Nebraska Hospital's Quality Improvement

"Quest for Excellence" Award

The Nebraska Medical Center

987590 Nebraska Medical Center

Omaha, NE 68198-7590

A Multidisciplinary Collaborative Approach to Reduce Hospital Acquired Pressure Ulcers

"#3 Process Management/Organizational Performance Results"

Alan Didier, RN, Manager, Burn & Wound Services

Chair, Skin & Wound Advisory Team

LDidier@NebraskaMed.com

402-552-3442 (Office)

402-552-2995 (Fax)

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- ***The quality improvement issue worked on.***

The Agency for Health Care Research and Quality (AHRQ) recently reported a 63% increase in hospital-acquired pressure ulcers over an eleven-year period (Russo and Elixhauser, 2006). Over the past two years, an interdisciplinary team of clinicians and researchers at The Nebraska Medical Center has successfully addressed this issue with a continuous quality improvement initiative that has decreased the hospital's acquired pressure ulcer rates from 9.6% to 2.3%. The team has also been successful in reducing ulcer severity and has virtually eliminated pressure ulcers caused by medical devices such as oxygen tubing.

- ***How this issue was identified.***

Although increasing numbers of hospital-acquired ulcers have recently attracted national attention, the Manager of Burn & Wound Services at The Nebraska Medical Center became concerned in January 2004 while reviewing quarterly skin survey results. The rate of hospital acquired pressure ulcers had gradually increased, reaching an all time high of 9.6%. The pressure ulcer data were closely reviewed and a root cause analysis (RCA) conducted. The findings of the RCA were: a nursing care plan for skin was present only 14% of the time for patients who had a pressure ulcer; a Wound Nurse consult was initiated 50% of the time when a patient had a pressure ulcer; and the most frequent site for pressure ulcers was the crease of the ear from either a nasal cannula or face mask.

- ***Discuss the importance this issue has for your organization and patients.***

The development of a pressure ulcer has significant implications. In respect to the patient, a pressure ulcer negatively affects the patient's self esteem and body image, potentiates a feeling of hopelessness, and places them at risk to develop infections. Once a pressure ulcer has occurred, it places a tremendous burden, both physically and financially, on the resources of the

patient, family, caregivers, health care facility, and third party payers. The average charge for hospitalizations for pressure ulcers was reported as $37,800 in a recent national study (Russo and Elixhauser, 2006). Pressure ulcers and the care required to treat them are often painful.

The Centers for Medicare and Medicaid Services (CMS), and the Joint Commission on Accreditation of Health Care Organizations (JCAHO) are considering regulatory changes regarding hospital acquired pressure ulcers. For example, JCAHO proposed the following National Patient Safety Goal (NPSG) for 2007: "Prevent healthcare associated pressure ulcers." Although this goal will not be implemented in the acute care settings in 2007, there is evidence that acute care will be held to a higher standard. Proposed CMS regulatory changes indicate that all pressure ulcers will be considered "avoidable" in acute care. The burden of proof will be on the acute care facility to prove that the pressure ulcer was "unavoidable." This burden of proof will be determined by the documentation of predetermined criteria in the medical record. If any one of these criteria is not met, then it is assumed everything was not done to prevent the pressure ulcer and the acute care facility will be held accountable.

The effects of these changes on acute care facilities will be financially crippling. Acute care facilities will lose the reimbursement dollars for the care and treatment of the pressure ulcer, if the pressure ulcer was found to be "avoidable." In addition to lost reimbursement for the care and treatment of the pressure ulcer, the acute care facility may be fined.

- ***Provide a brief overview of the project.***

Armed with this information, the Wound Ostomy Services Department created the Skin and Wound Advisory Team (SWAT). This newly formed committee is multidisciplinary and includes staff nurses, wound nurses, a dietician, nurse managers, a nursing director, an occupational therapist, a nurse informatics specialist, clinical educators, two professors from the

University of Nebraska Medical Center (UNMC) College of Nursing, a physician and ad hoc members.

The mission SWAT developed is “to provide evidence-based education and policy to create a continuous quality improvement environment where practitioners are empowered to provide optimal skin care.”

Using the CQI model of plan-do-study-act (PDSA), SWAT realized that the data obtained from using the standardized skin survey forms provided by benchmarking agencies were not meeting the needs of the patients at The Nebraska Medical Center. SWAT decided to create a new evidence-based skin survey data collection form that would address the needs of our diverse patient population. After an extensive review of the research literature, root cause analysis, and input from clinical experts, SWAT developed an in-depth data collection skin survey form. In addition to pressure ulcer rates, surveyors collect data on the unique risk factors of hospitalized patients and monitor compliance to specific preventive care processes. Data collected from the new data collection forms were cycled through PDSA and an action plan was developed. The action plan included: evidence-based revision of all skin care pressure ulcer policies, procedures, protocols, standards of care, algorithms and provision of education to the nursing division at The Nebraska Medical Center. The development of the new data collection form, the data it provided and using the PDSA, guided all activities of SWAT.

The primary stakeholder identified by SWAT was the diverse inpatient population at The Nebraska Medical Center. The patients who receive care at The Nebraska Medical Center can come from all regions of the world and they often have unique medical conditions that affect the skin; for example, Graft versus Host Disease, Stevens-Johnson Syndrome, necrotizing faciitis, trauma and or burn injuries.

- ***Describe the intervention approach implemented (the process utilized).***

The approach SWAT utilized to effect change was accomplished via repetitive cycling of the PDSA CQI model and a firm commitment to evidence-based practice. One complete cycle of the PDSA CQI model typically coincided with each quarterly skin survey.

- ***Identify the timeframe for the intervention.***

The timeframe for the interventions did not have a deadline for completion; rather, the interventions are part of the continuous process of cycling through the CQI model PDSA. The processes and interventions to reduce hospital-acquired pressure ulcers never cease, because the journey towards excellence is forever ongoing.

- ***Identify the stakeholders involved and how they are affected.***

The stakeholders we serve are a vast and diverse group. Our primary stakeholder will always be the patient. When the rate of hospital acquired pressure ulcers decreases, the following occurs: increased patient satisfaction, quality of care indicators increase, reduced expenses from a reduced rate of pressure ulcers, a decreased length of stay and the patient does not have to endure the countless sequelae of pressure ulcers, (i.e. pain, dressing changes, debridement, hopelessness, body image disturbance and the financial costs of treatment).

The secondary stakeholders consist of the direct care providers, the administration and the organization. The direct care providers are rewarded by the sense of accomplishment for their hard work and diligence, and appreciation from the patient and family.

A tertiary stakeholder of these efforts is the community we serve, other healthcare organizations throughout the country and third party payers. Our efforts to reduce hospital-acquired pressure ulcers have been shared at several conferences, including, Nebraska Healthcare Forum sponsored by CIMRO of Nebraska, Lincoln, NE 2005. The Nebraska Medical

Center and the National Pressure Ulcer Advisory Panel are co-sponsoring a national conference entitled, “Best Practices and Protocols: Pressure Ulcer Accountability in Acute Care,” on November 3, 2006 at the Qwest Center in Omaha, NE. The University of Nebraska Medical Center Institutional Review Board (UNMC IRB) recently granted approval for secondary analysis of survey results and publication in professional journals. The effort of SWAT demonstrates the continuous loop of practice guiding research followed by research guiding/becoming quality practice.

- ***Provide demonstration of organizational buy-in (senior management and staff); describe how the work environment enabled employees to participate as appropriate.***

The support and assistance afforded to SWAT by the administration of The Nebraska Medical Center has been tremendous. The administrative team, knowing that pressure ulcers are a quality of care indicator, has linked pressure ulcer outcomes to our Corporate Balanced Scorecard.

The Chief Medical Officer (CMO) and the Chief Nursing Officer (CNO) receive detailed reports of the quarterly skin surveys and the minutes of the SWAT meetings. These items are then disseminated throughout the nursing leadership and shared with the entire nursing staff. In addition to communicating to the organization electronically, the CMO invited SWAT to present their findings and action plan to the leadership of The Nebraska Medical Center at the Quarterly Patient Safety Forum. In October of 2005, the administration awarded the ‘Quality Walk of Fame Award’ to the Wound Ostomy Services Department for their dedicated work. In November 2005, the Nursing Shared Governance Councils approved the recommendations SWAT had proposed. The recommendations included required skin care education for every inpatient nurse during January 2006. At the conclusion of this education, 98.6% of all inpatient

nurses had attended the one-hour educational presentation. Staff attending this educational program were paid for their time.

When quarterly skin surveys are conducted, SWAT turns to nursing for assistance with the data collection process. It is common to have 50 staff, in addition to wound nurses, participate. The participants include staff nurses, patient care techs, dieticians, PT/OT, clinical educators, UNMC nursing students and faculty. Staff who participate in the skin survey data collection are paid for their time; faculty and students donate their time. On the day of the skin survey, the participants are given lunch, followed by an educational in-service related to skin care. When nursing achieved the pressure ulcer goal set by SWAT, (which was to achieve a lower than 4% rate of hospital-acquired pressure ulcers on two consecutive skin surveys) nursing was recognized and rewarded by administration and SWAT. Rewards consisted of each nurse receiving a SWAT lapel pin, and each department was given a gift certificate for a 30 minute massage that was given to a staff nurse. Also, the Operational Review Committee has further demonstrated support by approving a 63.2% increase in FTE's for additional wound staff.

- ***Describe the indicators used to measure results.***

The early indicators used to measure program effectiveness are nursing and other related care processes associated with prevention of pressure ulcers. These include: risk and skin assessment on admission, care plan development for at-risk patients, activation of bed prevention modes, heel elevation, chair cushions, and turning every 2 hours as indicated by the level and type of patient risk. In collaboration with hospital dieticians, SWAT also monitors: nutrition consults, admission weights and trending every 4 days; physician orders based on dietician recommendations, and adequacy of dietary intake (i.e. oral intake greater than 75% of all meals and adequacy of caloric and protein intake if on TPN or tube feedings).

Late indicators (i.e. outcomes) monitored by SWAT include hospital acquired pressure ulcer rates; the severity of hospital acquired pressure ulcers; and the incidence of medical device-related pressure ulcers.

- ***Show how your intervention led to the improvement identified. Includes examples of procedures, forms, and system or process changes.***

Based on the information obtained from the new data collection tool, SWAT analyzed the early and late indicators, collaboratively discussed the results and developed an action plan. An example of this would be the 14.3% of skin care plans that were in place when indicated in December 2003. SWAT determined that the current skin care plan was inadequate and did not meet the needs of the patients, which contributed to a lackluster use by nursing. When the care plan is not present, the following occurs: nursing documentation is absent; inappropriate use of nursing interventions; and a lack of communication amongst caregivers when the hand-off of care occurs. To overcome these hurdles, SWAT looked at the systems and processes that were in place and instituted the following measures to improve the early and late indicators.

The first item that was created was an evidence- and risk-based standard of care matrix for the Braden Score. This new matrix has evidence-based nursing interventions for each sub-scale category of the Braden Scale and its corresponding score as determined by nursing assessment. This new matrix was then utilized to develop a new skin care planning system. The new matrix allows the nurse to develop an individualized, patient-centered care plan related to skin integrity, which has addressed each sub-scale of the Braden Score. This was accomplished without adding forms or adding nursing time. When the Braden Score is tabulated by the nurse, the nurse can quickly assess the needs of the patient based on the sub-scale scores they entered. The nurse then opens the care plan, clicks on the appropriate sub-scale and selects the appropriate

interventions to meet the skin care needs of the patient. These interventions become part of the medical record and are printed on the plan of care. When a nurse evaluates his/her care plan at the end of their shift, they are effectively closing the loop of the skin care plan.

The most significant process change that was implemented was the trigger points at which nurses consult a wound nurse. Historically, nursing would order a wound nurse consult when a patient had a pressure ulcer or their Braden Score total was 18 or less. The new triggers for nursing to consult a wound nurse are: a total Braden Score of 16 or less; or a pressure ulcer; or if any sub-scale has a score of 2 or 1 for three consecutive times. The addition of the sub-scale trigger will catch those patients whose total Braden Score is 17 or higher, but have a sub-scale that requires attention, (e.g., moisture related to incontinence). In the past, these patients "fell through the cracks" because the total score was acceptable. The attention of nursing now focuses on the sub-scales, which promotes efficient use of the evidence-based interventions to prevent skin breakdown. The appropriate use of a skin care plan was 14% in December 2003. This improved to 86.5% in April 2006.

- ***What were your results? Discuss the improvement that was achieved as a result of this project. Results must be measurable.***

SWAT has achieved amazing results. The hospital-acquired pressure ulcer rate is the lowest it has ever been. The December 2003 results showed a hospital-acquired pressure ulcer rate of 9.6%. After the interventions were implemented, the January 2006 and April 2006 results were 2.8% and 2.3%, respectively.

When the reduced rate of pressure ulcers is converted to an annualized financial savings, The Nebraska Medical Center saved $10,165,000 from this collaborative effort. This is based on a very conservative estimate of $5,000 to treat a pressure ulcer.

The severity of pressure ulcers has significantly decreased since the implementation of the SWAT interventions. During the March 2005 skin survey, 46.2% of the hospital acquired pressure ulcers were partial thickness, Stage I or Stage II. In the January 2006 skin survey that number improved to 88% and remained steady during the April 2006 skin survey at 83%. This equates to a significant decrease in Stage III and Stage IV pressure ulcers and deep tissue injuries.

The hospital acquired pressure ulcers that were caused by a medical device have also shown significant improvement after the interventions were implemented. During the December 2004 skin survey, 18 hospital-acquired pressure ulcers were related to a medical device. During the January 2006 and April 2006 skin survey's the number of pressure ulcers caused by a medical device decreased to 4 and 3, respectively.

- ***Barriers identified; what would you change, what you would do again.***

The primary barrier that we identified was the ability to sustain continued vigilance within nursing. Today's nurses are bombarded with new equipment, mandated education, e-mails, posters, flyers and countless other items while they are expected to deliver excellent care to their patients. To maintain vigilance, we solicited representatives from nursing to join us in our mission. Because these nurses are unit-based and partner with SWAT to communicate with nursing, they are known as the SWAT Unit. The members of the SWAT Unit participate in the skin surveys, receive the minutes of the SWAT meetings and are provided with educational opportunities via conferences or one-on-one education with the wound staff.

- ***Sustainability of interventions.***

The sustainability of these efforts requires continued monitoring and positive feedback. To ensure that we sustain our results, SWAT has implemented the following systems: non-punitive

reporting of hospital acquired pressure ulcers via incident reports; hospital-acquired pressure ulcers have a digital photo taken and sent to the manager with feedback; and all new graduate nurses coming to The Nebraska Medical Center attend a 4-hour wound and skin care class called, "Back to the Basics."

- ***Portability of interventions.***

The work SWAT has conducted to reduce hospital acquired pressure ulcers is very portable. As mentioned previously, we have taken our story to a number of conferences and we have shared it with nursing schools and local hospitals. Acute care facilities are encouraged to review our work and tailor it to meet the needs of their organization. To see the efforts of SWAT first hand, please consider attending the conference we are co-sponsoring with the NPUAP on November 3, 2006 at the Qwest Center Omaha. For more information, please go to the NPUAP website at www.NPUAP.org.

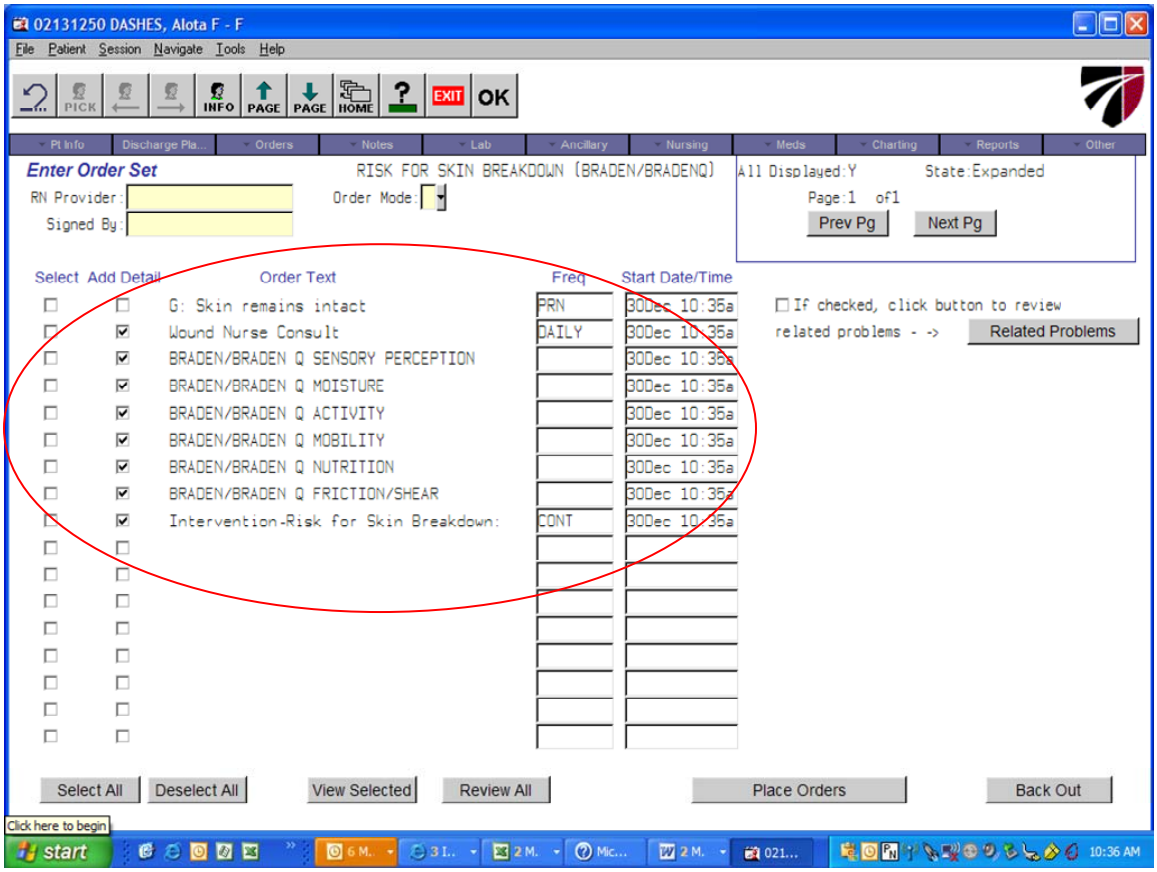
References

Russo, C. & Elixhauser, A. (2006). *Hospitalizations related to pressure sores, 2003.* (HCUP Statistical Brief #3 Agency for Healthcare Research and Quality, Rockville, MD). Retrieved June 13, 2006, from http://www.hcup-us.ahrq.gov/reports/statbriefs/sb3.pdf

Supporting Documentation

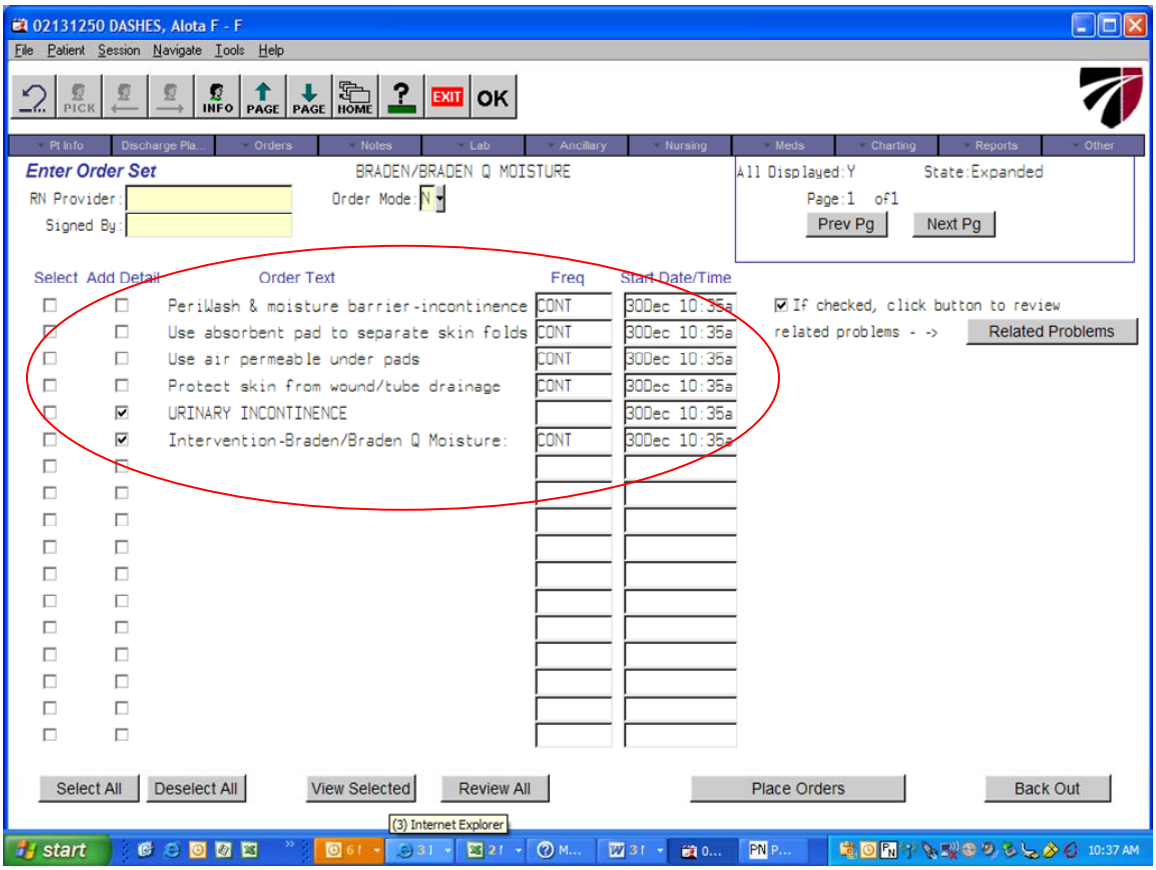
Below is the new Risk for Skin Breakdown nursing care plan, sub-scale specific.

If moisture is selected, then the interventions to prevent skin breakdown related to moisture appear and can be selected. (Next page)



Supporting Documentation

Below are the moisture specific interventions that may be selected. Note: There is the Urinary Incontinence standard of care and a free text selection to further individualize the intervention.



Supporting Documentation

Evidence- and Risk-Based Matrix. (Moisture & Activity displayed)

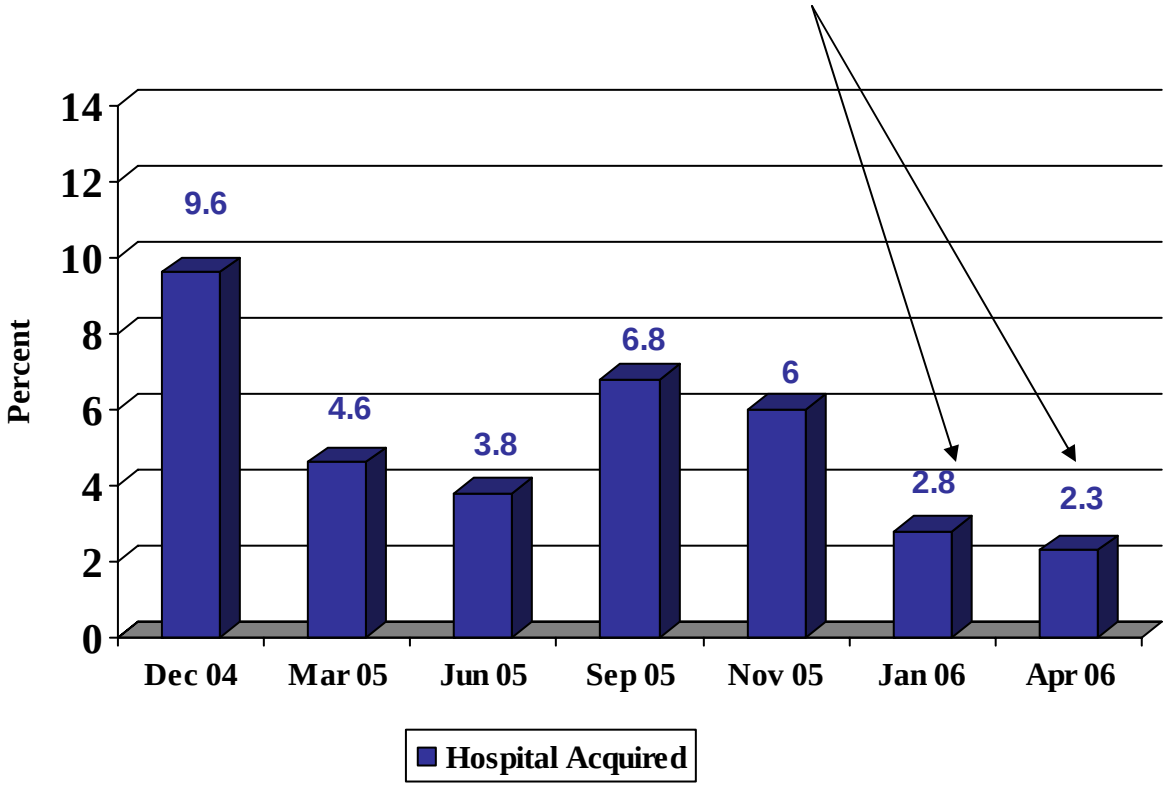
Subscale	Interventions			
Score	4	3	2	1
Moisture	Monitor and minimize degree to which skin is exposed to moisture [45]	*Previous intervention plus:* • If patient has fecal or urinary incontinence, use periwash and moisture barrier after each episode of incontinence [30,45,47] • Identify potentially reversible causes (e.g. medications, fecal impactions) of incontinence and consider related interventions (e.g., toileting schedules, dietary changes, medications as ordered) [2,29,39,47] • Implement Urinary Incontinence Standard of Care • Consider need to implement Bowel Management Standard of Care	*Previous interventions plus:* • Use underpads that wick moisture away from the skin • If moisture localized to skin folds, place absorbent pad or linen (do not use terrycloth) to separate skin folds [45,47] • Keep wound and tube drainage away from skin with absorptive dressings, drain maintenance, skin barriers, and/or pouching [47]	*Previous interventions plus:* • Use air permeable underpads when skin is consistently moist • For excess incontinence (which does not respond to previous interventions), consider use of external and/or internal urinary and fecal collection / containment devices [47] • Consider low air loss overlay or specialty bed for drying effects in consultation with wound care nurse(physician order required) [15,16,37]
Activity	Monitor and maintain ambulation	• Encourage and assist with ambulation as needed [45] • Consider PT/OT screen if change from prior level of function [45]	• Assist to chair as needed • 4 inch chair cushion for chair fast patient [10,16,27,36,44,45] • Maximum of 1 hour in chair at a time with position shifts q 15 min [45,47] • Position patient for maximum redistribution of pressure (See attachment 1 [22]) • Support with pillows and blankets to prevent slouching and shear • Wear properly fitting foot wear that does not cause pressure sites • Progressively increase activity, up to ambulation as tolerated, unless contraindicated [45] • Collaborate with physician for PT/OT consult • Consider need for referral to seating clinic(if anticipate being chair bound long term) [10,16,41,44]	When confined to bed all or most of the day, use mobility subscale to determine repositioning schedules and specialty support surface needs [12,19,20,21,45,47] • Progressively increase activity as tolerated, unless contraindicated [45,46]

Note: Preventive interventions are selected based on the type and level of patient risk. More intensive interventions are reserved for those at higher risk, resulting in more efficient utilization of resources.

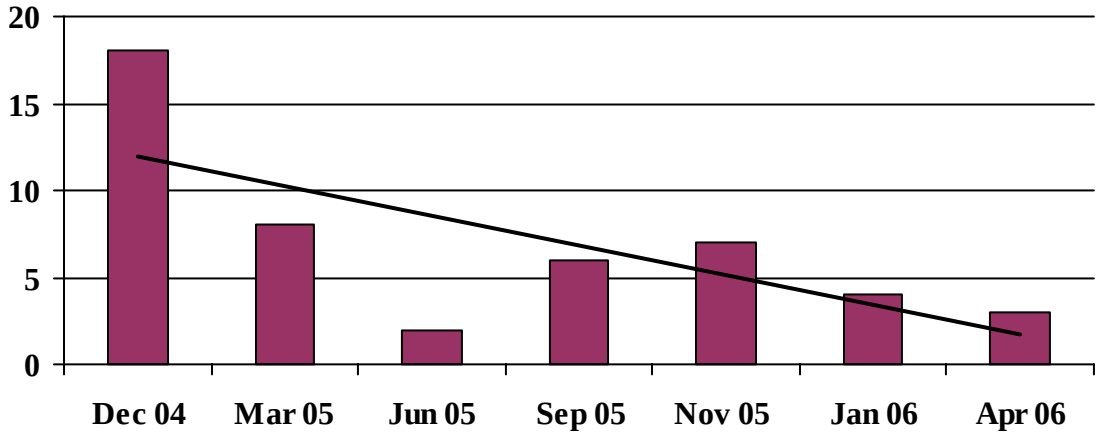
Supporting Documentation

Hospital Acquired Pressure Ulcer Goal Achieved in April 2006

Goal statement: "Achieve a hospital acquired pressure ulcer rate of less than 4% on two consecutive surveys."

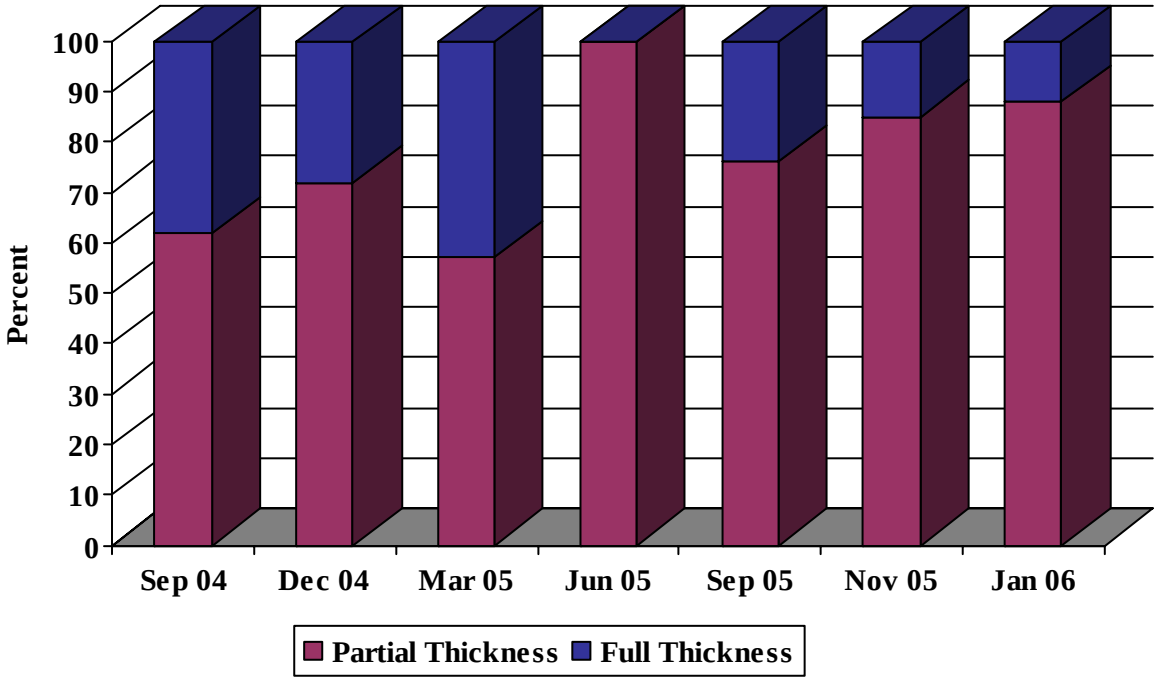


Medical device related pressure ulcers.



Supporting Documentation

Severity of Pressure Ulcers: Decreased rate of full thickness injuries.



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