

BryanLGH MEDICAL CENTER
1600 South 48th Street
Lincoln, NE 68506-1299

Craig Ames, President and Chief Operating Officer
comes@bryanlgh.org
402 – 481 – 3548
FAX: 402 – 481 – 8306

September 15, 2006

Topic - Preventing Ventilator Associated Pneumonia
Criteria 3 - Process Management/Organizational Performance Results

OVERVIEW of VAP PROJECT:

In November of 2003, BryanLGH Medical Center was invited to participate in VHA's Transformation of the Intensive Care Unit (TICU). This comprehensive program assists hospitals in achieving excellent performance in Critical Care Services by putting into practice simple, evidence based measures. Clinical and financial issues of Intensive Care Units (ICUs) create an ideal area to impact quality and cost issues.

A driving force behind our decision to participate was how well the TICU proposal matched our Patient Care Services Initiatives, especially "Optimal Quality of Care and Patient Safety", and "Clinical Excellence and Collaboration". TICU also corresponded with our vision to be the region's hospital of choice for patients, families, physicians and employees.

With the full support of BryanLGH Senior Management, the teams set about demonstrating how to achieve significant reductions in patient mortality, morbidity and costs, while improving the patient and family experience and work experience for staff. Staff, who attended a national meeting with other hospitals committed to improving quality for ICU patients, returned excited and ready to meet the challenge of quality improvement. A Core Team formed, made up of the Critical Care Director, the Quality Improvement Manager, two ICU Clinical Nurse Managers, a Physician Champion, a Quality Improvement Data Analyst and a Patient Care Coordinator. This group created the structure of the multi-faceted project, and established multidisciplinary sub teams. These included clinical, administrative and physician champions using rapid cycle improvement process to develop and implement the structures and processes necessary to improve ICU patient care.

A primary focus of TICU is to decrease the incidence of Ventilator Associated Pneumonia (VAP). Research indicates the ventilated patient population experiences many adverse events,

increasing their lengths of stay on the ventilator as well as in the ICU and in the hospital. This creates excessive costs and sometimes even unnecessary deaths. Although one of our units was in the top 25th percentile for low incidence of VAP rates nationally, according to NIHHS data, we recognized an opportunity to impact even more lives by pursuing perfection.

METHODS:

The national collaborative supplied us with evidence-based measures and a comparison group. The guidance, by way of monthly coaching calls, listserves and biannual meetings, kept us on track and provided advice, support and praise. The VAP Prevention Team began meeting in February of 2004. Membership is frontline clinicians closest to the issue: An intensivist, critical care nurses and respiratory therapists, a patient care coordinator, a critical care clinical nurse specialist, as well as representatives from epidemiology, pharmacy, dietary and physical therapy. Senior management involvement allowed time for staff to participate on committees, assist with data collection, presentations and educational offerings. Early meetings focused on establishing performance measures and action plans. We used Rapid Improvement Methodology, Small Tests of Change and PDSA Cycles to determine when changes resulted in improvement.

The broad goal to Improve Care of Ventilated Patients was broken down into select clinical objectives supported by evidence-based measures. These elements are referred to as a “vent bundle” They are:

- Maintaining Head Of Bed (HOB) elevation at 30 degrees
- Assessing patient’s readiness to extubate
- Providing appropriate PUD (peptic ulcer disease) prophylaxis

- Providing appropriate DVT (deep vein thrombosis) prophylaxis
- Appropriately interrupting sedation until patient is awake to follow instructions or until becomes uncomfortable/agitated
- Maintaining normoglycemia

In addition to the ventilator management needs identified by TICU, we identified meticulous oral cares and subglottic suctioning as vital to the success of a total VAP Prevention Program. Our baseline data and analysis revealed that, we were doing a good job on several indicators and our VAP rates were respectable. However, there were areas in need of improvement.

Acknowledging a gap between knowledge and practice gave us the impetus to bring education to the staff frequently and repeatedly. Real time data is vital. It drives the process and allows quick reactions based on facts. A clear example of this is our struggle with maintaining HOB elevation.

We decided to begin with HOB elevation because we thought it would be the simplest intervention to implement. The staff (nursing and R.T.) was educated using many references.

Signs were placed in the patient rooms as reminders. Our compliance remained low. We developed a collection tool and proceeded with random checks several times a week. This data was presented at unit meetings and posted on our TICU bulletin board. The compliance improved but did not reach our initial goal of 75 percent. We continued random checks but added on the spot discussions related to our findings. Praise was given if measures were met and instruction if they were not. We then began to see the strong correlation between head of bed elevation and reducing VAP rates. This data was shared with staff.

Once the bedside clinicians made the connection between their actions and improved patient outcomes a cultural transformation occurred. The focus became the customer's needs, the

patients, their families, the physicians and our coworkers. In essence, the community depends on us whenever a critical health care patient presents – we will not let them down. “Patients hospitalized in an intensive care unit in Lincoln are given the best opportunity possible to have a positive outcome from their illness.” says Bill Johnson, MD, Medical Director of BryanLGH ICUs.

In the spring of 2004, we developed two tools, a Daily Weaning Assessment Worksheet and Daily Goal Sheets. Trials using the rapid improvement methodology resulted in revisions made until these were accepted for use by the staff. A lot of work was being done on the individual objectives; when we realized the value of presenting the objectives as the ventilator collective “bundle”, we really began to see compliance and outcomes improve. This coincided with the initiation of our Intensivist Program and daily multidisciplinary rounds in July of 2004. Both are instrumental in our success. The team meets each morning to review specific components of ICU cares identified as priority issues to improve outcomes for each patient. Use of Daily Goal Sheets ensure evidence-based care for every patient every day. The commitment of each department to participate in these rounds is another example of organizational support from the top down. (See Attachment “A”)

Several Standing Order Sets (SOS) (see attachment B) were developed in collaboration with the Intensivists. These included all the components of the ventilator bundle to be addressed on each patient. We collaborated on protocols as they relate to sedation and weaning needs. A third ICU joined the TICU project a year later. The Neuro-Trauma population on this ICU presented special challenges. Taking an innovative approach we conducted an in depth analysis of VAP cases. We then created a sub team of frontline clinical champions, revisited education and collected and shared more frequent real time data. A Patient and Family Education Sheet was

added after reviewing literature stressing the importance of the family as a major stakeholder. (See attachment C). Then, after reading an article on the effect of intrahospital transport and increased incidents of VAP, Intrahospital Transport Guidelines were implemented. This unit just celebrated 4 months VAP free.

When an organization takes part in a national collaborative a great need exists for many avenues of communication. Frontline staff needs more details and real time data. They receive monthly updates at unit meetings, a bi-monthly TICU Newsletter, unit bulletin board for frequent postings of data and other points of interest. The TICU Newsletter is distributed throughout the organization to keep our stakeholders informed. Teams also present updates at quarterly meetings of key groups. Staff members may present at these meetings as they are the driving force behind the initiative. This visibility to Senior Management provides recognition and is a reward for the significant role staff play in the process.

Early on, the rewards were small. To recognize and motivate we posted thank you notes with candy attached. ICU clinical managers were very involved at this level. They included the goals as part of employee performance appraisals. This boosted compliance because staff knew participation was not an option. It rewarded those who were fully on board and inspired others to become involved at a deeper level. More evidence of senior management and medical center wide endorsement came as our accomplishments grew. Senior managers donated food gifts, wrote thank you cards and visited the units as target dates, such as six months and then one year VAP free were reached. Nutrition and Dining Services and Public Relations contributed to gift bags for key participants. Public Relations communicated department success stories with internal and external publications, provided press releases and media coverage and arranged on-site banners to hang in the units telling all who enter that this is a VAP-free zone. The

BryanLGH Lifesavers Campaign culminated with the multi-area of IHI's 100K LIVES national achievement announcement.

This has truly been a multi area accomplishment, one achieved through the contributions of many departments. For example, environmental services is instrumental in keeping the environment clean and distribution center employees play a vital role in making sure necessary service and supplies are available.

RESULTS:

We have achieved a dramatic drop in cases of VAP. Two ICU units are over one year VAP free and one unit has been VAP free 545 days. This translates into 5 lives and an estimated \$215,070 saved. We have also decreased length of stay in the ICU and mortality rates in the ICU. (See Attachments D, E)

Today, just as significant as the drop in mortality, is the cultural transformation that has occurred. We view VAP as a defect; we no longer consider it just an unavoidable complication. Our new sense of commitment to improvement has energized the entire Medical Center. So, when IHI was looking for partners in the 100K lives campaign, BryanLGH was eager to sign on to all six initiatives. We are one of the few hospitals nation-wide to commit to this level of discipline.

BryanLGH Medical Center was awarded Honorary Recognition for Critical Care Excellence, the 2005 VHA Leadership Award for Clinical Excellence in Critical Care for Improving Glucose Control, the 2006 VHA Leadership Award for Clinical Excellence in Critical Care for our work on Reducing Ventilator Associated Pneumonia.

Some unexpected yet very meaningful outcomes of our improvement efforts have been the growth and cultural transformation experienced by our staff and the renewed interest in Quality Improvement Processes throughout the Medical Center.

Critical care nurses experienced a true cultural transformation as they developed an increased sense of ownership and accountability. They realized the impact they could have on patient care and patient outcomes. They saw possibilities for improving outcomes and the patient experience while enhancing the work experience for staff and began to expand on the TICU work. The Workforce Domain incorporated AACN's Healthy Work Environment into their purpose.

Another group decided to restructure the orientation process and update the preceptor resource manual, to include all the TICU initiatives.

A truly innovative idea is extending TICU to the Progressive Care Unit in the form of TIPPS or Transforming Interventions for Progressive Care Patients. Another example of expanding and ever improving health care quality is taking what we've learned from our VAP successes and applying it to Hospital Acquired Pneumonia (HAP) prevention. These examples exemplify the inspiration to spread and sustain the gains, and they illustrate the strong future this new culture represents.

As an organization BryanLGH was among the initial participants to include all six components of the National 100K LIVES Campaign sponsored by IHI. BryanLGH performs well in all six areas, saving an estimated 74 lives during the 18 months of the campaign. We were among the first 15 hospitals nation-wide to have at least one ICU go one year without any VAP cases. In February of 2006, IHI asked us to serve as a Mentor Hospital to provide support, advice, clinical expertise and implementation tips to other hospitals attempting to establish a VAP Prevention Program. Because of the great successes experienced in the transformation of the ICU,

BryanLGH expanded this transformation undertaking to the OR in the national initiative TOR.

Due to our high performance in the TICU program we have been invited to join the next level of VHA performance improvement - the Critical Care Innovators Network or CCIN, which begins in September 2006.

LESSONS LEARNED:

- This cannot be one person's responsibility: If the initiative is viewed as someone's pet project it will not receive the support needed for success. Begin work with the people who want to work with you. Also remember that what appears to be everyone's job will get done by no one. Action plans need to have roles assigned and time lines defined. Performance Measures should be specific and measurable.
- Having your staff fully engaged is crucial: Staff involvement is necessary. We included informal staff leaders in our core groups. They have great insight into how things actually work in the ICU. Their perspective has been very helpful in the development of forms and having them on board has advanced cooperation amongst the staff. They have helped develop and present staff in-services, and give information updates to the various committees. They assist with data collection and creation of tools and processes. When the recognition for their contributions comes from Senior Management it is an additional benefit. It motivates and re-energizes the staff.
- Anticipate who will be impacted: Include those individuals from the beginning. This reduces complications, delays and resistance. For example, the respiratory therapist and the pulmonologist on our team collected input and opinions from their peer groups prior to the development of our Daily Weaning Assessment Worksheet; consequently it gained approval in one quarterly meeting of the Pulmonology Division.

- Persistence pays off: If you struggle with buy in from the staff or meet some resistance, keep moving forward. The staff will join and become fully engaged when it becomes clear that these initiatives are here to stay and that they are making a difference.
- Build on other people's work: Collect as many examples from other institutions as you can. Mix and match until you get something that will work well for your specific needs.
- Survey what you already have: For example, when we were ready to undertake the PUD and DVT prophylaxis objectives we discovered most relevant order sets already included these items.
- Communication: Devise many ways to communicate your message. We've contacted numerous departments and committees to build awareness. Consequently cooperation with TICU has intensified. Within our unit, we use staff meetings, bulletin boards and the Best Practice Committee along with all the other conventional means of communication. Staff is much more likely to commit to a project when they are informed and knowledgeable.
- Use data: One thing we did that really seemed to have a positive impact was to post number of days VAP free on each unit. As the numbers climbed staff members did not want to be the one whose patient developed a VAP.
- Celebrate: From catching some one doing first-rate work on their shift, giving praise or sending a thank you note, to treating the unit to donuts or pizza for reaching a certain goal. Celebrations are important to maintaining morale and momentum, and they are fun.
- Build reminders within your tools: This establishes consistency and sustainability. The more reminders you place within the tools and processes the more likely that intervention

will be completed. For example, we included prompts for the Ventilator Bundle in our Daily Goal Sheets and on multiple SOS and within protocols and guidelines.

- Minimize additional work: We tried to curtail extra work as often as we could. Our Daily Goal Sheet is designed to be ongoing. Often educational offerings are included during prescheduled staff meetings.
- Multidisciplinary team approach is vital: Daily multidisciplinary rounds have been crucial “It should be stressed that this is a team approach and the improved outcomes are a result of the dedication and effort of all involved,” says Tim Lieske, MD, associate medical director of BryanLGH ICUs. Collaboration between respiratory therapy and nursing has been essential. We partner every day on issues of sedation, mobilization, weaning readiness, intrahospital transportation and oral care and subglottic suctioning.

Sustainability has been built into our VAP prevention program and has been included in the curriculum of our nursing school and the critical care orientation process. The culture has changed since the inauguration of our VAP Prevention Program. It is apparent in the way the bedside clinicians now drive the measures. This cultural transformation assures continued improvement in patient outcomes at BryanLGH Medical Center

Through our volunteer work with IHI, as a designated Mentor Hospital for VAP, we have already supported several hospitals with advice, clinical expertise and implementation tips. This confirms the portability of our interventions. We have thus far enjoyed the opportunity to connect with other hospitals and promote shared learning. We feel we have much to offer and are eager to contribute in any way possible to help save lives and reduce unnecessary complications.

Patient Goal Sheet

Rm _____ Patient _____ MD Coordinating Care _____ PCC Coordinating Care _____

Adm. Date: _____ Code Status _____ Plan: include progress toward goal &/or reason not achieved

Relevant System/Discipline <small>(Information in parentheses is the standard patient goal - check in daily column whether specific need identified)</small>	Date:	Date:	Date:	Date:	KEY: "Yes" = issues identified needing to be addressed (list issues) "No" = no issues identified
Goal for the day ↑					
Issues for Followup:					
Neurologic (alert/oriented w/o deficit)	<input type="checkbox"/> Yes <input type="checkbox"/> No Restraints: <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No Restraints: <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No Restraints: <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No Restraints: <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No Restraints: <input type="checkbox"/> Yes <input type="checkbox"/> No
Cardiovascular <small>(sinus rhythm, MAP > 60, E.F. > 40, no edema) Check for need for anticoag. (A-fib, valve)</small>	<input type="checkbox"/> Yes <input type="checkbox"/> No Restraints: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> need for anticoagulation	<input type="checkbox"/> Yes <input type="checkbox"/> No Restraints: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> need for anticoagulation	<input type="checkbox"/> Yes <input type="checkbox"/> No Restraints: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> need for anticoagulation	<input type="checkbox"/> Yes <input type="checkbox"/> No Restraints: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> need for anticoagulation	<input type="checkbox"/> Yes <input type="checkbox"/> No Restraints: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> need for anticoagulation
Pulmonary <small>(SpO2 > 90%, O2 needs stable, lungs clear, CXR & ABG results WNL, minimal/clear secretions)</small>	<input type="checkbox"/> Yes <input type="checkbox"/> No Restraints: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> need for anticoagulation	<input type="checkbox"/> Yes <input type="checkbox"/> No Restraints: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> need for anticoagulation	<input type="checkbox"/> Yes <input type="checkbox"/> No Restraints: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> need for anticoagulation	<input type="checkbox"/> Yes <input type="checkbox"/> No Restraints: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> need for anticoagulation	<input type="checkbox"/> Yes <input type="checkbox"/> No Restraints: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> need for anticoagulation
Renal <small>Hx renal insuff., UPO > 0.5 ml/kg</small>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
GI/Nutrition: (no nausea, bowel sounds active, bowel movements)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> PUD prophylaxis <input type="checkbox"/> Tolerating present nutrition	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> PUD prophylaxis <input type="checkbox"/> Tolerating present nutrition	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> PUD prophylaxis <input type="checkbox"/> Tolerating present nutrition	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> PUD prophylaxis <input type="checkbox"/> Tolerating present nutrition	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> PUD prophylaxis <input type="checkbox"/> Tolerating present nutrition

This is a non-EMR form, please return to ICU

Attachment A

	Date:	Date:	Date:	Date:
Activity--Skin-Mobility (adequate activity progression, no skin breakdowns)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Infection (afebrile, no s/s infection)	<input type="checkbox"/> DVT prophylaxis <input type="checkbox"/> PT consult <input type="checkbox"/> High risk skin breakdown <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> DVT prophylaxis <input type="checkbox"/> PT consult <input type="checkbox"/> High risk skin breakdown <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> DVT prophylaxis <input type="checkbox"/> PT consult <input type="checkbox"/> High risk skin breakdown <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> DVT prophylaxis <input type="checkbox"/> PT consult <input type="checkbox"/> High risk skin breakdown <input type="checkbox"/> Yes <input type="checkbox"/> No
Endocrine	Central Line Day # _____ <input type="checkbox"/> Yes <input type="checkbox"/> No Glucose 80-110 mg/dL	Central Line Day # _____ <input type="checkbox"/> Yes <input type="checkbox"/> No Glucose 80-110 mg/dL	Central Line Day # _____ <input type="checkbox"/> Yes <input type="checkbox"/> No Glucose 80-110 mg/dL	Central Line Day # _____ <input type="checkbox"/> Yes <input type="checkbox"/> No Glucose 80-110 mg/dL
Pain: (Pain < 3 on present regimen)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Family – Psychosocial - Spiritual (no ethical concerns, e.g. end of life issues) Spokesperson	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
D/C Planning needs (home without services)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Medication Review (no concerns re. IV to PO, home med, renal adjustments, sedation requirements)	<input type="checkbox"/> Yes <input type="checkbox"/> No Antibiotic/Day# _____ Antibiotic/Day# _____	<input type="checkbox"/> Yes <input type="checkbox"/> No Antibiotic/Day# _____ Antibiotic/Day# _____	<input type="checkbox"/> Yes <input type="checkbox"/> No Antibiotic/Day# _____ Antibiotic/Day# _____	<input type="checkbox"/> Yes <input type="checkbox"/> No Antibiotic/Day# _____ Antibiotic/Day# _____

History Summary (present illness and/or other significant hx): _____

Significant Daily Events:

Date: _____ Event: _____

Date: _____ Event: _____

Date: _____ Event: _____

Date: _____ Event: _____

Generic or therapeutic substitutions may be made unless otherwise requested.

MEDICAL NECESSITY IS REQUIRED FOR ALL OUTPATIENT TESTS.

AVOID: .5 (add leading zero), 1.0 (delete trailing zero), qd, QD, qod, QOD, u, IU, MS, MSO4, MgSO4, ug, OD, OS, OU, AD, AS, AU
"PRN" medication orders must include indications

CRITICAL CARE ADMISSION ORDER (#5465) - Page 1

4/8/05 (new)
Effective 4/26/05

Drs. W. Johnson, Barry, Bleicher, Chakraborty, Lieske, Mansur,
E. Miller, Rudersdorf, Trapp

ADMIT ORDER:

1. Admit to ICU

NURSING:

1. Attending Physician: _____
2. Diagnosis: _____
3. Consult Intensivist
4. Keep HOB elevated at least 30 degrees - unless otherwise indicated
5. Insert Foley catheter
6. NG to low intermittent suction / Salem tube to low continuous suction
7. Oral-Gastric tube to low intermittent suction / Salem tube to low continuous suction
8. SCD
9. Nutrition Consult for recommendations within 24 hr of admission
10. Activity: _____
 Physical Therapy consult

DIAGNOSTIC STUDIES:

Lab:

1. Complete Blood Count (CBC)
2. Comprehensive Metabolic Panel
3. Prothrombin Time/INR
4. PTT (Partial Thromboplastin Time)
5. ABGs
6. Magnesium
7. Phosphorus
8. Chest Pain Panel with CPK. Repeat q 8 H x 3
9. Urinalysis, Routine
10. Do urine culture if micro shows WBC greater than 10/hpof
11. Sputum Culture with Gram Stain
12. Blood cultures x 2 from two separate sites
13. Additional labs in AM: _____

continued on page 2

BryanLGH Medical Center
Lincoln, NE

PHYSICIAN STANDARD ORDERS



* D T M 0 0 3 3 *

Place Patient Label Here

Attachment B

Generic or therapeutic substitutions may be made unless otherwise requested.

MEDICAL NECESSITY IS REQUIRED FOR ALL OUTPATIENT TESTS.

AVOID: .5 (add leading zero), 1.0 (delete trailing zero), qd, QD, qod, QOD, u, IU, MS, MSO4, MgSO4, ug, OD, OS, OU, AD, AS, AU
"PRN" medication orders must include indications

CRITICAL CARE ADMISSION ORDERS (#5465) - Page 2

4/8/05 (new)

Drs. W. Johnson, Barry, Bleicher, Chakraborty, Lieske, Mansur,
E. Miller, Rudersdorf, Trapp

- Rad: 1. Chest x-ray (portable). Indication: _____
2. Chest x-ray (portable) in AM. Indication: _____
3. Abdominal x-ray (NG placement). Indication: _____

Card: 1. 12-lead EKG. Indication: _____

MEDICATIONS:

1. May adjust meds to appropriate form for ease of administration.
2. Intubation / Mechanical Ventilation Sedation (circle choice and complete)
 - a. ANALGESIA/SEDATION ORDERS FOR MECHANICALLY VENTILATED PATIENTS (#5499)
 - b. Midazolam (Versed) _____ mg IV, q _____ hour(s), PRN agitation
 - c. Lorazepam (Ativan) _____ mg IV, q _____ hour(s), PRN agitation
3. Stress Gastric Prophylaxis: _____
4. DVT Prophylaxis: _____
5. Initiate INTENSIVIST SUBCUTANEOUS INSULIN SLIDING SCALE orders (#5498)
 - a. Type of Regimen: Mild Moderate Aggressive
 - b. Type of Insulin: Regular Humalog/Novalog
 - c. Accuchecks: AC and HS q 6 H q 4 H Other _____
6. Additional Medications and Orders: _____

ANCILLARY:

- RT: 1. Mechanical Ventilation parameters: _____
2. Daily assessment (readiness to wean), coordinate with sedation wakeup
3. O2 Protocol
4. Notify physician if FIO2 greater than 60% (mechanical ventilation) or greater than 6 L/min (no mechanical ventilation)
5. Lung Volume Expansion Protocol
6. Aerosolized Medication Protocol

Physician Signature _____
COMMITTEE REVIEW DATE: 3/05

ID Number _____

Date _____

Time _____

BryanLGH Medical Center
Lincoln, NE

PHYSICIAN STANDARD ORDERS



Place Patient Label Here

VAP

Ventilator-Associated Pneumonia

Ventilator-Associated Pneumonia (VAP) is a lung infection that can happen to patients who are on ventilators (machines to help with breathing). This infection is very serious. About 15 percent (1 or 2 out of 10) of patients on ventilators get VAP.

Some hospital patients need help breathing, either because they have just had a major operation or because they are very ill. These patients are often placed on a ventilator, a machine that supplies regular breaths through a tube inserted in the patient's mouth, nose or through a hole in the front of the neck. Most patients recover and the ventilator can be removed.

Together, patients, families and hospital staff can help to prevent this type of pneumonia. The following steps are proven ways to help prevent VAP.

Hospital staff can help prevent VAP by:

- Raising the head of the patient's bed between 30 and 40 degrees
- Giving the patient medication to prevent ulcers
- Preventing blood clots when patients are lying very still
- Checking if the patient can breathe on their own when waking up from surgery and on a daily basis as they heal
- Frequent and thorough hand washing
- Repositioning the patient every 2 hours
- Oral cares and suctioning of excess secretions every 2 hours

Family members can help prevent VAP by:

- Washing your hands with soap and water or hand sanitizer before and after touching your loved one.
- Instructing family and friends not to come to the hospital themselves, or bring children, with a fever, runny nose, sore throat, respiratory infection, skin sores or other contagious illness.
- Instructing family and friends not to come to the hospital themselves, or bring children, that have been exposed to chicken pox, measles, mumps or whooping cough within the past three weeks.
- Watching children that do visit closely. Do not allow children to touch or play near medical equipment.
- Partnering with the hospital staff. For example, there may be a time when your loved one is uncomfortable, before moving the patient or bed; ask the nurse. There may be another way to help the patient be more comfortable that does not increase their risk of developing VAP.

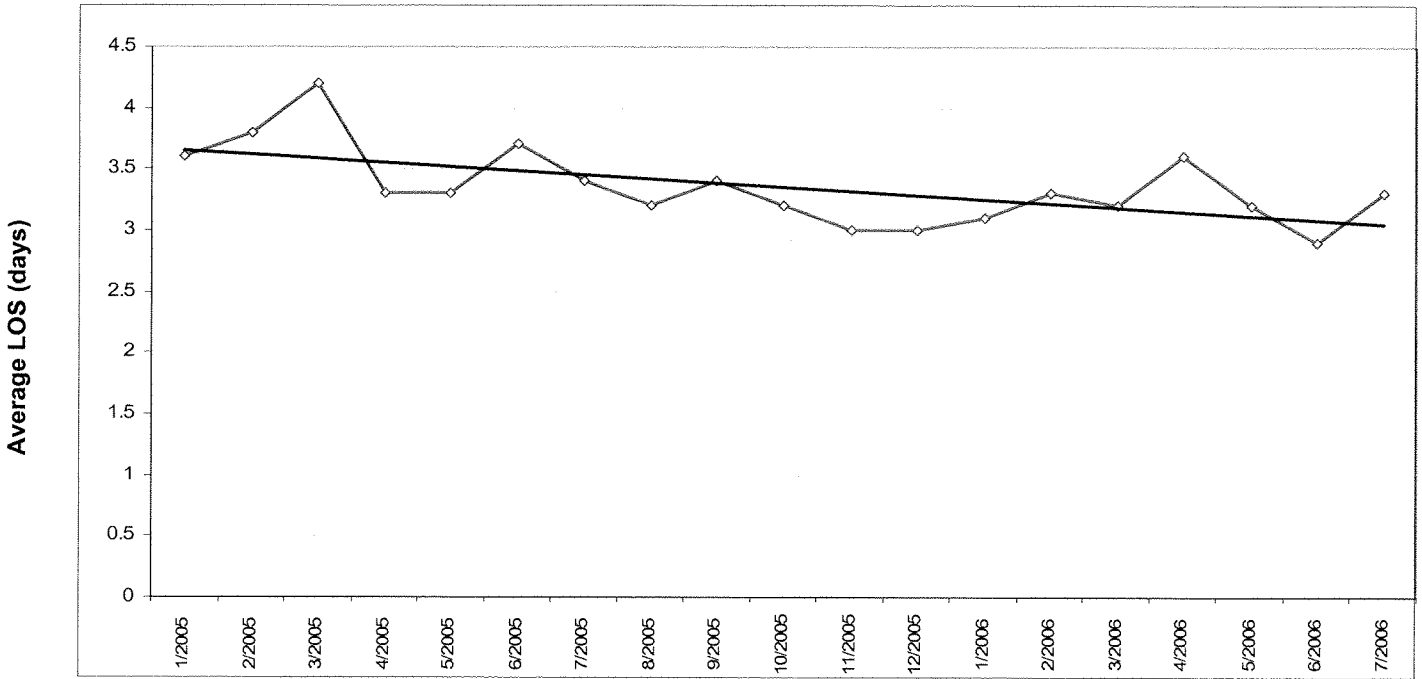
This information is provided by BryanLGH Medical Center ICU staff and the Institute for Healthcare Improvement. Learn more about ventilator-associated pneumonia on www.ihl.org

P A T I E N T E D U C A T I O N

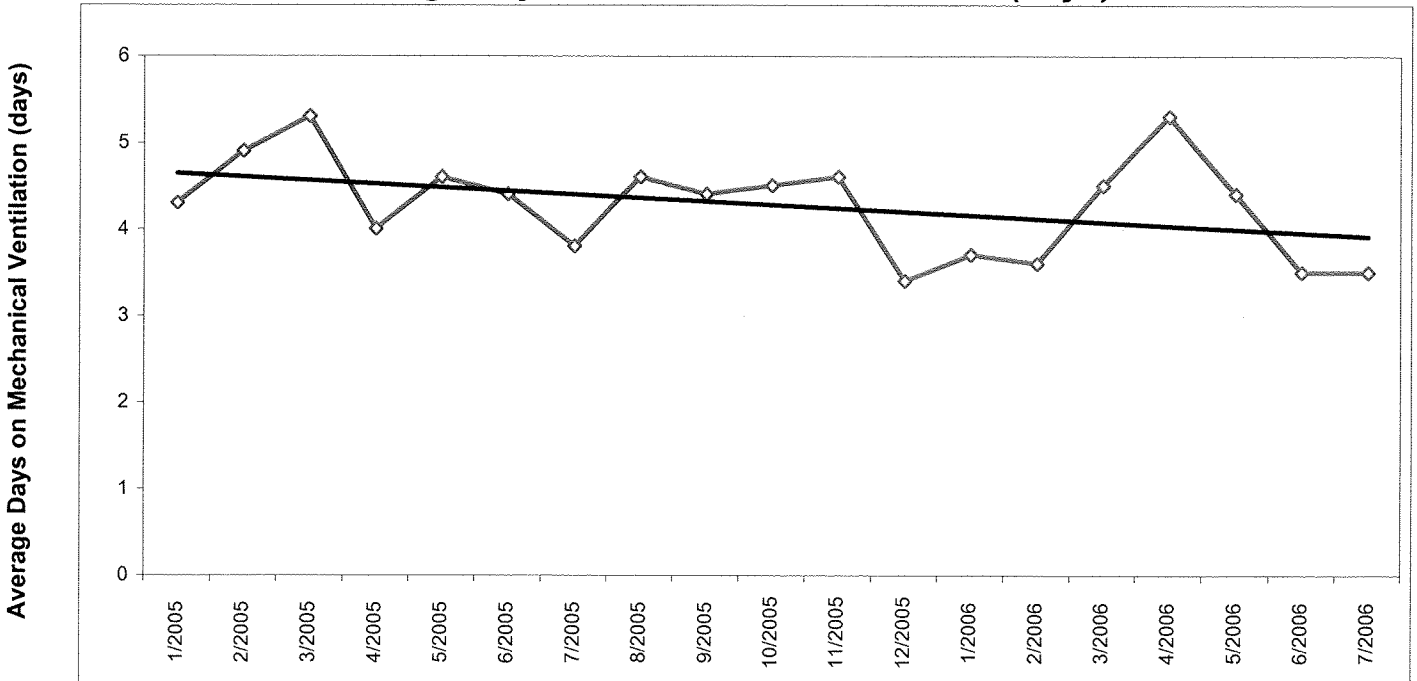


**BryanLGH Medical Center
Transformation of the Intensive Care Unit
All ICU's Combined
1/2005 TO 7/2006**

Average LOS (days)



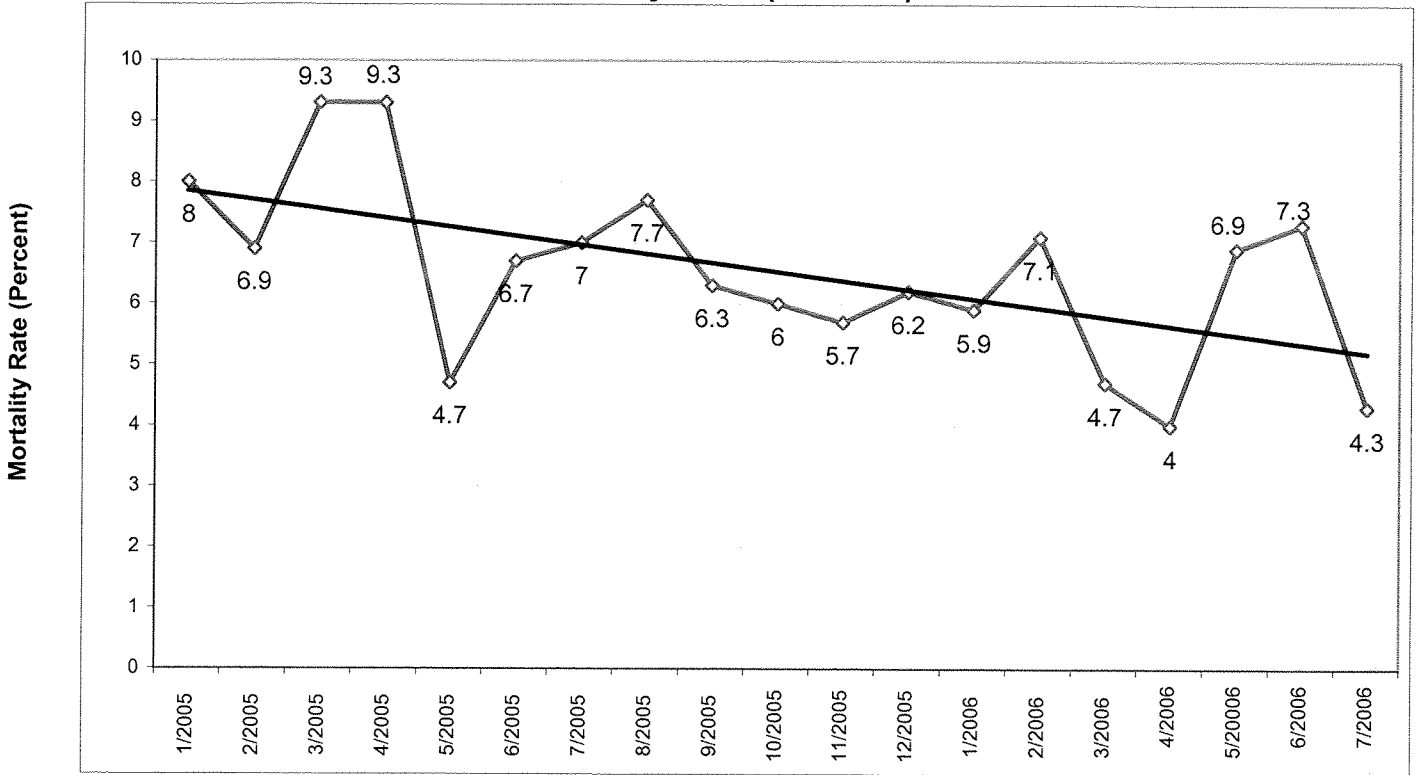
Average Days on Mechanical Ventilation (days)



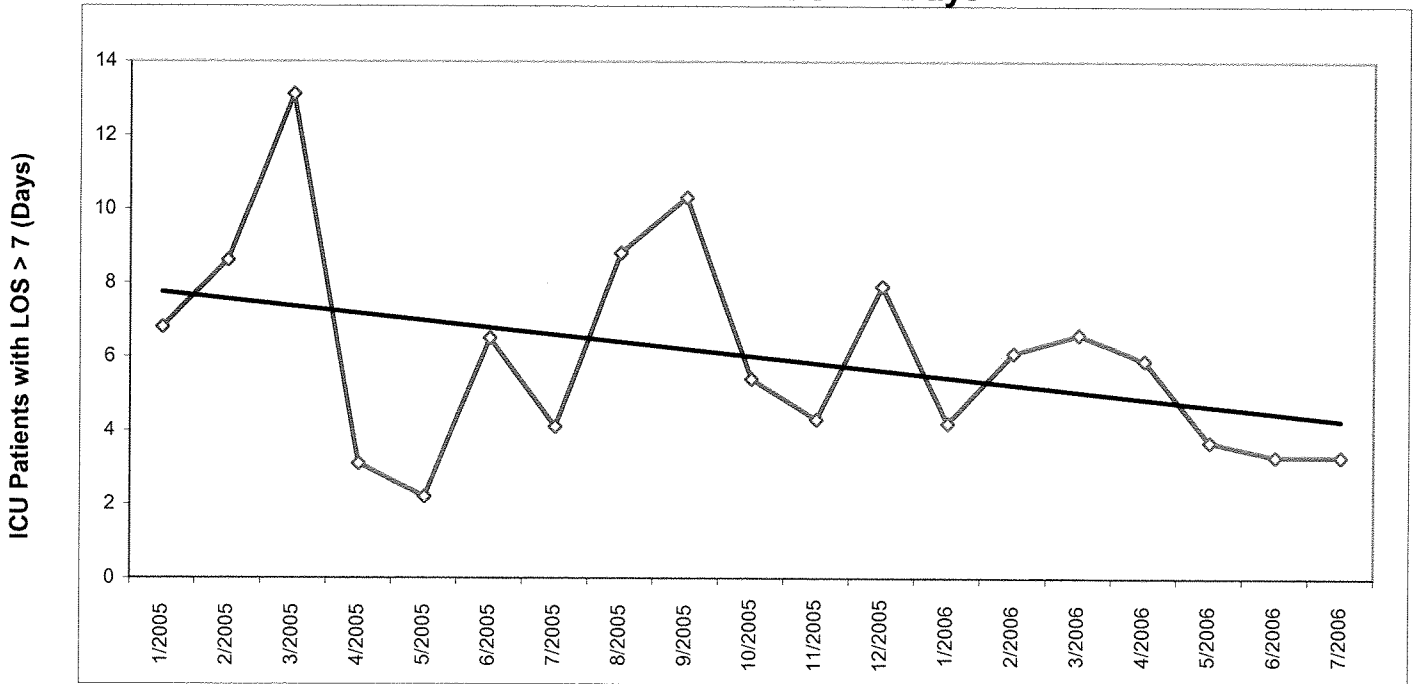
Confidential
The content of this document is related to improving patient care.

**BryanLGH Medical Center
Transformation of the Intensive Care Unit
ALL ICU's Combined
1/2005 - 7/2006**

Mortality Rate (Percent)



ICU Patients with LOS > 7 Days



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The content of this document is
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Attachment E