WIPAG

WY Infection Prevention Orientation Manual

Section #16, Quality Assurance and Performance Improvement (QAPI)

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Section #16: Quality Assurance and Performance Improvement

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Objectives

At the completion of this section the Infection Preventionist (IP) will:

- Utilize or update the facility's written plan for infection prevention (aka Infection Prevention Plan) to include an assessment of risk, services provided, the population served, strategies to decrease risk, and a surveillance plan
- Describe the rationale for collecting infection prevention data and other appropriate data for his/her facility
- Utilize infection prevention data to identify processes that are at risk of causing an infection or safety issue for patients, visitors, or staff
- Use the facility's performance improvement model (e.g. Plan, Do, Study, Act [PDSA]) to improve infection prevention processes prioritized in the Infection Prevention plan.
- Establish or strengthen the facility's working Infection Prevention committee

Number of hours

- Key Concepts and Methods combined – 8-10 hours

Overview

Infection Prevention is a key component of system-wide quality assurance and performance improvement activities. Hospitals, long-term care facilities, ambulatory surgery centers, and dialysis facilities are required to assure quality and safety for patients, staff, and visitors. The U.S. Centers for Medicare and Medicaid Services (CMS), state regulators, and accreditation bodies recommend that a Quality Assurance and Performance Improvement (QAPI) program be in place and provide evidence demonstrating continuous improvement. A QAPI program consists of systematic and continuous actions that lead to measurable improvement in healthcare services and the health status of targeted patient/resident groups. A QAPI program has five elements:

Infection Prevention is a key component of system-wide quality assurance and performance improvement activities.

Element 1: Design and Scope are patient-or-resident focused, ongoing and comprehensive.
Element 2: Governance and Leadership drive a culture of quality.
Element 3: Feedback, data systems and monitoring are in place to create and implement action plans for quality and safety improvement.
Element 4: Performance Improvement Projects are conducted to improve care appropriate to the type of facility and scope of services.
Element 5: Systemic Analysis and Systemic Action includes ongoing methods to maintain improvements via policies, standard processes, procedures and performance management.

Key Concepts

Infection Prevention Program

Nationally recognized infection control practices or guidelines, applicable regulations of other federal or state agencies, and standards of accreditation are requirements to set the direction for infection prevention programs. The facility's program for surveillance, prevention, and investigation of infections and communicable diseases should be conducted in accordance with these existing requirements. Additionally, the facility's infection prevention program must be integrated into its facility-wide Quality Improvement (QI) or QAPI program.[1]

Goals of the infection prevention program are to:

- Decrease the risk of infection to patients/residents, visitors, and healthcare personnel
- Monitor for occurrence of infection and implement appropriate prevention measures
- Identify and correct problems related to infection prevention practices
- Limit unprotected exposure to pathogens throughout the facility
- Minimize the infection risk associated with procedures, medical devices, and medical equipment
- Maintain compliance with state and federal regulations related to infection prevention.[2]

Accrediting bodies describe methods for how these goals are met. For example, The Joint Commission, www.jointcommission.org, states a comprehensive infection prevention program has a detailed strategic plan that:

1. prioritizes the identified risks for acquiring and transmitting infections
2. sets goals that include limiting: (a) unprotected exposure to pathogens; (b) the transmission of infections associated with procedures; and (c) transmission of infections associated with the use of medical equipment, devices, and supplies
3. describes activities, including surveillance, to minimize, reduce or eliminate the risk of infection
4. describes the process to evaluate the infection prevention and control plan.

Infection Prevention Plan

The Infection Prevention Plan (IPP) is used to assess risk factors, and assure the detection, prevention, and control of infections among patients/residents, visitors and personnel. The scope of services depends on the patient/resident population, function, and specialized needs of the healthcare facility. Completion of a risk assessment, data gathering, and analysis should always drive the plan. The plan should be a working document, reviewed and revised at least annually. The Infection Prevention Plan sets a clear direction for the facility with goals and objectives and establishes processes to identify and reduce risks of infection for patients/residents, visitors, and healthcare workers.

Quality Assurance and Performance Improvement (QAPI) Plan

While the IPP is the strategic plan for preventing infection in the facility and community, the QAPI plan is the treatment plan for the facility to make infection prevention and quality improvement happen. The QAPI plan is based on information in the IPP and provides the details of what and how infections will be prevented and processes identified as needing improvement. Data drives the QAPI process. [3] The QAPI plan must outline time-framed and realistic goals and include related performance measures that are responsive to the prioritized risks in the infection prevention plan.

Quality improvement projects always begin with a QAPI plan. The team-based actions to complete the QAPI plan include the following steps to prepare, write, and evaluate the implementation of the plan:

Step 1: Determine what area(s) of improvement the facility needs to focus on and identify people/disciplines using or affected by the process. It is impossible to fix/improve every problem identified at the same time. To focus infection prevention quality improvement efforts:

- Review the IPP to determine high risk and/or high volume incidents to facility and community
- Identify the measures required by regulatory bodies
- Identify the measures that are in alignment with the facility's mission
- Identify the measures required for initiatives the facility participates in such as the Quality Information Organization Healthcare-Associated Infection (HAI) prevention project, CMS Hospital Inpatient Quality Reporting, &/or Medicare Beneficiary Quality Improvement Project.

Step 2: Manage data for performance improvement. Analyze how the facility is collecting, tracking, analyzing, interpreting, and acting on the data. Determine what data to collect for each focus area, how to obtain the data, the person responsible for obtaining the data, the frequency data is to be collected, and how/when the data is reported. Include the information technology department to facilitate electronic data collection when possible. Identify baselines and set targets for improvement.

Step 3: Identify potential barriers related to the problem or process to improve. Appendix A illustrates a Barrier Identification and Mitigation (BIM) Tool[4] to help the QAPI team systematically identify and prioritize barriers. Barriers can relate to characteristics of the clinicians, the work environment, the culture within the organization, available resources, and many other factors. After the team understands the underlying reasons for the barrier, develop a plan to mitigate the barrier.

Step 4: Write and finalize the specific QAPI plan based on the selected priorities, barrier mitigation, and corrective actions steps the team has developed.

- Implement the action steps in the plan after approval by committees/administration designated by the facility. The plan can be modified as necessary by the IP and other committees determined by the facility.
- Obtain data to assess the success of the QAPI plan at designated point in times (e.g. quarterly, annually). Based on the analysis, determine the next steps. Post-plan evaluation can include but is not limited to[5]:
    - Continuing the process as is with the same indicators/data monitoring
    - Continuing the process with modifications (i.e., implement additional interventions to remove identified barriers)
    - Adding new monitors/quality indicators
    - Stop monitoring.

Step 5: As progress is monitored, report results of the QAPI Plan to key stakeholders at specified intervals. Include lessons learned along with other outcomes in the report. Take steps to celebrate successes.

Data Collection and Use

The use of data is a key practice to achieve high quality and safety for patients, visitors and staff. Data-enabled decision-making and improvement activities contribute to the quality of services provided to patients/residents. In addition to being a regulatory requirement, data collection assists the IP in:

- improving patient/resident satisfaction and confidence
- developing relationships with front-line staff
- identifying infection control and prevention risks
- developing a business case for improvement interventions

- making decisions about healthcare resource utilization
- determining if interventions are successful.

Plan Do Study Act (PDSA) Model for Improvement

When a problem is identified, a standard approach to address the problem is helpful. The PDSA model for improvement is a process commonly used to analyze a problem, develop solutions, implement improvement and evaluate the results.

Methods

Initiate Infection Prevention Program through Planning

The IPP is a roadmap for how the Infection Prevention Program will work during the year. The plan must be flexible to facilitate alteration in response to unexpected disease processes or environmental issues and yet contain specific, realistic, and measureable goals.

The IPP is used to determine quality improvement activities, increase adherence to infection prevention practices, improve patient/resident outcomes, and prevent HAIs. As seen in Figure 1, quality improvement efforts typically involve five steps.[6] Steps include:

1. Identify target areas for improvement through a risk assessment and analysis
2. Determine what processes can be modified to improve outcomes
3. Develop and execute effective strategies to improve quality through an infection prevention or QAPI plan
4. Track performance and outcomes
5. Disseminate results to spur broad quality improvement

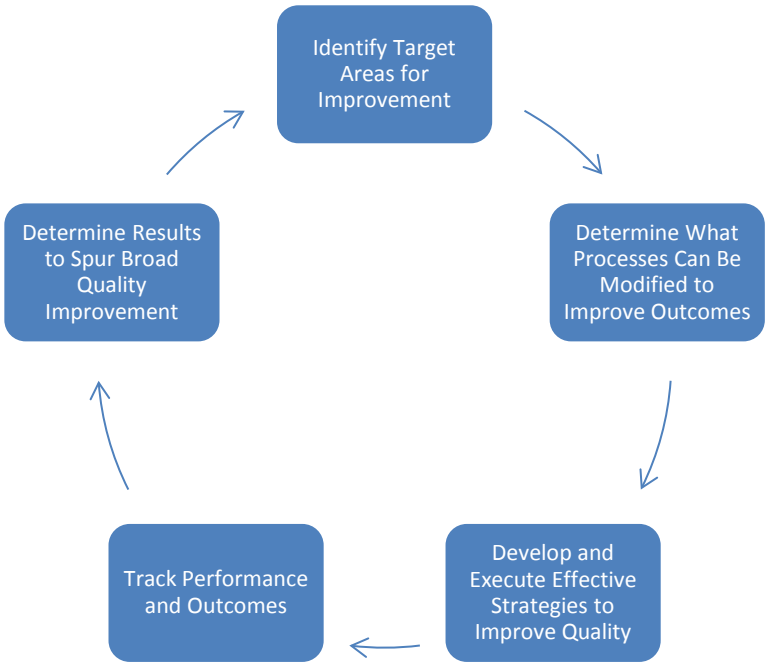

Figure 1. Steps in the Quality Improvement Process.[6]

The best way to involve people and their talents appropriately is to develop the plan using a **team approach** by engaging people in the Infection Prevention Committee**.** Meaningful, ongoing team activities may include periodic reviews of data, development of tools & processes to facilitate

implementation of best practices, and feedback to staff and administration. Multidisciplinary teams increase problem identification and solution development. Utilization of patient/resident and front-line staff expertise and knowledge of the problem can improve interventions and implementation processes. A full evaluation of the IPP should be done annually.

The Infection Prevention Committee minimally consists of a physician, front-line nursing staff, quality improvement/risk management staff, and representatives from microbiology, central sterilization, environmental services, pharmacy, and administration. Additional staff members may be asked to provide input or join the committee as issues arise.[7, 8]

Exercise #1: Find or create a list of the members of your infection prevention committee or the committee that reviews the infection prevention data and antibiotic use. Is there appropriate representation on the committee? Administrative? Scientific and credentials? Various key areas such as pharmacy, lab, ICU?

1. *Contact each member to introduce yourself.*
2. *Identify with them any needed additional members or experts who can be called upon.*
3. *Introduce yourself to front-line staff and managers throughout your facility. Enlist their support to work together to prevent infections and increase patient/resident safety.*

Note: If you do not have an infection prevention committee or a committee who reviews the infection prevention data and antibiotic use, talk with your supervisor regarding staff that would be appropriate to work with you.

Infection Prevention Program Roles and Responsibilities

The infection prevention program involves many stakeholders, both on and off of the infection prevention committee. Roles and responsibilities for how the regulatory bodies, IP and IP Team work together to create or update a plan are shown in Figure 2. To read the work flow, begin in the upper left corner of the top IP Team role lane. Follow the arrows. Joint actions appear in Figure 2 as action-step boxes that straddles the line between two or more roles.

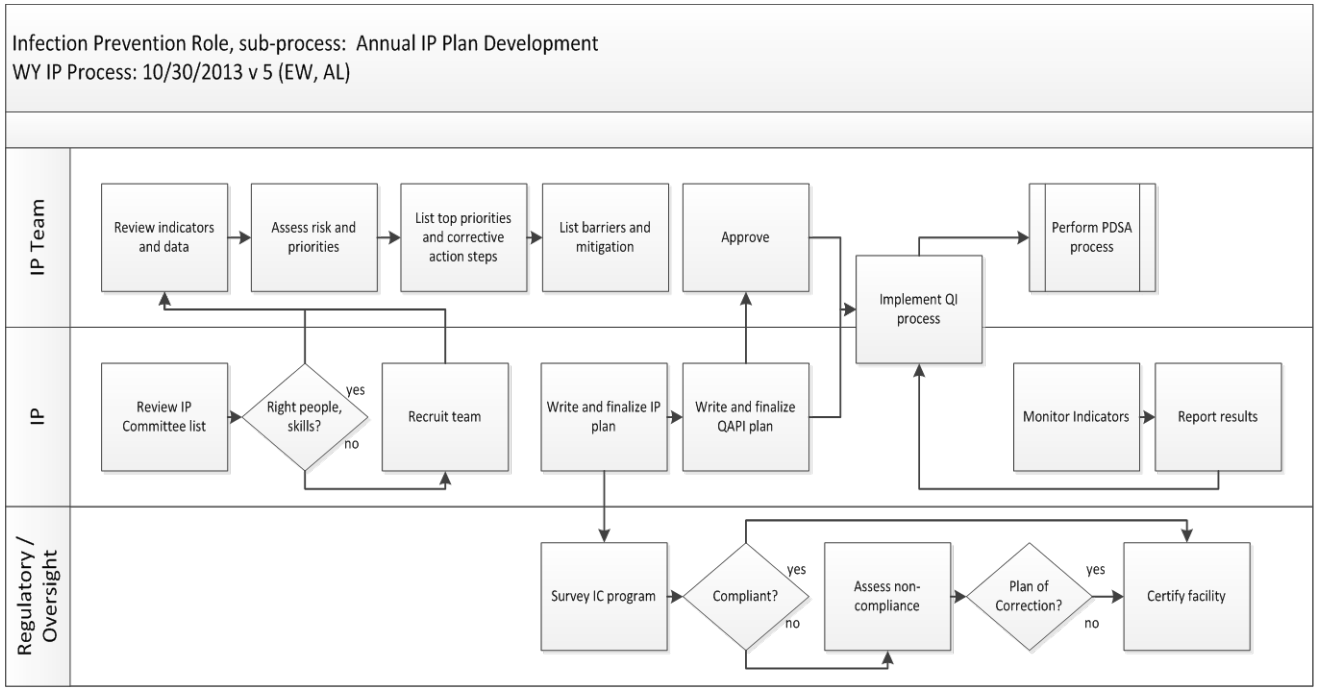

Figure 2. Roles and Responsibilities for Infection Prevention Plan Development. Abbreviations

include: IC (Infection Control), IP (Infection Prevention Professional), PDSA (Plan, Do, Study, Act), Plan of Correction (a Corrective Action Plan), QAPI (Quality Assurance and Performance Improvement), QI Process (Quality Improvement).

Analyzing Risks and Setting Priorities for Action

Individuals delivering clinical and care-related services are frequently not on the infection prevention committee. The team and relationships the IP builds in the facility assure individuals will take the risk of infection seriously and facilitate their engagement. Their collaboration and behavior are very important to reduce or eliminate risks of infection.

Identifying the risks is not enough to prevent infections. Risks must be analyzed for severity and the actual frequency of occurrence in a facility. This analysis helps the committee prioritize the risks identified during plan development or update. The IP and the committee have a finite amount of time and resources and are more likely to be successful in reducing risks if they focus on a few key items.

There are many tools available to help identify and prioritize infection risks. It's best for the IP to select a tool to help define a prioritization method. Appendix B provides examples of these tools. A team-based review of the priorities by the infection prevention committee is helpful. Documenting the prioritized risks and rationale for selection helps people outside the team accept and spread improvements throughout the facility. The more people engaged with the goals, the better.

Exercise #2: Locate the risk assessment and infection prevention plan that was created for your facility. Review infection data for the past 1-2 years. Are there patterns? Recurring incidents? Note location, type, severity and frequency. Compare your analysis to the Infection Prevention Plan section regarding risks. Does the plan describe actions that are consistent with experience?

Facilitate the Infection Prevention team to clarify and discuss the risks.
Prioritize what key actions will be taken during the plan year.

Update the risk assessment potion of the plan based on the team's knowledge and needs of the facility and community.

Note: If you cannot locate your facility's assessment and plan, review the sample risk assessment and plan in Appendix B. Use one of the 3 templates in Appendices B, C and D to create a draft risk assessment and plan for your facility.

Designing and Implementing Solutions

Once a risk is identified and prioritized for action, a quality improvement solution is designed using a quality improvement model. Healthcare facilities can employ various approaches and models to improve quality including: Gap Analysis[9]; Root Cause Analysis [10, 11]; Failure Mode Effect Analysis[12;] Strength, Weaknesses, Opportunities, Threats Analysis[13]; Multi-voting[14]; Goal-Directed Checklists[15]; Process Control, Charts, Graphs, and Clinical Practice Guidelines[16]; Six Sigma and Lean Approach[17]; and the PDSA Performance Improvement Model.[18]

The PDSA Model for Improvement

The PDSA model for improvement[18] is a four-step method used to implement a guideline or work flow change and process improvement. A team is established based on the risk or problem that needs to be improved. The team should include an administrative person who is able to allocate funds if needed; a front-line staff member who is involved in using the process, and a patient/resident

representative when possible. The important elements of the PDSA improvement model are shown in detail in Figure 3.

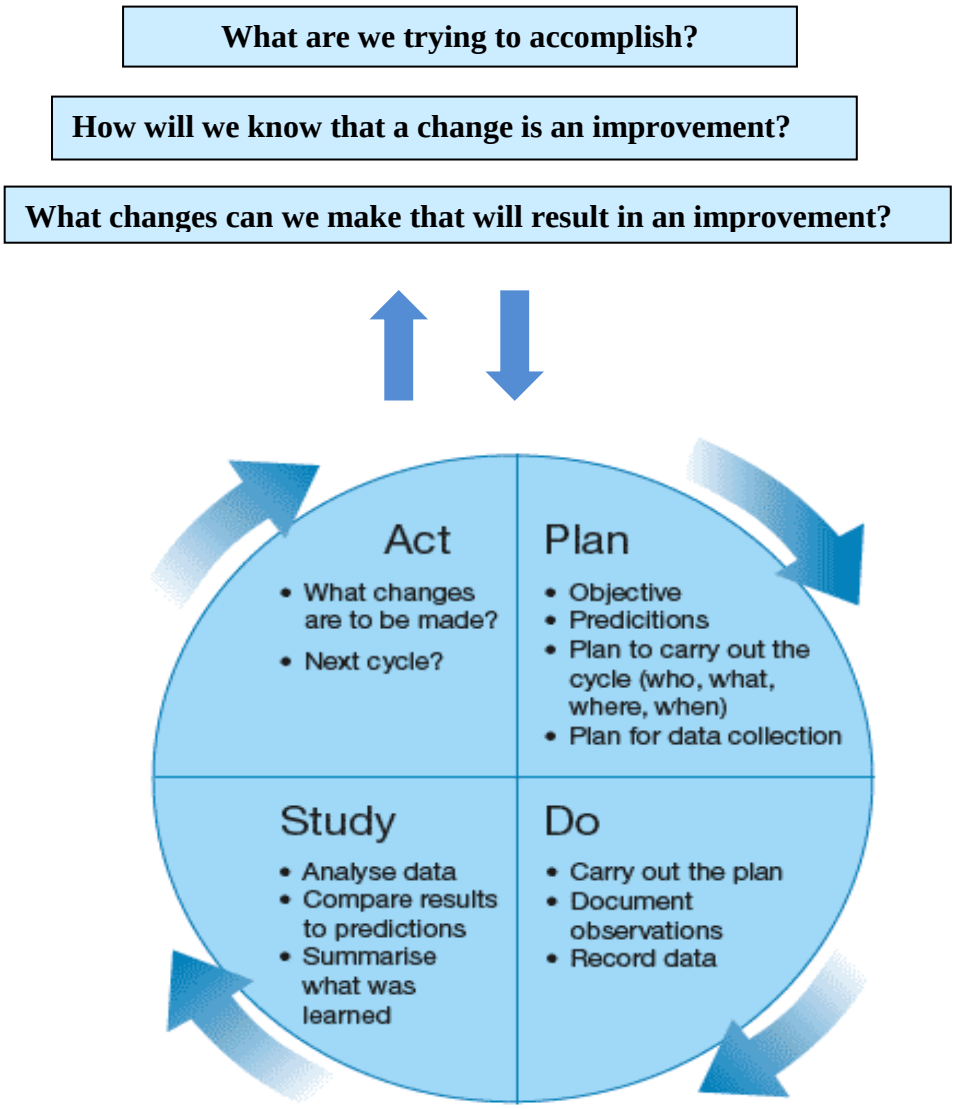

Figure 3: Plan, Do, Study, Act Improvement model. [18]

The PDSA Model tests implemented changes. Following the prescribed four steps (1) plan, (2) do, (3) study, and (4) act guides the thinking process. Each step helps assure good results, breaking down the task into reasonable steps, evaluating the outcome, improving on it, and testing again. PDSA is very similar to the Nursing Process (Appendix E) which includes the five elements of (1) assessment, (2) diagnosis, (3) outcomes/planning, (4) implementation and (5) evaluation. Each element of the Nursing Process corresponds with one or more of the initial questions and steps of the PDSA improvement model in Table 1.

Table 1. Elements of the Nursing Process corresponding to the PDSA model for improvement.

Elements of the Nursing Process	Corresponding Questions/Steps of the PDSA Model for Improvement
Assessment	What are we trying to accomplish?
Diagnosis	How will we know that a change is an improvement?
Outcomes / Planning	What changes can we make that will result in improvement
Implementation	Plan, Do
Evaluation	Study (analyze findings); Act to adjust if needed

The steps of the PDSA as outlined above are common on both personal and organizational levels. Documenting the steps often assists with focusing an IP's efforts and allows for increased knowledge of the process itself. Additionally, documenting the steps allows for easy dissemination of an IP's ideas and the knowledge gained by others in the organization.

If the first PDSA attempt doesn't completely solve the problem, additional improvement "cycles" may be done. After one cycle of all four steps, a new PDSA cycle begins from that point. These repeated uses of PDSA are also called "tests of change." A schematic of this process of repeating PDSA cycles is shown in Figure 4.[19] Repeated use of the PDSA cycle fosters improvement by successive refinements that are documented and enhanced. The IP must keep the following details in mind when using the PDSA model in cycles:

- **Single Step** - Each PDSA cycle often contains only a segment or single step of the entire process to improve quality.
- **Short Duration -** Each PDSA cycle should be as brief as possible in order to determine whether or not the intervention is working. Some cycles can be as short as 1 hour.
- **Small Sample Size -** A PDSA cycle will likely involve only a portion of the staff. Once initial feedback is obtained and the process refined, the implementation can be broadened to include all staff.

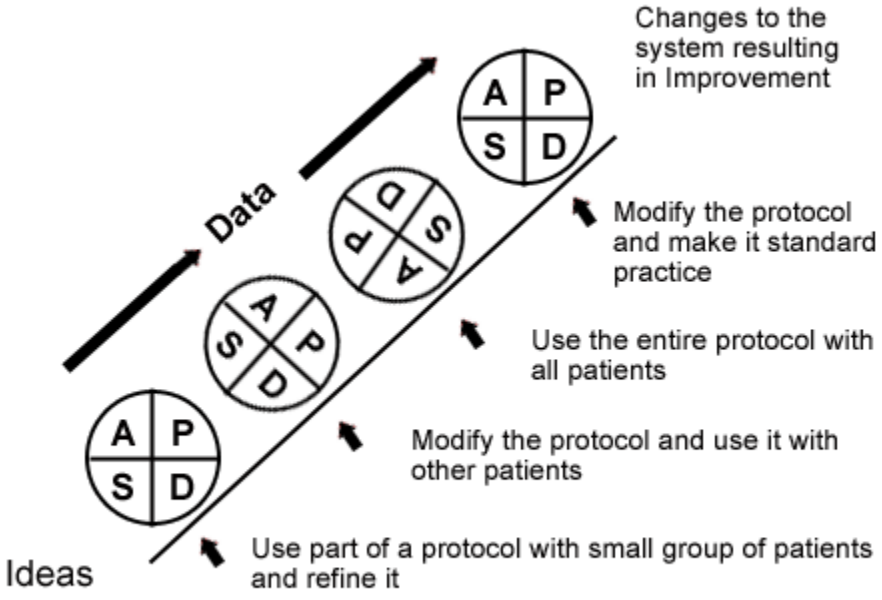

Figure 4. Sequential use of the PDSA model for improvement.[19] Reprinted with permission from Associates in Process Improvement.

Exercise #3: Find the sample PDSA worksheets in Appendix F and H as well as a template for your use in Appendix G. Review the examples and template. Identify a problem to work through and complete the template.

PLAN
Background: the problem statement and the result desired.
Describe the solution to be tested: keep this specific.
List of tasks: pre-work before testing, what needs to be done, people to be informed and involved. Assign accountabilities, dates, locations.
Predict what will happen: identify a baseline measurement to use to evaluate the PDSA at the end.

DO
What was observed: write down the answers to questions such as

- *What were reactions of patients/residents, visitors, staff?*
- *Did the intervention fit in with your system or process flow?*
- *How the intervention affected other parts of the process?*
- *Did everything go as planned?*
- *Did the team have to modify the plan?*

STUDY
Use the measurement you determined in a previous step, and study the results. List what was learned.

ACT
Summarize the conclusions about the method and results of the PDSA

Quality Improvement Measures and Reporting

Periodic review of performance is critical for assessing the effectiveness of quality improvement interventions. Process measures are concerned with activities within a care episode and relate to action steps such as patient safety and clinical procedures that are done consistently. Outcome measures are closely associated with patient/resident outcomes or results. Either kind of measure can be used to evaluate performance. Measures provide a common language with which to evaluate the success of interventions. Process measures include the goal of a 100% rate of adherence to the recommended practice and do not require adjustment for patients' underlying risk of infection or severity of disease. Loosely, the words "measure" and "indicator" refer to quantitative ratios or comparisons that reflect the status of a process or result of a process.

In the 1980s, efforts began to promote public reporting of data by the Health Care Financing Administration (the predecessor of CMS). While public reporting of healthcare data has advanced considerably in depth and scope, it is still an evolving process. CMS posts performance information about cost and quality levels of providers such as hospitals, physicians, home health facilities, nursing homes, dialysis centers, and ambulatory surgery centers. Public reporting helps consumers make informed decisions when choosing a provider and to provide data for value-based purchasing of healthcare services by CMS and other payers. CMS provides healthcare data to the public via their website www.medicare.gov. Additionally, several private organizations report quality data in the public interest. Examples include: Leapfrog, Consumer Reports, UCompareHealthCare, Commonwealth's Why Not the Best, and Healthgrades.

The additional transparency via the availability of information for consumers, has changed the behavior of staff within the healthcare industry. Interviews with hospital staff regarding the public reporting of quality measures in one study revealed common themes.[20] Themes include:

- increased involvement of leadership in performance improvement
- created a sense of accountability to both internal and external customers
- contributed to heightened awareness of performance measures data throughout the hospital
- influenced or re-focused organizational priorities
- raised concerns about data quality and
- raised questions about consumer understanding of performance reports.

The healthcare industry is moving toward greater openness and accountability. A key result of this shift is clinical staff and leaders re-prioritizing healthcare quality improvement as a more important goal.

Infection Prevention Measures and Reporting

HAI data for hospitals is provided to CMS by the Center for Disease Control and Prevention (CDC) via their electronic HAI tracking system called National Healthcare Safety Network (NHSN).[21] See Appendices I and J for a list of indicators currently reported publicly. While reporting is voluntary, Medicare payments are decreased if hospitals participating in the Prospective Payment System (PPS) do not collect and submit the required data. The data from several indicators are also used by CMS to calculate payments in the Value-Based Payments system. For the most current information on CMS public reporting and value-based programs see www.cms.gov and www.qualitynet.org. The CMS based their reporting requirements on a 1995 Society for Healthcare Epidemiology of America (SHEA; www.shea-online.org) position paper describing the criteria for selection of quality indicators.[22] The SHEA criteria include: identifying quality indicator events that are clearly defined with numerators and denominators, using indicator variables that are easy to identify and collect, selecting data collection methods that are sensitive enough to capture the data and that can be standardized across all institutions, selecting indicator events that occur frequently enough to provide an adequate sample size, and comparing populations with similar intrinsic risks or providing appropriate risk adjustments.

Surveillance of HAIs initially focused on device- and procedure-associated infections because these infections occur among hospitalized patients and are associated with potentially modifiable risk factors. The most widely used definitions for healthcare related infections are the CDC definitions located on the NHSN website, www.cdc.gov/nhsn. The McGreer Criteria are used for long term care facilities and may be found at www.premierinc.com/quality-safety/tools-services/safety/topics/guidelines/downloads/25_itcdefs-91.pdf. These definitions were updated in 2013 and the newer version can be found at: www.ncbi.nlm.nih.gov/pmc/articles/PMC3538836/.

Even when standardized NHSN and McGreer definitions are used, the interpretation of HAI definitions can vary between users and different approaches to surveillance applied. These variations in interpretation of available data sources and methods can adversely impact the completeness and comparability of HAI data.

There is growing evidence that HAI surveillance methods that use readily accessible automated data for screening are a more resource-efficient approach; however, these information technology applications cannot replace frontline surveillance by trained personnel. In addition, risk adjustment to

account for underlying differences between healthcare facilities' patient populations is essential for meaningful comparisons.[23]

For the IP, NHSN is the HAI surveillance gold standard because it provides:

1. surveillance definitions and criteria for specific types of infections which facilitates data accuracy and consistency
2. detailed training on the use of the system and help desk assistance
3. analysis functions
4. national data reports, and
5. data security, integrity, and confidentiality.

The benefits to using NHSN are many, and most facilities utilize the system for the following:

- access NHSN enrollment requirements for CMS Quality Reporting programs
- obtain baseline HAI rates
- compare rates to CDC's national data
- participate in state or national HAI prevention initiatives
- evaluate immediate and long-term results of infection elimination efforts
- refocus efforts as needed where actions are not working, or advance to different areas.[19]

The NHSN system requires facility and individual registration. To enroll a facility, an IP should visit the CDC NHSN website www.cdc.gov/nhsn/enrollment/index.html, click on the link for the facility type, and follow the instructions. When the facility enrollment process is complete, the NHSN facility administrator (person listed on the NHSN enrollment application) will receive an email with instructions for obtaining a digital certificate or an invitation to register for Secure Access Management Services (SAMS). CDC is in the process of initiating the implementation of the SAMS system. More information can be located at www.cdc.gov/nhsn/sams/about-sams.html. CDC provides training for each facility type, NHSN administrator and group roles, each NHSN module, and how to use the analysis feature.

Exercise #4: Check to see if your facility is already enrolled in NHSN. Determine who the NHSN administrator within your facility is and make sure the person is set up as a "user." If the NHSN administrator has left the facility and is no longer available, the Chief Executive Officer (CEO) will need to write a letter to NHSN identifying who the new administrator should be, including their email address. The letter can be sent to the NHSN help desk at NHSN@cdc.gov. It is very important to complete the NHSN training appropriate for the facility prior to entering any data into the system.

Tips for Success

Establish a culture of quality by demonstrating to the infection prevention team what infection prevention quality looks like for the organization. Communicate that vision to staff in the facility and to the community.

The structure and process for quality improvement should be visible and easily understood by everyone. Buy-in and support at all levels is essential to successfully implement the infection prevention and quality improvement plan. While quality improvement requires an investment of time, staff and fiscal resources, the benefits are improved patient/resident outcomes, increased efficiency, improved healthcare worker safety, improved customer satisfaction and potentially decreased costs.

Resources

Helpful/Related Readings

- Grota P, Allen V, Boston KM, et al, eds. *APIC Text of Infection Control & Epidemiology. 4th Edition.* Washington, D.C.: Association for Professionals in Infection Control and Epidemiology, Inc.; 2014.
    - Chapter 5, Infection Prevnetion and Beehavioral Interventions, by P Posa
    - Chapter 16, Quality Concepts, by E Monsees
    - Chapter 17, Performance Measures, by B M Soule and DM Nadzam
- Bennett J and Brachman P, eds. Bennett & Brachman's Hospital Infections. 6th Edition. 2014. Philadelphia, PA: William R Jarvis. Chapter 48, Patient Safety, by ML Ling
- Bennett G. Infection Prevention Manual for Ambulatory Care. Rome, GA: ICP Associates Inc.; 2009. Section 10
- Bennett G and Kassai M. Infection Prevention Manual for Ambulatory Surgery Centers. Rome, GA: ICP Associates, Inc.; 2011. Section 11.
- Bennett G. Infection Prevention Manual for Long Term Care; 2012. Rome, GA: ICP Associates, Inc.; 2012. Section 11.
- Lautenbach E, WoeltjeKF, and Malani PN, eds. SHEA Practical Healthcare Epidemiology (3rd Edition). University of Chicago Press, Chicago, IL 2010. Chapter 5 Quality Improvement in Healthcare Epidemiology, by Susan MacArthur, Frederick A Browne, and Louise-Marie Dembry
- Mayhall CG ed. Hospital Epidemiology and Infection Control (4th Edition). Philadelphia, PA: Lippincott Williams & Wilkins, a Wolters Kluwer business; 2011.
    - Chapter 11, Selecting Improvement Projects, by D Birnbaum
    - Chapter 12, Conducting Successful Improvement Projects, by M Segarra-Newnham and RG Berglund

Helpful Contacts (in WY or US)

- Mountain-Pacific Quality Health-Wyoming, 307-472-0507

Related Websites/Organizations

- Wyoming Department of Health, Infectious Disease Epidemiology Unit, Healthcare-Associated Infection Prevention www.health.wyo.gov/phsd/epiid/HAIgeneral.html
- State of WY Healthcare Facility Specific regulations, www.health.wyo.gov/ohls/index.html
- Mountain-Pacific Quality Health – Wyoming www.mpqhf.com/wyoming/index.php
- Association for Professional in Infection Control and Epidemiology (APIC). www.apic.org
- Society for Healthcare Epidemiology of America (SHEA) www.shea-online.org
- Agency for Healthcare Research and Quality, Quality and Safety, www.ahrq.gov/professionals/quality-patient-safety/index.html
- Wyoming Infection Prevention Database of Resources, www.wyohospitals.com/wipag.aspx
- The Joint Commission, www.jointcommission.org

My Facility/City/County Contacts in this Area

Note: Resources include many sources such as APIC members, other IPs, QIO contacts, State employees.

Contact Name	Phone	Email	Facility / Company	Address	Expertise

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Appendices

Appendix A: John's Hopkins Barrier Identification and Mitigation Tool

Johns Hopkins Medicine Armstrong Institute for Patient Safety and Quality. CUSP: The comprehensive unite-based safety program – Appendix N. armstrongresearch.hopkinsmedicine.org/csts/cusp/resources.aspx. Accessed November 7, 2013. Used with permission of the Johns Hopkins Medicine Armstrong Institute for Patient Safety and Quality.

Barrier Identification and Mitigation Tool

Armstrong Institute for Patient Safety and Quality

JOHNS HOPKINS
MEDICINE

Problem Statement: Organizations such as the Centers for Disease Control and Prevention (CDC) publish guidelines with recommendations about how to reduce surgical site infections. These recommendations are based on research findings. If clinicians follow the guidelines, infection rates may significantly decrease. However, you have probably noticed that not everybody follows the guidelines. Problems that make it hard to follow the guidelines are called barriers.

Clinicians want to achieve the best possible outcomes for their patients. If patients are not receiving the recommended evidence-based interventions they should, your comprehensive unit based safety program (CUSP) team will need to understand the barriers to compliance and the underlying reasons for non-compliance. Barriers may be related to characteristics of your clinicians, the work environment, or even the guideline itself.

Purpose of Tool: The Barrier Identification and Mitigation (BIM) Tool was designed to help your CUSP team systematically identify and prioritize barriers to guideline compliance within your own clinical area. This tool also provides a framework for developing an action plan to overcome them. By providing both a practical and transdisciplinary approach to recognizing and addressing barriers, the BIM tool helps clinicians implement evidence-based practice in their clinical area.

Who Should Use this Tool? Both frontline clinicians (e.g., physicians and nurses) and non-clinicians (e.g., administrators, clinical area support staff) within the perioperative area may use this tool. Frequently, BIM Team members are a subgroup of the perioperative CUSP Team. If BIM Team members are not part of the CUSP team, they should have viewed the Science of Safety video to ensure they understand the important principles of safe system design.

How to Use this Tool: The BIM Tool is a set 5-step process that requires good detective work and great teamwork to overcome a barrier. It is best used as part of a broader safety improvement effort, such as CUSP for Safe Surgery. This tool should be used periodically (every three to six months or so) to identify barriers if clinicians are not following guidelines. This document details the 5 step process and provides sample worksheets for each step.

Step 1: Assemble the BIM Team

- First, compose an interdisciplinary team to examine a specific quality problem, like “Our penicillin-allergic patients aren’t receiving the right dose of gentamicin.” A team comprised of individuals with different backgrounds, experience and training levels can develop a more realistic picture of local barriers.
- Next, by group consensus, assign team members to necessary roles and responsibilities (time-keeper, note-taker, etc.), including a BIM Team leader to organize the Barrier Identification process in Step 2.

Step 2: Identify the Barriers

BIM team members should work independently to identify barriers to guideline compliance in the perioperative area. The team can do this in 3 ways:

1. Observe the process (like a fly on the wall):
    - What steps were skipped? Why?
    - Did you see any work-arounds?
    - Why is it difficult to comply?
    - What factors make it easier to comply
2. Discuss the process: Ask frontline clinicians and staff:
    - Are they aware of the guideline?
    - Do they think the guideline is appropriate for their patients?
    - Do they have any suggestions to improve compliance with the guideline?
3. Walk the process: Using either simulation or under real circumstances, BIM team members try to comply with the guideline themselves.

Take notes on what you find in the Barrier Identification Form, below. It will also help you identify barriers in a systematic way.

Barrier Identification Form

Guideline:		
Data collection mode (Check one): Observe the Process ☐ Discuss the Process ☐ Walk the Process ☐	Investigator:	Shift:

Factors	Barriers	Potential Actions
Clinician		
Knowledge of the guideline • Does the clinician know how to comply with the guideline?		
Attitude regarding the guideline • Does the clinician believe that following the guideline will reduce infection rates?		
Current practice habits • What does the clinician currently do (or not do)?		
Perceived guideline adherence • How often does the clinician do everything right?		
Work environment		
Task • Who is responsible for following the guideline?		
Tools and technologies • What supplies and equipment are available/used?		
Decision support • How often are work aids available and used?		

Factors	Barriers	Potential Actions
Physical environment • How does the clinical area layout make it hard to comply?		
Organizational structure • How does the organizational structure (e.g. staffing) affect adherence?		
Administrative support • How does current administrative support affect adherence?		
Performance monitoring/feedback • How do clinicians know they are following the guideline?		
Perioperative culture • How does the perioperative culture affect adherence?		
Guideline		
Applicability to perioperative patients • Does the guideline apply to this clinical area's patients?		
Ease of complying with guideline • How does guideline adherence affect clinician workload?		

Step 3: summarize barrier information and prioritize the barriers

Now you need to organize all the information you collected in Step 2.

- A designated BIM team member should list the barriers you've identified so far in column one of the Barrier Summary and Prioritization Table which follows.
- The same team member should record any suggestions provided by teammates to improve guideline adherence. These are called Potential Actions, and the BIM team may need them later in Step 5 when developing an action plan.

Now that you've identified some barriers, systematically prioritize them to see which one should be tackled first.

- As a team, rate each barrier in columns 2, 3, and 4 of the table.
    - The Likelihood Score in column two represents the likelihood of the barrier occurring in the clinical area. The team may score the barrier from 1 (unlikely to occur) to 5 (very likely to occur).
    - The Severity Score in column three represents the probability that the barrier, if encountered, would lead to guideline non-adherence. Each barrier is scored from 1 (unlikely to cause guideline non-adherence), to 5 (very likely to cause guideline non-adherence).
    - The Barrier Priority Score for each barrier is then calculated by multiplying the likelihood and severity scores.
- As a team, determine which barriers your team wants to target.

Barrier Summary and Prioritization Table

Barrier	Likelihood Score	Severity Score	Barrier Priority Score

Remember:

- The Likelihood Score represents the likelihood of the barrier occurring in the clinical area. The team may score the barrier from 1 (unlikely to occur) to 5 (very likely to occur).
- The Severity Score represents the probability that the barrier, if encountered, would lead to guideline non-adherence. Each barrier is scored from 1 (unlikely to cause guideline non-adherence), to 5 (very likely to cause guideline non-adherence).
- The Barrier Priority Score is calculated by multiplying the Likelihood Score and Severity Score.

The higher the Barrier Priority Score for a barrier, the more critical it is to eliminate or decrease the effects of that barrier.

Step 4: Prioritizing potential actions based on impact and feasibility

Now that the team has identified which barriers to target, they can use the Potential Actions listed in Step 3 to eliminate them. Some actions may seem like a great idea, but will be hard to put into practice. The team must closely examine the feasibility of implementing a potential action.

- In the Prioritizing Potential Actions table which follows, list and review the Potential Actions (from Step 3) to eliminate the selected high priority barriers. You can come up with additional potential actions using brainstorming techniques, and record all of this information in column 2. Then, rate each Potential Action in columns 2, 3, and 4 of the table.
    - The Potential Impact Score in column two represents the ability of each action to improve guideline adherence. The team may score the action from 1 (little impact) to 5 (most impact).
    - The Feasibility Score in column three represents the feasibility of implementing the action based on the resources currently available. Each action is scored from 1 (infeasible) to 5 (very feasible).
    - The Action Priority Score is then calculated by multiplying the potential impact and feasibility scores.

Prioritizing Potential Actions

Potential actions	Potential impact score	Feasibility score	Action priority score

Remember:

- The Potential Impact Score represents the ability of each action to improve guideline adherence. The team may score the action from 1 (little impact) to 5 (most impact).
- The Feasibility Score represents the feasibility of implementing the action based on the resources currently available. The team may score each action from 1 (infeasible) to 5 (very feasible).
- The Action Priority Score is then calculated by multiplying the potential impact and feasibility scores.

The higher the Action Priority Score for a Potential Action, the more critical it is to create an Action Plan for it.

Step 5: Develop an action plan

- As a team, develop an action plan for high-scoring potential actions to implement during the upcoming quality improvement cycle.
- For each action, the group should assign an appropriate leader, performance measures, and follow-up dates to evaluate progress. You can document these in the Action Plan Table, below.

Action Plan Table

Selected actions	Performance Measures	Who's in charge of these efforts?	Follow-up date

If your perioperative team does not meet performance goals by your follow-up date, your SUSP team can reevaluate at a later date, or conduct another BIM cycle.

Appendix B: Infection Control Risk Assessment Tools

Criteria for Establishing Priorities

Keenan, P., (03-14-12), *Infection Control Risk Assessment*, www.pharmcayonesource.com/images/sentri7/riskassessment.pdf. Permission to reprint by Keenan.

CRITERIA FOR ESTABLISHING PRIORITIES *Topic here*		SCORES				
		4	3	2	1	0
IMPACT	On Quality of Patient Care	Important Improvement in Patient Care	Some Improvement in Patient Care	Little Improvement in Patient Care	Questionable Improvement in Patient Care	No Improvement in Patient Care
	Growth	An opportunity to improve care	Positively promotes the hospital in the community	Neither affects hospital image or provides an opportunity to improve care	Negatively affects hospital image in the Community	Negatively impacts Patient care
	On Efficiency	Reduction of 1 FTE	Reduction of 0-1 FTE	Possible Reduction in staff time	No Impact on FTE	Increase in staff requirements
	On Operating Budget with Fiscal Year	Increase in budgeted revenue by >5% OR reduction in costs by > 10%	Increase in budgeted revenue by 0-5% OR reduction in costs by 0-10%	No Change in budgeted revenue OR costs	Decrease in budgeted revenue by 0-5% OR increase in costs by 0-10%	Decrease in budgeted revenue by >5% OR reduction in costs by > 10%
	Cost of Implementation	No Cost for Implementation	One time cost <5% of operating budget	One time cost 5 %-10 % of operating budget	One time cost >10% of operating budget	Ongoing increase costs
	Service	Promotes positive customer relations	Supports hospital's , Vision and Values	Minimal impact on customer service	No impact on customer service	Negatively impacts communication with customers
APPLICABILITY	Perceptions of Patient, Family, Staff	Problem in this area as indicated by questionnaires, complaints, etc. needing correction	Possible highly positive effect on satisfaction	Possible moderate effect on satisfaction	Possible minimal effect on satisfaction	No effect on patient, visitor, or staff satisfaction

Keenan, P., (03-14-12), *Infection Control Risk Assessment*, www.pharmcayonesource.com/images/sentri7/riskassessment.pdf. Permission to reprint by Keenan.

	High Volume	Effects 100% patients	Effects 50-75% patients	Effects 25-50% patients	Effects 0-25% patients	Does not affect patients
	High Risk	May cause death	May cause permanent serious complication	May cause permanent minor or temporary serious complication	May cause temporary minor complication	No risk
	Problem prone	Process problems noted with increased risk to patients or staff	Process problems noted with moderate risk to patients or staff	Process problems noted with low risk to patients or staff	Process problems noted with no risk to patients or staff	No Process problems noted
REGULATORY REQUIREMENTS (Quality)	**Regulatory Compliance**	Required	N/A	N/A	N/A	Not required
	Process Control	QC shows significant variation in process	QC shows moderate variation in process	QC shows minimal variation in process	N/A	No variation noted

Example table for detailing risks identified, actions to reduce the risk and applicable measurements

Keenan, P., (03-14-12), *Infection Control Risk Assessment*, www.pharmcayonesource.com/images/sentri7/riskassessment.pdf. Permission to reprint by Keenan.

IDENTIFIED RISK	ACTIONS TO REDUCE RISK	MEASUREMENT
High Prevalence of VRE in community	Monitor hand hygiene and cleaning of patient rooms	100% compliance with hand hygiene. Observation of housekeeping practices to comply with infection control program 100%
High Prevalence of MRSA in community	Monitor hand hygiene	100% compliance with hand hygiene.
Ventilator Associated Pneumonia (VAP)	Monitor VAP bundles	100% documentation of mouth care and Head of bed elevated 30 degrees
Urinary Tract Infections in LTACH	Monitor catheter care	100% compliance with catheter care guidelines
Central Venous Line Catheter Blood Stream Infections	Monitor CVL insertions following IHI criteria	100 % compliance with hand hygiene, maximal barrier precautions, Chlorhexidine skin antisepsis, site selection and review of line necessity.

Example table for IC Program Goals and Indicators

Keenan, P., (03-14-12), ***Infection Control Risk Assessment***, www.pharmcayonesource.com/images/sentri7/riskassessment.pdf. Permission to reprint by Keenan.

IC PROGRAM GOALS AND INDICATORS FOR 2012

GOAL	INDICATOR	BENCHMARK
Limit unprotected exposure to pathogens throughout the organization	HAI overall infection rate	9.8
	HAI MRSA infection rate	1.8
	HCA VRE infection rate	1.6
	HAI catheter related UTI	5.1
	HAI catheter related BSI	5.0
	Number of employee blood/body fluid exposure	Not determined
	Reporting of employee communicable disease	90% reported
	Number of employees who use proper PPE as observed by direct supervision	100%
Enhancing Hand Hygiene	Number of employees who use proper hand hygiene as observed by direct observation	100%
	Soap and water is used for every hand washing if patient has C-Difficile	100%
	Amount of alcohol hand rub purchased	varies
Minimize risk of transmission of infections associated with the use of procedures, medical equipment, and medical devices	Separation of clean/dirty equipment	100%
	No reuse of one time use equipment	100%
	Equipment cleaned per policy as observed by direct observation	100%

Example table for IC Program Objectives, Strategies, Measurements, Lead Staff and Collaborating Staff

Keenen, P., (03-14-12), *Infection Control Risk Assessment,* www.pharmacyonesource.com/images/sentri7/riskassessment.pdf. Permission to reprint by Keenan.

OBJECTIVE	STRATEGY	MEASUREMENT	LEAD STAFF	COLLABORATING STAFF
Increase hand hygiene organization wide	Direct observation Hand hygiene education Feedback of HAI rates One on one education when indicated	Concurrent Direct Observation Observation with 100% compliance	ICC Charge Nurse Nurse Manager Nurse Educator	RC Director Rehab Director Nursing assistants Nurses
Separation of clean/dirty equipment	Equipment tagged with who/date cleaned and clear plastic bag over equipment	Monitoring equipment for tag and bag with 100% compliance	ICP, Nurse Manager, Charge Nurse	RC Director, Rehab Director, Nursing assistants, Nurses, MM Director
Pharmacy to meet 797 Standards	Educate Staff and complete competencies (sterile technique) Implement P & P for sterile Compounding Remodel pharmacy for clean room if applicable Wear Protective equipment when compounding sterile products	Direct Observation	Pharmacy	Pharmacy, Leadership, Engineering
Implementation of Steris System (if applicable)	Follow manufacturer's directions	Direct observation	ICC	RCP, Nurses
Annual PPD on all employees/students/volunteers	Annual Health Fair for all employees	Current employee PPD compliance rate: 100%	ICC, Leadership team, Medical Director	All managers
Referral for assessment, testing, immunization for those with infectious disease	Employee reporting of infectious diseases	90% compliance	ICC, Leadership Team	RC Director, Rehab Director, Nursing assistants, Nurses, MM Director
Increase report time to occupational health to under 2 hours for all blood/body fluid exposures	Re-educate staff, charge nurse responsible to relieve employee of duties and strongly recommend they report to ER or OHS within the 2 hour timeframe	Desired: 100%	ICC, Charge Nurse, Nurse Manager, DCS	All managers, Leadership Team
Minimize risk from animals	Adherence to Animal Visitation Policy	Desired: 100%	ICC, Charge Nurse, Nurse Manager, DCS	All managers, Leadership Team

Appendix C: Infection Control Risk Assessment Documentation Templates

Template table for detailing risks identified, actions to reduce the risk and applicable measurements

Identified Risk	Actions to Reduce Risk	Measurement

Template table for IC Program Goals and Indicators

Goal	Indicator	Benchmark

Template table for IC Program Objectives, Strategies, Measurements, Lead Staff and Collaborating Staff

Objective	Strategy	Measurement	Lead Staff	Collaborating Staff

Appendix D: Infection Prevention Plan Guideline and Associated Templates

Adapted from Bennett, G. Infection Prevention Manual for Hospitals. 2010 ed. Rome, GA; ICP Associates, Inc.

PURPOSE: To develop and maintain a written plan for infection prevention including an assessment of risk, services provided, the population served, strategies to decrease risk, and a surveillance plan.

POLICY:

I. A current written infection prevention plan will be implemented. Accrediting agencies require an Infection Prevention Plan as this tool is used to determine if the plan has administrative support, whether education is geared to what is outlined, and whether or not issues are being addressed.

II. The written plan will include the following:

   A. Assessment of risk

   B. Assessment of services provided

   C. Assessment of the population served

   D. Prioritized strategies to decrease risk

   E. Surveillance plan based on analysis of previous data

III. The written infection prevention plan will guide the activities of the infection prevention department.

IV. The plan will be reviewed at least annually and more often as needed.

Template - Infection Prevention Plan and Risk Assessment Worksheet

INFECTION PREVENTION PLAN

This plan has been developed by the Infection Prevention Committee with input and collaboration from the following:

- Safety Committee
- Performance Improvement Committee
- Leadership including Department Managers
- Chief of Services

A risk assessment is a component of this plan. The plan and risk assessment are formally reviewed at least annually and whenever significant changes occur in the elements that affect risk.

RISK ASSESSMENT WORKSHEET

Risk Priority	Low: 1-3 Risk Score	Medium: 4-5 Risk Score	High: 6-9 Risk Score

Risk Event	Probability the risk will occur				Potential Severity if the Risk Occurs				How well prepared is the organization if the risk should occur?			Risk Score
	High	Med	Low	None	Life-threatening	Permanent Harm	Temporary Harm	None	Poorly	Fairly well	Well	
Value	3	2	1	0	3	2	1	0	3	2	1	
Geographical location and community environment												
Potential Device-Associated Infections												
Central line associated bloodstream infection												
Ventilator associated pneumonia												
Catheter related UTI												
Surgical site infections												

Infections with specific organisms:												
MRSA												
VRE												
C. difficile												
ESBL												
KPCs												
Special programs and Services:												
Other Risks:												

Based on the risk assessment, the facility has identified the following risks and prioritized them in descending order:	
Risk Score	Risk

For each prioritized risk, identify goals, strategies, responsible person, time frame, and evaluation of effectiveness.					
RISKS	**GOALS**	**STRATEGIES**	**IMPLEMENTATION**		
			Responsible Persons	**Time Frame**	**Method and Evaluation of Effectiveness**

Infection Control Plan Reviewed by:

	Date		Date		Date
	Date		Date		Date
	Date		Date	Leadership representative	Date

Template - Surveillance Plan

SURVEILLANCE PLAN

Based on the analysis of infection prevention and control data, complete the surveillance plan.

IMPORTANT ASPECTS OF CARE	INDICATORS	BENCHMARK	DATA SOURCE	DATA COLLECTOR	SAMPLE	COLLECTED/ TABULATED/ REPORTED
SURVEILLANCE of Healthcare-Associated Infections, targeted to High-risk problem-prone infections	****EXAMPLE**** 1. Ventilator-related pneumonia	****EXAMPLE**** To be established using P- charts	****EXAMPLE**** Medical records, lab reports, staff clinical evaluations	****EXAMPLE**** Infection Prevention Professional (IP)	****EXAMPLE**** 100% of ventilated patients in ICU	****EXAMPLE**** On-going, Monthly/ Quarterly

Appendix E: The Nursing Process

As see on the American Nurses Association website http://www.nursingworld.org/EspeciallyForYou/What-is-Nursing/Tools-You-Need/Thenursingprocess.html

The Nursing Process

The common thread uniting different types of nurses who work in varied areas is the nursing process – the essential core of practice for the registered nurse to deliver holistic, patient-focused care.

Assessment
An RN uses a systematic, dynamic way to collect and analyze data about a client, the first step in delivering nursing care. Assessment includes not only physiological data, but also psychological, socio-cultural, spiritual, economic, and life-style factors as well. For example, a nurse's assessment of a hospitalized patient in pain includes not only the physical causes and manifestations of pain, but the patient's response—an inability to get out of bed, refusal to eat, and withdrawal from family members, anger directed at hospital staff, fear, or request for more pain medication.

Diagnosis
The nursing diagnosis is the nurse's clinical judgment about the client's response to actual or potential health conditions or needs. The diagnosis reflects not only that the patient is in pain, but that the pain has caused other problems such as anxiety, poor nutrition, and conflict within the family, or has the potential to cause complications—for example; respiratory infection is a potential hazard to an immobilized patient. The diagnosis is the basis for the nurse's care plan.

Outcomes / Planning
Based on the assessment and diagnosis, the nurse sets measurable and achievable short- and long-range goals for this patient that might include moving from bed to chair at least three times per day; maintaining adequate nutrition by eating smaller, more frequent meals; resolving conflict through counseling, or managing pain through adequate medication. Assessment data, diagnosis, and goals are written in the patient's care plan so that nurses as well as other health professionals caring for the patient have access to it.

Implementation
Nursing care is implemented according to the care plan, so continuity of care for the patient during hospitalization and in preparation for discharge needs to be assured. Care is documented in the patient's record.

Evaluation
Both the patient's status and the effectiveness of the nursing care must be continuously evaluated, and the care plan modified as needed.

Appendix F: Plan Do Study Act Template and Example

<table>
<tr><td colspan="2">Background: What's the problem? What's your objective?
We need to increase the use of hand hygiene among front-line staff</td><td colspan="3">Project: Hand Hygiene compliance Date: 6/25/12
Facility: Hospital
Name: Kim Jones</td></tr>
<tr><td rowspan="6">Plan</td><td>Describe the solution you plan to test</td><td>Person Responsible</td><td>When to be done</td><td>Where to be done</td></tr>
<tr><td>1. Install alcohol sanitizer outside patient rooms</td><td>Christy</td><td>Wednesday PM 7/11/12</td><td>3 West</td></tr>
<tr><td>List of the tasks needed to set up the test of change</td><td>Person Responsible</td><td>When to be done</td><td>Where to be done</td></tr>
<tr><td>1. Order Alcohol Hand sanitizer dispensers and solution
2. Complete staff training
a. front-line staff
b. secret shoppers
3. Post gel-in/gel-out signs inside and outside the patient room door
4. Move the dispenser outside of room 301</td><td>Christy
Sam

Sam

Christy</td><td>Monday 6/9/12
Tuesday7/10/12

8/3/12

8/2/12</td><td>Materials Mgt
Classroom

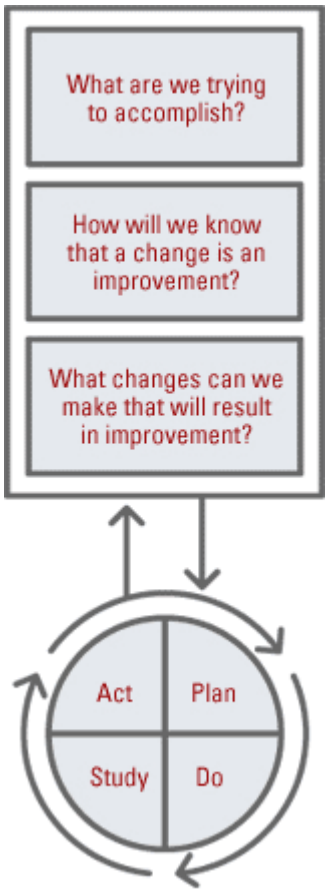
3 West</td></tr>
<tr><td>Predict what will happen</td><td colspan="3">How will you measure your test? What data do you need before and after the test?</td></tr>
<tr><td>Front-line staff will use sanitizer when they enter and leave the patient room.</td><td colspan="3">We will use qualitative data and observe staff via "secret shoppers" - 3 secret shoppers, 10 observations each in 2 week period after dispensers installed.</td></tr>
<tr><td>Do</td><td colspan="4">Implement your test. What did you do? Whom did you engage?
Training completed with nurses, aides, lab techs, and physicians. Interested in faster method for HH. Question hands becoming dry due to alcohol agent.</td></tr>
<tr><td>Study</td><td colspan="4">What did you learn? Was it what you expected? Show your outcome data. Describe your successes and barriers.
Secret shopper data indicated that dispensers only used 60% when staff entered the entered and only 30% when exiting room. Staff report that alcohol product is drying their hand, don't see the dispensers on the way out of the room. Reported that one sanitized dropped solution on them as they walked by.</td></tr>
</table>

Act	**What will you want to do next? Describe your idea for a next small test of change.** Obtain lotion compatible with alcohol sanitizer for staff to use. Educate in importance of using only lotion provided. Put signage on both sides of door frame. Change position of "bird-drop" dispenser.
Innovation and Spread	**Did you do something or create something innovative during your test? How will you share what you learned?** We will introduce this to entire clinical staff next month.

Appendix G: Plan Do Study Act Template

<table>
<tr><td colspan="2">Background: What's the problem? What's your objective?</td><td colspan="3">Project:
Facility:
Name:
Date:</td></tr>
<tr><td rowspan="6">Plan</td><td>Describe the solution you plan to test</td><td>Person Responsible</td><td>When to be done</td><td>Where to be done</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>List of the tasks needed to set up the test of change</td><td>Person Responsible</td><td>When to be done</td><td>Where to be done</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>Predict what will happen</td><td colspan="3">How will you measure your test? What data do you need before and after the test?</td></tr>
<tr><td></td><td colspan="3"></td></tr>
<tr><td>Do</td><td colspan="4">Implement your test. What did you do? Whom did you engage?</td></tr>
<tr><td>Study</td><td colspan="4">What did you learn? Was it what you expected? Show your outcome data. Describe your successes and barriers.</td></tr>
<tr><td>Act</td><td colspan="4">What will you want to do next? Describe your idea for a next small test of change.</td></tr>
<tr><td>Innovation and Spread</td><td colspan="4">Did you do something or create something innovative during your test? How will you share what you learned?</td></tr>
</table>

Appendix H: PDSA CLABSI Example



What are we trying to accomplish? Maintenance care of a central line catheter is provided every time using best practice guidelines.

How will we know that a change is an improvement? There will be zero CLABSI incidences. Monitoring tools will demonstrate 100% compliance with guidelines.

What changes can we make that will result in improvement?

- Identify and write policy specific guidelines for CL maintenance
- Create checklist for maintenance care
- Create cue for maintenance care documentation in medical record
- Create instruction and competency check off. Require staff to complete competency prior to being allowed to do maintenance care.

Plan:

- Snow White will write policy based on SHEA/UDSA practice recommendations by January 19, 2012
- Snow White will develop maintenance monitoring system and educate staff by January 19, 2012

Do:

- Snow White provided the monitoring tool to the nursing staff at their staff meeting January 20, 2012 with an explanation of the HAI prevention project they were participating in to improve the care they provided to patients, the rationale for providing evidenced based care and how to use the form.

Study: 3 forms completed and returned to Snow White. Snow White interviewed staff regarding process. She reported to HAI prevention team on February 10, 2012

- All 3 nurses indicated they could not follow the checklist as they did not have the supplies required in the check list – checklist indicated they were to use chlorhexidine preparation to disinfect catheter hubs, needleless hubs, injection ports, and skin prep during dressing changes. Only sterile alcohol wipes were available on the floor and in dressing kits.
- One nurse did not use a dressing kit because the only one that was left in the supply room was outdated. Observers indicated she had difficulty maintaining sterile field.
- Two nurses indicated it was a good review as they did so few central line dressing changes. However the form did not indicate how often dressing changes needed to be completed, what the criteria was for a patient to wear a mask. They also questioned if the skin prep pad was inside the dressing kit, wasn't it sterile? Nurses indicated that the form seemed better suited to be a competency check list for CL dressing change as it did not contain all of the components of maintenance care.

Act: See monitoring form below.

Central Line Dressing Change Procedure/Monitoring Tool

Patient Name_____ Date_____

Clean Procedure- Preparation

1. Explain procedure to patient/family	
2. **Wash your hands**	
3. Place your mask on and place mask on patient if indicated	
4. Don clean gloves and remove old dressing using alcohol swab or adhesive remover as needed	
5. Inspect insertion site of catheter for signs of infection. Culture if needed. Assess security of sutures.	
6. Remove your gloves	

Sterile Procedure- Preparation

7. Open sterile gloves and create a sterile field using sterile glove package	
8. Open Chlorhexidine Gluconate 2% swab and drop onto sterile field	
9. Open transparent dressing and drop onto sterile field	
10. Open skin prep and place on outer edge of sterile field	

Sterile Procedure- Skin Cleansing

11. Don sterile gloves	
12. Clean skin with Chlorhexidine Gluconate 2% swab	
13. Using friction or scrubbing motion to apply, begin directly at the insertion site and move swab in a circular fashion without retracing the area already done.	
14. Allow Chlorhexidine Gluconate 2% to air dry for 1-2 minutes	

Sterile Procedure- Prepare to Place the Dressing

15. Designate one hand as the unsterile hand and pick up the skin prep packet.	
16. Remove the skin prep pad with your sterile hand.	
17. Apply skin prep on outer perimeter of skin where dressing edge will touch patient. Do not apply skin prep over the insertion site or the immediate surrounding area.	
18. Allow the skin prep to completely dry.	

Sterile Procedure- Apply the Dressing

19. Using your sterile hand, apply the transparent dressing or gauze dressing per the manufacturer recommendations.	

20. Remove gloves, unless indicated by isolation policy	
21. Label dressing with date/time/initials of dressing change	
22. Label dressing with date/time/initials of dressing change	

Staff Member _____ Observer _____

Source: Adapted from Central Line Maintenance Presentation, Melinda Sawyer, RN, MSN, PCCN, John Hopkins Medicine

Appendix I: Healthcare Facility HAI reporting Requirements to CMS via NHSN

Current and Proposed Requirements
DRAFT (9/2013)

CMS Reporting Program	HAI Event	Reporting specifications	Reporting Start Date
Hospital Inpatient Quality Reporting (IQR) Program	CLABSI	Adult, Pediatric, and Neonatal ICUs	January 2011
	CAUTI	Adult and Pediatric ICUs	January 2012
	SSI: COLO	Inpatient COLO Procedures	January 2012
	SSI: HYST	Inpatient HYST Procedures	January 2012
	MRSA Bacteremia LabID Event	FacWideIn	January 2013
	C. *difficile* LabID Event	FacWideIN	January 2013
	Healthcare Personnel Influenza Vaccination	All Inpatient Healthcare Personnel	January 2013
	Medicare Beneficiary Number	All Medicare Patients Reported into NHSN	July 2014
	CLABSI	Adult and Pediatric Medical, Surgical and Medical/Surgical Wards	January 2015
	CAUTI	Adult and Pediatric Medical, Surgical and Medical/Surgical Wards	January 2015
ESRD Quality Incentive Program (QIP)	Dialysis Event (includes positive blood culture, I.V. antimicrobial start and signs of vascular access infection)	Outpatient Hemodialysis Facilities	January 2012
Inpatient Rehabilitation Facility Quality Reporting Program	CAUTI	Adult and Pediatric IRF Wards	October 2012
	Healthcare Personnel Influenza vaccination	All Inpatient Healthcare Personnel	October 2014
Ambulatory Surgery Centers Quality Reporting Program	Healthcare Personnel Influenza Vaccination	All ASC Healthcare Personnel	October 2014

For the most current version, please visit the CDC website http://www.cdc.gov/nhsn/PDFs/CMS/CMS-Reporting-Requirements.pdf

Appendix J: Surgical Center Reporting Measures

AMBULATORY SURGICAL CENTER MEASURE REPORTING START DATES

The chart below summarizes the Ambulatory Surgical Center Measure Reporting start dates as outlined in the Specifications Manual V.2.0.

CLAIMS-BASED MEASURES			
Number	**Measures for CY 2015 Payment Year**	**Data Submission Dates for CY 2015 Payment**	
ASC-1	Patient Burn	Claims submitted for services furnished between January 1, 2013 and December 31, 2013	
ASC-2	Patient Fall in the ASC	Claims submitted for services furnished between January 1, 2013 and December 31, 2013	
ASC-3	Wrong Site, Wrong Side, Wrong Patient, Wrong Procedure, Wrong Implant	Claims submitted for services furnished between January 1, 2013 and December 31, 2013	
ASC-4	Hospital Transfer/Admission	Claims submitted for services furnished between January 1, 2013 and December 31, 2013	
ASC-5	Prophylactic Intravenous (IV) Antibiotic Timing	Claims submitted for services furnished between January 1, 2013 and December 31, 2013	
STRUCTURAL (WEB-BASED) MEASURES			
Number	**Measures for CY 2015 Payment Year**	**Reference Period**	**Submission Period**
ASC-6	Safe Surgery Checklist Use	January 1, 2012 – December 31, 2012	July 1, 2013 – August 15, 2013
ASC-7	ASC Facility Volume Data on Selected ASC Surgical Procedures*	January 1, 2012 – December 31, 2012	July 1, 2013 – August 15, 2013
Number	**Measures for CY 2016 Payment Year**	**Reference Period**	**Submission Period**
ASC-8	Influenza Vaccination Coverage among Healthcare Personnel**	TBA	October 1, 2014 – March 31, 2015

* See www.qualitynet.org for selected procedures and corresponding codes.
**Data collection for this measure will be submitted to the National Healthcare Safety Network.

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Ambulatory Surgical Center Quality Reporting Program
Support Contractor

WIPAG welcomes your comments and feedback on these sections.
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