal of this work was to reduce the percentage of stage II or greater HAPUs in Cardiac Surgical Intensive Care Unit (Blake 8) patients.

**Description of the Intervention(s)/Initiative(s)/Activity(ies)**

In March 2014, the Cardiac Surgical Intensive Care Unit (Blake 8) NDNQI® HAPU data for the first three months of 2014 revealed that 15.4% of their patients had a stage II or greater HAPU. Not only was this percentage more than double the NDNQI mean of 6.1% for adult critical care units, it was almost two times greater than the 8.3% reported at the end of December 2013. As noted above, the lack of HAPUs in patients who had their cardiac surgical procedures in the OR led to a solid belief that the Dolphin mattresses would benefit that population of patients that had had surgical procedures or other interventions that required them to be immobile for extended periods of time.

In April of 2014, Donahue consulted Virginia Capasso, PhD, APN-BS, ACNS-BC, CWS, Clinical Nurse Specialist for Wound Care, who was instrumental in bringing the Dolphin mattresses to the OR, and she agreed with the idea of having Dolphin mattresses for
the patients that Donahue had identified. Donahue then discussed the need to purchase Dolphin mattresses for the unit with Theresa Gallivan, RN, MS, NEA-BC, Associate Chief Nurse, to advocate for capital funding for this need. Given the expense of the mattresses and the reality of limited capital funds for many other important requests, it was necessary to explore various options for acquiring the greatest number of mattresses in the most cost effective manner. The specialized integrated systems of both the Dolphin mattress and the ICU bed frames in use at this time made it impossible to simply exchange a standard ICU mattress for a Dolphin mattress. These systems could not be deactivated in the bed frames, and some of them could not co-exist with Dolphin mattresses. The clinical nurses identified that, of all the functions of the bed frames, a driving mechanism and in-bed scale were essential. This led to an exploration of using the standard, non-ICU bed frame. However, these frames did not have a driving mechanism, which was considered a "deal breaker" by the clinical nurses from the Cardiac Surgical ICU (Blake 8) and the OR. They believed it was unacceptable to give up this feature considered essential to the safety of all who would move the beds. Armed with the requirements of the clinical nurses and Gallivan’s support, Capasso embarked on negotiations with vendors. Ultimately, a refurbished ICU bed frame equipped only with a driving mechanism and scale, was made available to MGH for use with the additional Dolphin mattresses.

Capital funding for 2014 was approved for seven Dolphin mattresses and seven refurbished ICU bed frames, which were purchased in the Spring of 2014. The hospital’s Skin and Wound Care Guidelines were revised in June 2014 to include Dolphin mattresses as an option for patients in the ICUs where the mattresses were available. Clinical nurses on Blake 8 were oriented to the operation of the Dolphin mattresses during July of 2014. Criteria for use of the Dolphin mattresses were developed and included new patients who required Extracorporeal Membrane Oxygenation, any type of Ventricular Access Device, or an open chest, as well as those who were post-operative from a transplant, a procedure greater than seven hours in length, multiple surgical procedures, or thoracic aortic surgery. The new beds were put into use in August of 2014 and the average usage is three to four per day.

Participants: Cardiac Surgical Intensive Care Unit (Blake 8) Dolphin Mattress Task Force

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<tr>
<th>Name/Credential</th>
<th>Title</th>
<th>Department/Unit</th>
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<tbody>
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Outcome(s)

Since the Dolphin mattresses were put into use on the Cardiac Surgical ICU (Blake 8), the percentage of stage II or greater HAPUs has ranged from 0 to 10%, as compared to the 15.4 rate during the pre-intervention period, which led to Donahue’s pursuit of the new mattresses.