Examples of Topics to Present
Infection Control & Patient Safety Indicators

1. Enhancing hand hygiene to reduce direct contact transmission of pathogens

**Measurement**
The hospital will:
- Commit to and implement a policy that all appropriate patient rooms will contain waterless alcohol-based hand rub (ABHR) dispensers (based on hospital risk assessment) and that these will be maintained (e.g. operate correctly and contain product).
- **AND** hospitals monitor usage patterns—(e.g., volume used, survey of personnel, etc)
- **AND** hospital personnel will be trained and routinely reminded to use AHBR before and after touching/examining patients and potentially soiled material. [This measure will be required for hospitals that don’t already have such dispensers in place. For facilities that have had ABHR in place, consider methods to examine adherence following hand hygiene re-emphasis campaign. *MSIC will continue to explore how hospitals might be able to provide objective data pertaining to this indicator*]

**Implementation and data retrieval:**
Evidence of risk assessment for 1) placement of dispensers; 2) measurements of volume of used product for selected time period demonstrating trends in usage; 3) training records of staff; analysis of interventions to improve adherence by personnel or qualitative research to explore reasons for suboptimal use or whether alternative methods (e.g. soap and water) are preferred.

2. Urinary tract infection prevention and catheter management practices

**Measurement**
The hospital will:
- Develop and implement (hospital-wide) a policy requiring urinary catheters to be removed after 48-72 hours in the absence of an affirmative order by the attending physician.
- **OR** a protocol-based policy establishing an RN-initiated discontinuation policy regarding urinary catheters.
- **OR** use of an alternative process to eliminate/reduce use of indwelling catheters by use of prompts to patient to void, using ultrasound scanners.
- **AND** the hospital will undertake, and report a urinary catheter utilization ratio for selected units using point-prevalence surveys as appropriate to assess the impact of the catheter management policy, and to guide continuous quality improvement.

[The process measure should not tie directly to an outcome measure such as catheter-associated UTI rate that cannot be risk-adjusted but participating hospitals may choose to periodically examine impact on internal outcome measures. Process measures other than UTI/1000 catheter days are preferable, such as:

a) **Catheter-utilization ratio** (catheter-days divided by patient-days not a rate but a ratio) for a given period/unit
   - **UTI rates and UC ratios:** These are most frequently collected and computed for ICUs—not patient care units - because of challenge of obtaining number of catheter-days. However, the measures may be streamlined and do not have to be conducted continuously or on the full population, but as point prevalence surveys on a monthly or quarterly basis]
b) Percent of catheter-days without any order for a urinary catheter

- Percent of Catheter-days without an order: One could estimate the percent of catheter days without an order by, for example, taking a sample of 50 catheterized patients on a given day and identifying the percentage without an order for the catheter in the chart. This is labor intensive and would add additional burden even within an ICU, much less on the general patient care units. Some facilities however, may decide that this sampling technique as employed for MQIO current Surgical Infection Prevention collaborative is feasible and elect to use this as an alternative process indicator.

Implementation and data retrieval issues for UTI prevention & catheter management practices

Process can be measured primarily from some use of MD order. This measure should have flexibility. There may be a realistic barrier due to concern with 24 hour automatic discontinuance (even if only part of learning curves) since it may end up punishing the patient who needs to have a catheter re-inserted. There are a variety of ways to get to this issue including:

- Daily manager rounds and query of attending MD for reason catheter is in place with no indication apparent*
- Sticker for each insertion mandating reason for insertion, so nursing would be able to tell when no longer needed. **
- Requiring indication for catheter be part of any MD order for insertion, with standing order to d/c once clinical indication no longer apparent
- Daily unit rounds - with referral to physician peer review for catheter utilization not meeting criteria
- Requiring daily re-order/recap (as with restraint use) to put the onus on the MD to remove it.
- Flagging chart for physician review and documentation of whether catheter still needed, etc.
- Use of ultrasound scanners: variety of method to document use and success
- Monitoring UTI rates will not provide information on relationship to catheter removal; as rates will only measure whether infection was present in person who has a catheter; the catheter remaining in place may have been entirely clinically appropriate. UTI rates are not risk adjusted and should be perceived as only a trend to measure impact of catheter management policy

* = Potential existing for collecting information using portable computers frequently used for electronic capture of nursing date, PDAs or unit computers
** = items identified as problematic by QI/Information Management staff

Urinary tract infection prevention - alternate

Measurement:
One facility has implemented computerized decision support system (CDSS) to enhance awareness and management of indwelling, retention catheters (Computer-based order entry decreases duration of indwelling urinary catheterization in hospitalized patients. Cornia PB, Amory JK, Fraser S, Saint S, Lipsky BA Am J Med 2003;114(5):404-7)

Implementation and data retrieval:
Any method that provides evidence of successful implementation of a CDSS system and reported to BCBSM
3. Prevention of central venous catheter-related (CVC-CR) complications

Measurement
The hospital will:

A. Establish and implement a policy requiring systematic approaches to, and documentation of processes for device insertion for central venous catheter access. Required elements that must be addressed in the policy/procedure include but are not limited to:

- the method of insertion (percutaneous),
- location of insertion, noting avoidance of femoral vein whenever possible, given the increased risk of infection, thrombosis and DVT
- device used (including lot # if appropriate),
- means of skin antisepsis (skin antiseptic prep and use of maximal sterile barrier precautions, i.e., cap, mask, sterile gown, sterile gloves, and large sterile drape/ sheet)
- complications of the procedure
- no routine changing of central venous catheters; changes should be done only with clinical indications

OR

A checklist may be used to document the elements identified above under Measurement

AND, the hospital will develop and implement an evidence-based policy regarding the approach to skin antisepsis for these procedures, including reference to the type(s) of products which are permitted for use. CDC guidelines in 2002 recommend and current studies strongly support the use of chlorhexidine for antisepsis (Chaiyakunapruk N, 2003). If another type of antiseptic is used, justification must be documented, recognizing that newer formulations of antiseptics may demonstrate greater effectiveness in future published clinical trials.

AND a commitment will be made and implemented to use large sterile drapes in all such insertions.

B. Establish a standardized, criterion referenced training and competency assessment program for those inserting CVCs which explicitly incorporates all of the elements identified in #1.

Use of standardized competency program:
- Facility provides rate of compliance or success rate of program for agreed upon time period.

Note 1: CDC guidelines for large sterile drapes have already been implemented by many institutions as literature provided evidence supporting this practice; this is true for skin antisepsics as well, used throughout an institution.

Note 2: Although use of anti-microbial central venous catheter when related infection rates exceed 3.3 infections per 1,000 catheter-days is also recommended by CDC this is not practical outside of the ICU in terms of collecting catheter-day data, and these proposed measures should apply to as wide a population as possible. This may be considered in the future, but current proposals should focus on process measures.

C. Organization provides evidence that it has standardized supplies for specific procedures:
- Kits: provide only appropriate drapes/skin antisepsis with each kit. This would be a “forcing function” for personnel doing the insertion. Policies would mandate use of the kit.
This would make the documentation of skin antisepsis and drapes use on a checklist irrelevant.

D. Monitor process through a patient unit-based Performance Improvement tool, For example:
   i. Allowing anyone to “stop the train” when full drapes aren’t used, and fill out incident report for physician peer review.

E. Prevalence compliance surveys to measure if full drapes are/are not used

F. Monitoring could also be done to assure that dressings are changed according to CDC guidelines
    -Outcome measures such as quarterly CVC-associated bloodstream infection rates should not be used to monitor the effectiveness of the policy, as infections can and do occur despite all appropriate practices insertion practices. Furthermore, facilities that have adopted these practices already would not be expected to see any measurable reduction in rates. Rather a process monitor as outlined previously should be chosen for reporting. This would not preclude periodic, internal examination of impact of performance improvement on outcome measures, as monitoring of trends may be of value in evaluating the impact of new procedures and policies and in identifying new problems arising from changes in practices associated with central venous lines.

4) Patient Immunization program (note seasonality in terms of priority)

The measure:
The hospital will:
• Develop and implement policies to assure that every eligible patient will be assessed regarding the appropriateness of influenza immunization (seasonal) and pneumococcal immunization,
• AND be offered these services in the hospital when indicated, based on ACIP recommendations.
• AND rates of compliance with such assessments will be measured and reported.
• Rates of receipt of these immunizations will be determined and reported (adjusted for patient refusal or contraindication).

Implementation and data retrieval
Suggestions may include processes used at the Detroit Medical Center (DMC) which provide for:
• A single order sheet with 1) assessment, 2) contraindications, 3) refusal and 4) order, so that information is easy to find.
• Either an MD or a nurse assesses and orders. (E.g., DMC model is primarily “nurse driven”.)
• Clerk enters information into Computerized Information System (prior to CIS, Medical Record/IS dept would pull an NCR form for quality services dept to input into system)

5) Antimicrobial resistance control program
• Surveillance for hospital-specific problem of resistant pathogens
• Restricted formulary, criteria monitored drugs, etc.
• Assess frequency of adverse events among patients on isolation precautions versus similar non-isolated patients. (Stelfox HT, Bates DW, Redelmeier DA. Safety of patients isolated for infection control JAMA 2003; 290(14):1899-1905)

• Immunization – alternate: Employee/physician immunization programs for annual influenza vaccination as a Patient Safety Measure: Prevents transmission to patients (there are numerous reports of outbreaks of influenza in hospitals and long term care facilities correlating transmission from and to personnel who were not immunized). There also is accumulation of evidence that immunization of healthy adults is
cost-effective when considering cost of lost work time for 3-5 days average plus pool coverage for same.

7) **Monitor compliance with environmental patient care area cleaning policy**
   Monitoring room cleaning process (compliance with policy). Appropriate spill kits and employee training.

8) **Use of Infection Control Risk Assessment (ICRA) or similar tool for construction-related activities**
   Alternatively, provide evidence of assessment use for enhancing facility’s capacity to manage emerging pathogens and threat of bioterrorism.

9) **SIP**
   Main Objective:
   To decrease morbidity and mortality associated with post-operative infection in the Medicare patient population

   Process Objectives:
   To increase the use of the following care processes for surgical patients:
   - Initiate antibiotics within 1 hour before surgical incision*
   - Administer prophylactic antibiotic consistent with current recommendations
   - Discontinuation of prophylactic antibiotics within 24 hours after surgery
     *Due to the longer infusion time required for vancomycin, it is acceptable to start this antibiotic (when indicated for beta-lactam allergy) within 2 hours prior to incision.

10) **VAP (pull from Keystone bundle)**
    Surgical Care Improvement Project (SCIP)
    Goal: Reduce surgical site infections (SSI) by implementing four components of care:
    - Appropriate use of antibiotics
    - Appropriate hair removal
    - Maintenance of perioperative glucose control
    - Maintenance of perioperative normothermia* for colorectal patients.

    * This component of care is supported by clinical trials and experimental evidence in the specified populations; they may prove valuable for other surgical patient as well.