Potential 2008 National Patient Safety Goals and Requirements
Hospital Version

Goal 1
Improve the accuracy of patient identification.

Note: *Requirement 1A is an existing requirement. For 2008 there is a proposal to include an additional Implementation Expectation (see #5 below)*

Requirement 1A
Use at least two patient identifiers when providing care, treatment or services**.**

Rationale for Requirement 1A
Wrong-patient errors occur in virtually all aspects of diagnosis and treatment. The intent for this goal is two-fold; first, to reliably identify the individual as the person for whom the service or treatment is intended; second to match the service or treatment to that individual.

Implementation Expectations for Requirement 1A:
1. Two patient identifiers are used when doing the following:
    *   Administering medications or blood products
    *   Collecting blood samples and other specimens for clinical testing
    *   Providing other treatments or procedures

2. The patient's room number or physical location is not used as an identifier.

3. Containers used for blood and other specimens are labeled in the presence of the patient.

4. **Not applicable**

5. The organization investigates and initiates planning for the use of technology to assist with patient identification. This planning addresses:

    *   The type of technology to be considered.
    *   An estimated timeline for evaluation and implementation.
    *   The scope of implementation
    *   The resource requirements for implementation.
    *   A proactive assessment of associated risks

Anticoagulation Therapy

GOAL 3
Improve the safety of using medications.

Note: *This is an existing goal, adding new requirement*

Requirement 3E
Reduce the likelihood of patient harm associated with the use of anticoagulation therapy involving heparin (unfractionated), low molecular weight heparin (LMWH), warfarin, fondaparinux, and direct thrombin inhibitors.

Rationale for Requirement 3E:
Medication management is one of the more complex processes used in caring for patients. Using anticoagulants is a high risk treatment and commonly lead to adverse drug events due to the complexity of dosing and monitoring of these mediations and patient compliance with outpatient therapy. The use of standardized practices that include patient involvement with outpatient care can reduce the risk of adverse drug events.

Implementation Expectations for 3E:
1. The organization develops and implements safety practices that minimize risks in the medication *selection and procurement* process.
   - To reduce compounding and labeling errors, ONLY oral and parenteral unit dose products and pre-mixed infusions are used within the organization.
2. The organization develops and implements safety practices that minimize risks inherent in the medication *storage* process.
   - A formulary committee performs an assessment of anticoagulant safety practices at least biannually.
   - The number of different concentrations of heparin is reviewed by the formulary committee and limited within the organization.
   - Warfarin is dispensed by pharmacy for each patient according to established monitoring parameters within the organization.

3. The organization develops and implements safety practices that minimize risks inherent in the medication *ordering and dispensing* process.
   - The organization has approved heparin, warfarin, and other anticoagulant (fondaparinux and direct thrombin inhibitors) protocols for the initiation and maintenance of anticoagulation therapy according to the disease state being treated.
   - Medication errors with anticoagulants are reviewed on an ongoing basis and improvement strategies are identified and implemented.
   - The dietary department is notified of all patients receiving warfarin and should establish a food/drug interaction program/policy that addresses the food-drug interactions related to warfarin therapy

4. The organization develops and implements safety practices that minimize risk inherent in the medication *administering and monitoring* process.
    -   The organization utilizes programmable pumps to administer heparin
    -   Baseline laboratory tests including PTT, hemoglobin, hematocrit, serum creatinine, and platelet count are obtained prior to initiation of heparin therapy and on ongoing basis.
    -   A baseline INR is available for all patients receiving warfarin therapy and is used to monitor and adjust therapy.
    -   The organization considers implementing a defined anticoagulation management service for both outpatients and inpatients.

5. The organization provides education regarding anticoagulation therapy to both staff and patients/caregivers.
    -   Education about safe use of anticoagulants is provided to prescribers nurses and pharmacists at least annually
    -   Patient/caregiver education includes the reasons and benefits of therapy, potential side effects, importance of follow-up monitoring, compliance issues, dietary restrictions, and potential for drug interactions and safety precautions.

Selected References:
Bates, D., Cohen, M., Leape, L., et. al. (2001) Reducing the frequency of errors in medicine using information technology. Journal of American Medical Informatics Association. retrieved @ http://www.jamia.org on 11/28/2006.

Classen, D. (2003) Medication safety moving from illusion to reality. The Journal of American Medical Association. 1154-1156. retrieved @ http://jama.ama-assn.org on 11/28/2006.

Oren, E., Shaffer, E., Guglielmo, B., (2003) Impact of emerging technologies on medication errors and adverse drug events. American Journal of Health-System Pharmacy. 1447-1458. retrieved @ http://www.ajhp.org.

Recognition and Response to Changes in Patient's Conditions

Goal 16
Improve recognition and response to changes in a patient's condition.

Requirement 16A
The organization selects a suitable method that enables health care staff members to directly request additional assistance from a specially trained individual(s) when the patient's condition appears to be worsening.

Rationale for Requirement 16A
A significant number of critical inpatient events are preceded by warning signs for an average of 6 to 8 hours. Critical events such as cardiopulmonary and respiratory arrests or changes in patient's vital signs are estimated to occur in 4% to 17% of inpatient admissions. Early response by a specially trained individual(s) to changes in a patient's condition may reduce cardiopulmonary arrests and patient mortality.

Implementation Expectations for Requirement 16A
1. The organization selects an early recognition and response method most suitable for its needs and resources.

2. The organization develops criteria for calling additional assistance to respond to a change in patient's condition or perception of change by the staff, patients and/or families.

3. The organization empowers staff, patients, and/or families to request additional assistance when they have a concern about the patient's condition.

4. Formal education for urgent response policies and practices is conducted with the people who may request assistance and the people who may respond to those requests.

5. The organization measures the utility and effectiveness of the intervention(s) employed.

6. The organization measures cardiopulmonary arrest, respiratory arrest and mortality rates before and after implementation of an early intervention plan.

Selected References:
Bellomo, R., Goldsmith, D., Uchino, S., et.al.(2003). A prospective before-and-after trial of a medical emergency team,. Medical Journal of Australia. 179 283-287. retrieved @ http://www.mja.com.au/public/issues/.

Bristow, P., Hillman, K., Chey,T., et.al. (2000). Rates of in-hospital arrests, deaths and intensive care admissions:the effect of a medical emergency team.Medical Journal of Australia. 173 236-240. retrieved @ http://www.mja.com.au/public/issues/

Buist, M., Jarmolowski, E., Burton, P., et.al. (1999) Recognizing clinical instability in hospital patients before cardiac arrest or unplanned admission to intensive care. A pilot study in a tertiary-care hospital. Medical Journal of Australia. 171 8-9.

Buist, M., Moore, G., Bernard, S., et.al. (2002) Effects of a medical emergency team on reduction of incidence of and mortality from unexpected cardiac arrests in hospital: preliminary study. British Medical Journal. 324 387-390.

DeVita, M., Braithwaite, R., Mahidhara, R., et.al. (2004) Use of medical emergency team responses to reduce hospital cardiopulmonary arrests. Quality and Safety in Healthcare 13 251-254.

Hellwig, S., Piper, L., Naylor, E.,(2002) Forty hours under pressure: a rapid response improvement team achieves synergy. Journal for Healthcare Quality 24 21-35.

Hillman, K., Bristow, P., Chey, T., et.al. (2001) Antecedents to hospital deaths. Internal Medicine Journal 31 343.

Simmonds, T. (2005) Implementing a rapid response system of care. Nursing Management. 7 41-42 and 58-59.

Obstructive Sleep Apnea

Goal 17
Reduce the risk of post-operative complications for patients with obstructive sleep apnea.

Requirement 17A
The organization screens for obstructive sleep apnea (OSA) prior to surgical procedures involving the use of centrally-acting anesthetic and/or analgesic agents.

Rationale for Requirement 17A
OSA places patients at increased risk for post-operative respiratory complications after receiving a centrally acting anesthetic and/or analgesic agent. It is estimated that 80-90% of patients with OSA are undiagnosed. By screening patients for OSA, organizations will reduce the occurrence of peri-operative respiratory complications in at-risk patients.

Implementation Expectations for Requirement 17A
1. Anesthesia evaluation includes screening patients who may be at risk for OSA.

2. The anesthesia plan of care takes account of identified risk factors.

3. The organization develops an OSA protocol based on recommendations from identified best practices.

4. The organization's OSA protocol is applied to the anesthesia care of both known OSA patients, as well as those patients identified to be at risk by the screening process.

Selected References:
American Society of Anesthesiologists Task Force on Perioperative Management of Patients with Sleep Apnea (Gross JB, Bachenberg KL, Benumof JL). Practice guidelines for the perioperative management of patients with obstructive sleep apnea. Anesthesiology 2006; 104:1081-93.

Sprung J. Perioperative respiratory strategies for morbidly obese patients. (online reference: http://www.asahq.org/Newsletters/2005/05-05/sprung.html)

Lickteig C, Grigg P. Risks of OSA and anesthesia. (online reference: http://www.sleepapnea.org/info/practitioner/osa_anesthesia.html)

Conlay LA. SAMBA and evidence-based medicine: Turning anecdotes into facts. (online reference: http://www.asahq/Newsletters/2003/04_03/subnews04_03.html)

Gold BS. Enlarging and staying focused: A SAMBA snapshot. (online reference: http://www.asahq.org/Newsletters/2002/4_02/subnews.htm)

Health Care Worker Fatigue

Goal 18
Prevent patient harm associated with health care worker fatigue.

Requirement 18A
The organization identifies conditions and practices that may contribute to health care worker fatigue, acknowledges that fatigue poses a risk to patient safety, and takes action to minimize that risk.

Rationale for Requirement 18A
Health care worker fatigue poses a serious threat to patient safety. Multiple studies have suggested a correlation between health care worker fatigue and serious medical errors. Two sources of error-inducing fatigue have emerged in the literature: Prolonged on-duty periods, and work schedules that disrupt normal circadian rhythms and sleep physiology. The risk for error by nurses who work shifts longer than 12 hours has been reported to increase by 2-3 times. Similar error risk was seen in nurses who work rotating and variable shift work. Another prospective, randomized study reported a 35.9% increase in the commission of actual medical errors by medical interns on duty for longer than 24 hours. Medical residents who work more than 80 hours per week reported committing more than 50% more errors than those who worked fewer than 80 hours per week. The effect of sleep deprivation on cognitive function and reaction time, two critical areas of human performance, is further demonstrated by fact that 24 hours awake has been shown to create similar impairment to a blood alcohol level of 0.1%.

Implementation Expectations Requirement 18A
1. The organization identifies fatigue as an unacceptable risk to patient care.

2. The organization identifies tasks affected by levels of fatigue.

3. The organization takes action to minimize the impact of fatigue on patient safety including consideration of the following:
   - Scheduling work hours and on-call periods to minimize fatigue
   - Limiting working hours
   - Identifying any tasks that may no longer be performed by individuals after extended duty hours or assessed to be at a performance degrading level of fatigue.
   - Implement annual "Fatigue Training" to provide up-to-date guidance on performance degradations that occur due to fatigues, and interventions that can reduce the potential for harm to patients.

Selected References:
Institute of Medicine. Keeping Patients Safe: Transforming the work environment of nurses. Washington, DC: National Academies Press; 2004.

Scott LD, Rogers AE, Hwang WT, Zhang Y. Effects of critical care nurses' work hours on vigilance and patients' safety. Am J Crit Care 2006 Jan; 15(1):30-37.

Rogers AE, Hwang WT, Scott LD, Aiken LH, Dinges DF. The working hours of hospital staff nurses and patient safety. Health Aff (Millwood) 2004; 23:202-212.

Gold DR et al. Rotating shift work, sleep, and accidents related to sleepiness in hospital nurses. Am J Public Health 1992; 82:1011-1014

Landrigan CP et al. Effect of reducing interns' work hours on serious medical errors in intensive care units. N Engl J Med 2004; 351:1838-1848.

DeWitt CB, Daugherty SR, Tsai R, Scotti MJ. A national survey of residents' self-reported work hours: Thinking beyond specialty. Acad Med 2003; 78:1154-1163.

Williamson AM, Feyer A. Moderate sleep deprivation produces impairments in cognitive and motor performance equivalent to legally prescribed levels of alcohol intoxication. Occup Environ Med 2000; 57:649-655.

Catheter Misconnections

Goal 19
Prevent catheter and tubing misconnections

Requirement 19A
The organization takes steps to prevent catheter and tubing misconnections through risk assessment, line reconciliation procedures, and education

Rationale for Requirement 19A
Tubing and catheter misconnections are frequent and preventable errors that have resulted in serious injury and death. The designs of many tubing and catheter devices and products can allow inadvertent misconnection, and therefore compounds the risk

Implementation Expectations Requirement 19A
1. Identify potential misconnections through risk assessment of all existing catheters and tubes and when considering the purchase of new catheters and tubing, especially those with Luer connections.

2. As part of the handoff communication, develop a standardized "line reconciliation" process. Components of the line reconciliation process include:

   - re-checking tubing and catheter connections
   - tracing all patient tubes and catheters to their sources for correct route
   - labeling all tubes and catheters at the point(s) of connection

3. Trace all lines from their sources to the patient before making any connections or reconnections, administering medications, solutions, or other products.

4. Educate all clinical and non-clinical staff about the hazards of misconnecting tubing and devices.

Selected References:
Tunneled intrathecal catheter mistaken as central venous line access. ISMP Canada Safety Bulletin, October 30, 2005. Link:
http://www.ismpcanada.org/download/ISMPCSB200508Intrathecal.

Problems persist with lifethreatening tubing misconnections. ISMP Medication Safety Alert!, June 17, 2004. Link:
http://www.ismp.org/newsletters/acutecare/articles/20040617.asp?ptr=y

Wichman K, Hyland S. Medication safety alerts. Inflation ports: risk for medication errors. Can J Hosp Pharm 2004; 57(5):299301.Link:
http://www.ismpcanada.org/download/cjhp0411.pdf

Ramsay SJ et al. The dangers of trying to make ends meet: accidental intravenous administration of enteral feed. Anaesth Intensive Care 2003; 31:324327.

Pope M. A mixup of tubes. Am J Nurs 2002; 102(4):23.J Legal Med 2002; 116:3638.

Wrong route errors. Safety First, Massachusetts Coalition for the Prevention of Healthcare Errors, June 1999. Link: http://www.macoalition.org/documents/SafetyFirst1.pdf; Link: http://www.jointcommission.org/SentinelEvents/SentinelEventAlert/sea_36.htm

Tubing misconnections – a persistent and potentially deadly occurrence. Joint Commission on Accreditation of Healthcare Organizations Sentinel Event Alert, April 2006.

Vecchione, A. (2006). JCAHO warns of tubing errors. HealthSystem Edition. Originally published: May 22, 2006 found at http://mediwire.healingwell.com/main/ on 3 August 2000

Cousins D. H and Upton D.R. Medication Errors: Oral paracetamol liquid administered intravenously: Time for hospitals to issue oral syringes to clinical areas? Pharmacy in Practice 2001; 7: 221.

Cousins D. H and Upton D.R. Medication Errors: Increased funding can cut risks. Pharmacy in Practice 1997; 7: 597598

Department of Health. Building a safer NHS for patients Improving medication safety. 2004.(www.dh.gov.uk).

Moore R. Making the right connections. Medical Device Technology 2003; 14(2):2627.

Koczmara C. Reports of epidural infusion errors. CACCN Dynamics 2004; 15(4):8. Link: http://www.ismpcanada.org/download/CACCNWinter04.

Preventing wrong route errors with oral/enteral medications, feeds and flushes. National Patient Safety Agency Patient Safety Alert, Draft responses to 1 st consult, JanuaryMarch 2006. Link: http://www.saferhealthcare.org.uk/NR/rdonlyres/3F9F3FB289B64633ACE9A51EC2023EBC/0/NPSAdraftpatientsafetyalertonoralconnectorsforstakeholderconsultation.pdf

Preventing misconnections of lines and cables. Health Devices 2006; 35(3):8195.

Common Connectors Pose a Threat to Safe Practice, *Texas Board of Nursing Bulletin*, April 2006.