Society for Healthcare Epidemiology of America (SHEA) Comments on the Joint Commission's Proposed 2012 National Patient Safety Goals

Implement evidence-based practices to prevent ventilator-associated pneumonia (VAP)

Elements of Performance for NPSG.07.06.01

1. **During 2012, plan for the full implementation of this NPSG by January 1, 2013. Note: Planning may include a number of different activities, such as assigning responsibility for implementation activities, creating timelines, identifying resources, and pilot testing.**
2. **Perform hand hygiene before and after providing care to ventilated patients. (See also NPSG.07.01.01)**
3. **Position and maintain ventilated patients (except those with medical contraindications) in semirecumbent positions.**
4. **Provide regular antiseptic oral care to patients in accordance with product guidelines.**
5. **Perform daily assessment of ventilated patients to determine their readiness to wean off the ventilator or to be extubated. Note: This requirement is not applicable for patients that do not have a medical plan for weaning off the ventilator.**
6. **Perform daily sedation interruption in accordance with the patient's medical plan of care. Note: This requirement is not applicable for patients that do not have a medical plan for weaning off the ventilator.**
7. **Measure and monitor ventilator-associated pneumonia prevention processes and outcomes by doing the following:**
   - Selecting measures using evidence-based guidelines or best practices
   - Monitoring compliance with evidence-based guidelines or best practices
   - Evaluating the effectiveness of prevention efforts

General Comments

1. SHEA fully supports the intent of this proposed VAP NPSG. VAP is a common and morbid condition and VAP prevention is a worthwhile goal for all hospitals.
2. We support the Joint Commission's (TJC) reference to the SHEA/IDSA Compendium document Strategies to Prevent Ventilator-Associated Pneumonia in Acute Care Hospitals as an evidence-based summary of VAP prevention.
3. SHEA is concerned that the lack of a practicable and meaningful surveillance definition of VAP will make Element of Performance 7 an undue burden on hospitals and possibly harmful to patients. We strongly recommend delaying release of this NPSG until the CDC releases its revised VAP definition or, at a minimum, eliminating the recommendation to measure and monitor VAP outcomes from this NPSG. *See below for rationale.*

4. We strongly support the inclusion of daily assessment of readiness to wean and daily sedative interruptions as prevention practices with a strong evidence base. They have both clearly been linked to earlier extubation, shorter lengths of stay, and possibly decreased mortality. TJC should consider giving these recommendations priority status to indicate that hospitals should devote most of their effort to maximal implementation of these processes. Likewise, TJC should consider removing the exclusionary language from both of these elements ("this requirement is not applicable in patients that do not have a medical plan for weaning off the ventilator") since this exception invites non-compliance. By default, all ventilated patients should have a plan for weaning in place. Exceptions should be limited to explicitly defined circumstances rather than allowing blanket exclusions for ill-defined reasons. *See below for further discussion of this critical issue.*
5. Although there is substantially less evidence to support the impact of Elements of Performance 2 (hand hygiene) and 3 (semirecumbent positioning) on VAP prevention, SHEA supports including these under this NPSG, perhaps with clarification that these are mainly based on expert consensus rather than scientific evidence.
6. We suggest modifying Elements of Performance 4 to "Provide regular oral care to patients in accordance with product guidelines", leaving use of an antiseptic agent as optional. *See below for rationale.*
7. Regarding Elements of Performance 3, 4, 5, 6 and 7, we recommend that TJC consider release of an implementation guide that provides hospitals with specific guidance on how to operationalize and measure adherence to these prevention practices. As currently written, there is considerable room for interpretation, leading to the potential for hospitals to assume that they are adhering to prevention recommendations without necessarily meaningfully improving patient care. Some examples of specific guidance that could be included in an implementation guide are:
    - Defining adherence to semirecumbent positioning as positioning of the patient at ≥ 30 degrees, use of a continuous measurement device, documentation of the angle of recline at least once per shift, and implementing a process for random audits.
    - Defining adherence to oral care as vigorous scrub with a sponge or toothbrush at least four times per day, with optional use of an antiseptic product
    - Indicating specific allowable contraindications to daily assessment of readiness to extubate and daily sedation interruption and warning against acceptance of blanket exemptions such as "patient not ready".
8. We request that TJC clarify whether these guidelines apply to acute care patients only or also to chronically ventilated patients. If the latter, are there special provisions for this population?

Comments regarding specific elements of performance

1. **Elements of performance #3: Semirecumbent positioning**
    - Semirecumbent positioning makes sense in principal but this performance element would be more helpful to hospitals if accompanied by an implementation guide. The major challenge in semirecumbent positioning is maintaining head of bed elevation throughout the day and night. This is largely due to practical challenges: patients slide down the bed if overly elevated and beds often need to be lowered for procedures such as line placement, bathing, wound care, patient turns, etc. Clinicians tend to forget to re-elevate the head of the bed following these procedures. Clear guidance on implementation, maintenance, and assessment will increase the probability of sustained adherence.
    - For example, semirecumbent positioning should be clearly defined (30 degrees? 45 degrees?), there should be instructions on how to measure the bed angle (automated angle measuring devices or simple visual indicators such as that proposed by Williams et al., Crit Care Med 2008;36:1155-7), who should measure the angle (someone other than the RN providing direct care), guidance on frequency of measurement (at least once per shift and random audits scattered throughout the day), and definitions of what constitute valid contraindications (increased intracranial pressure, hypotension, sacral decubitus, etc.?).
2. **Elements of performance #4: Oral care**
    - There are at least 11 trials of chlorhexidine oral care, including several published after release of the Compendium. Two-thirds failed to show an impact on VAP rates. Many of these trials were published after Chan et al.'s landmark meta-analysis of antiseptic care for VAP prevention (BMJ 2007;334;889) so the oft-cited 44% reduction in VAP rates from that study is probably an overestimate. None of the trials of chlorhexidine have shown an impact on patients' outcomes (ventilator days, ICU days, hospital days, mortality). Other antiseptics have been studied (e.g. providone-iodine, iseganan) but very little data is available.
    - Given the lack of evidence for chlorhexidine, we suggest modifying this recommendation to simply advocating regular oral care alone and leaving the choice of antiseptic agent (if any) to the hospitals' discretion.
3. **Elements of performance #5 and #6: Assessment of readiness to wean and daily sedative interruption**
    - The exclusion option for daily assessment of readiness to extubate and daily sedative interruption is a big loophole that invites suboptimal adherence with these otherwise excellent recommendations. The NPSG states that these recommendations do not apply to patients without a medical plan for weaning but it is left

to clinicians' discretion to decide which patients do and do not merit weaning. One can always argue that a ventilated patient is "very sick" and use this as a basis for claiming that the patient is not ready for weaning. As with semirecumbent positioning and oral care, the contraindications to weaning have to be rigorously defined. Anecdotally, at a member's hospital, it was found that intensivists were reporting >90% adherence to daily assessment of readiness to extubate and daily sedative interruptions. On investigation, however, it was found that these interventions were being performed on fewer than 50% of patient-days. The intensivists were exercising very wide latitude to mark these measures as contraindicated for reasons such as perceived risk of sedative withdrawal, underlying heart disease, "unstable patient" not otherwise specified, ongoing use of pressors etc. Nonetheless, many of these patients would probably have tolerated weaning perfectly well.

4. **Elements of performance #7: Process and outcome measures**
    - The NPSG directs hospitals to "measure and monitor prevention processes and outcomes." Monitoring processes is reasonable but there is currently no efficient or reliable means to track VAP rates. The current NHSN VAP definition is complicated and onerous to implement, highly prone to both false positives and false negatives, and inconsistently predicts patient outcomes. The subjectivity and lack of specificity of the VAP surveillance definition make it easy to lower VAP rates by interpreting surveillance criteria more strictly. Hospitals almost inevitably see decreases in observed VAP rates whenever there is a push to increase the rigor of surveillance (a likely consequence of this NPSG). Unfortunately, these decreases are as likely to be artifactual consequences of strict interpretation of the definition as true improvements in patient care. Compelling surveillance now using the current definition will make hospitals invest heavily in a measure of little value. Ironically, this might do more harm than good because hospitals are likely to see decreases in VAP rates after instituting surveillance as a consequence of the measurement biases described above. These artifactual decreases may lull hospitals into a false sense of complacency.
    - The NPSG does note that CDC is in the process of modifying their surveillance definition for VAP, presumably in order to make it more objective. SHEA advocates for deferring this NPSG or at minimum eliminating the recommendation to measure and monitor VAP outcomes until CDC releases a more objective definition.

Implement evidence-based practices to prevent indwelling catheter-associated urinary tract infections (CAUTI)

Elements of Performance for NPSG.07.07.01

1. **During 2012, plan for the full implementation of this NPSG by January 1, 2013. Note: Planning may include a number of different activities, such as assigning responsibility for implementation activities, creating timelines, identifying resources, and pilot testing.**
2. **Insert indwelling urinary catheters to prevent infection according to established evidence-based guidelines that address the following:**
   - Limiting use and duration to situations necessary for patient care
   - Using aseptic techniques for site preparation, equipment, and supplies
3. **Manage indwelling urinary catheters to prevent infection according to established evidence-based guidelines that address the following:**
   - Securing catheters for unobstructed urine flow and drainage
   - Maintaining the sterility of the urine collection system
   - Replacing the urine collection system when required
   - Collecting urine samples
4. **Measure and monitor catheter-associated urinary tract infection prevention processes and outcomes by doing the following:**
   - Selecting measures using evidence-based guidelines or best practices
   - Monitoring compliance with evidence-based guidelines or best practices
   - Evaluating the effectiveness of prevention efforts

General Comment:

Overall, the proposed 2012 National Patient Safety Goal NPSG.07.07.01 is aligned well with evidence-based recommendations in the HICPAC Guideline for Prevention of Catheter-Associated Urinary Tract Infection 2009 and SHEA/IDSA Compendium document Strategies to Prevent Catheter-Associated Urinary Tract Infections in Acute Care Hospitals, including priority recommendations for the appropriate insertion, maintenance, and monitoring of these devices.

Comments regarding specific elements of performance:

1. **Elements of performance #2**
   - The statement "Limiting use and duration to situations necessary for patient care" does not sufficiently emphasize that hospitals should develop criteria for appropriate catheter use and for prompt removal. SHEA suggests "Limiting the use of urinary catheters only for appropriate indications and removing urinary catheters that are no longer necessary."

2. **Elements of performance #3**
    - Devices that secure urinary catheters reduce the risk of catheter movement and urethral traction and thereby decrease the risk of urethral injury and potentially the risk of CAUTI. Securement devices do not primarily reduce the risk of catheter obstruction. SHEA suggests the following: "Securing catheters and ensuring unobstructed urine flow."
    - Recommendation to replace the urine collection system when required is vague. SHEA suggests the following: "Replacing the urine collection system for appropriate clinical indications or for breaks in aseptic technique."
    - Suggest "Aseptic collection of urine samples."

3. **Elements of performance #4**
    - SHEA suggests "Monitoring compliance with process and outcome measures selected from evidence-based guidelines or best practices."