


**Getting it Done:  
Tackling Performance  
Improvement in Your Facility**

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Disclosure

Thanks to 3M Skin & Wound Division for  
supporting this session.



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Objectives

- Explore the various evidence-based recommendations that are relevant to specific patient scenarios
- Describe the challenges to implementation of evidence-based recommendations
- Identify specific systems and processes that support improvement initiatives
- Review activities that serve to promote and ensure adherence with improvements

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Patient Scenario

- 43 year old diabetic female, admitted to ICU with community-acquired pneumonia and immediately intubated and placed on mechanical ventilation. Central line inserted in right jugular while in ICU. Indwelling urinary catheter in place.
- Bloodstream infection rates have been monitored and the 12 month range has been well above NHSN 50<sup>th</sup> percentile in this ICU.
- Staff and administration have accepted that these patients are sicker than most and the nursing staff is considered to be excellent.

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Patient Risk Factors for Infection

- Co-morbidities
- Poor oxygenation
- Mechanical ventilation
- Central line
- Jugular placement
- Indwelling urinary catheter
- Appropriate antimicrobial therapy dependent upon accurate blood culture
- Collateral damage from antimicrobial therapy

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### Best Practices: Prevention of Ventilator-Associated Pneumonia

- Hand hygiene
- Head of the bed elevated
- Daily sedation interruption
- Assessment of readiness to wean
- Regular oral care

5 Million Lives Campaign. *Getting Started Kit: Prevent Ventilator-Associated Pneumonia How-to Guide*. Cambridge, MA: Institute for Healthcare Improvement; 2008. (Available at [www.ihl.org](http://www.ihl.org))

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### Best Practices: Prevention of Catheter-Associated Urinary Tract Infection

- Use only when necessary and remove quickly
- Aseptic technique
- Sterile equipment
- Hand hygiene
- Maintain closed system

Guide to the Elimination of Catheter-Associated Urinary Tract Infections (CAUTIs). APIC. 2009. (Available at [www.ihl.org](http://www.ihl.org) and [www.apic.org](http://www.apic.org))

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### Best Practices: Prevention of Central Line-Associated Bloodstream Infection

- Use a checklist
- Hand hygiene
- Avoid femoral insertion site (subclavian preferred)
- All inclusive catheter cart or kit
- Maximal sterile barrier during insertion
- Chlorhexidine skin antiseptic
- Disinfect hubs/access ports
- Rapid removal

5 Million Lives Campaign. *Getting Started Kit: Prevent Central Line Infections How-to Guide*. Cambridge, MA: Institute for Healthcare Improvement; 2008. (Available at [www.ihl.org](http://www.ihl.org))

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### Best Practices: Collection of Blood Cultures

- Skin disinfection
- Collect enough blood
- Avoid drawing via central line
  - *Clean hubs*
  - *No discard blood*
- Cleanse tops of bottles
- Use blood transfer devices

Weinstein MP, Reller LP, Murphy JR, et al. The clinical significance of positive blood cultures: A comprehensive analysis of 500 episodes of bacteremia and fungemia in adults. I. Laboratory and epidemiologic observations. *Reviews of Infectious Diseases*. 1983;5:35-53.  
Blot F, Schmidt E, Nitenberg G, et al. Earlier positivity of central venous versus peripheral blood cultures is highly predictive of catheter-related sepsis. *Journal of Clinical Microbiology*. 1998;36:105-109. Mermel LA, Maki DG. Detection of bacteremia in adults. Consequences of culturing an inadequate volume of blood. *Annals of Internal Medicine*. 1993;119:270-272.

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### If we Believe the Evidence...

- We determine how to implement
  - *Identify champions*
  - *Identify obstacles*
  - *Observe systems*
  - *Gather teams*
  - *Search for current role models*
  - *View improvement as a group effort that is owned by everyone*

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### Improvement Process

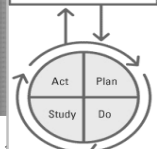
What are we trying to accomplish?

How will we know that a change is an improvement?

What changes can we make that will result in improvement?

The Plan-Do-Study-Act (PDSA) process is a used to guide change.

- Develop a plan to test the change (Plan)
- Carry out the test (Do)
- Observe and learn from the consequences (Study)
- Determine what modifications should be made to the test (Act).



Institute for Healthcare Improvement; Joint Commission

### Changing an Existing System


- Similar to death
- Lessons from Dr. Elizabeth Kübler-Ross
  - 5 stages of grief (change model)
    - Denial
    - Anger
    - Bargaining
    - Depression
    - Acceptance

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### Comparing Resistance to Change to Stages of Death and Dying

1. Denial or disbelief, numbness

*"Your data is wrong"*




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### Comparing Resistance to Change to Stages of Death and Dying

2. Anger, blaming others

*"Others have bigger problems than I do."*

*"How could you have let things get so out of hand with them? Your data doesn't apply to me."*




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### Comparing Resistance to Change to Stages of Death and Dying

3. Bargaining (e.g. "If I am cured of this, I swear, I will go to church every Sunday!")

*"My patients are different but if you can compare me to patients that are just like mine, I promise to accept the data"*

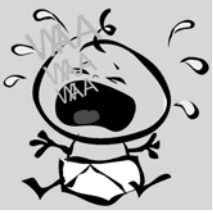


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### Comparing Resistance to Change to Stages of Death and Dying

4. Depression, sadness, crying, feeling despondent

*"There is no way that I can make all of these changes you are trying to make me do. My patients will suffer, costs will go up, we will all get sued...."*




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### Comparing Resistance to Change to Stages of Death and Dying

5. Acceptance or coming to terms with loss and death.

*"I realize and accept that I can no longer skip hand hygiene, make everyone else adhere with isolation precautions except me, fail to apply bundle elements..... How can I help?"*



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### Implementation

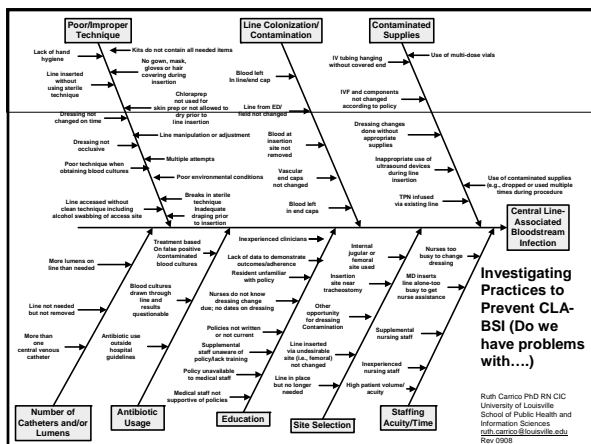
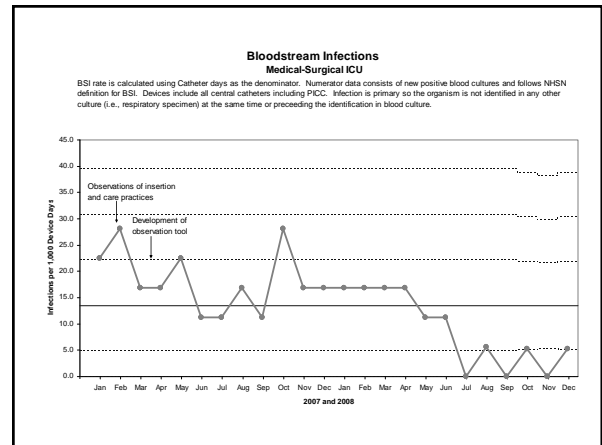
- Gather your team
- Be prepared to immerse yourself in the process
- But, be wary of taking sole ownership
- Shared responsibility and shared accountability

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### Patient Scenario

- 43 year old diabetic female, admitted to ICU with community-acquired pneumonia and immediately intubated and placed on mechanical ventilation. Central line inserted in right jugular while in ICU. Indwelling urinary catheter in place.

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### Central Line Insertion Care Team Checklist

If any item on the checklist is not adhered to or there are any concerns, contact the ICU attending.

**Purpose:** To work as a team to decrease patient harm from catheter-related blood stream infections  
**When:** During all central venous or central arterial line insertions or re-wires  
**By whom:** Individual name

**If there is an observed violation of infection control practices, line placement should stop immediately and the violation should be corrected. If a correction is required, mark 'yes' to question #6 and explain violation at the bottom of the page and what corrections were made.**

Patient's name or Room Number \_\_\_\_\_

- Today's date: \_\_\_\_\_
- Is the procedure:  Elective  Emergent  New line  Rewire
- Procedure:  Internal Jugular  Subclavian  Femoral
- Site Site Used:  Yes  No  Internal Jugular  Subclavian  Femoral  
 If equipment is available, ultrasound guidance should be used for all non-emergent internal jugular line placements. (Optional for subclavian and femoral line placements.)  
 Yes Yes No Don't Know  
 After correction: Know
- Before the procedure, did the house staff:
  - Perform a "time-out"
  - Wash hands (alcohol-based or soap) immediately prior  (ask if needed)
  - Wash hands washing directly observed?
  - Place pt in Trendelenburg position (< 9 degrees)  to prevent air embolism
  - Sanitize procedure site (chlorhexidine)
  - Drage entire patient in a sterile fashion
- During the procedure, did the house staff:
  - Use hat, mask, sterile gown and gloves
  - Maintain a sterile field
  - Did all personnel assisting follow the above precautions
  - Ensure line aspirates blood to prevent hemolysis
  - Trendelenburg CVP or certain CVP by fluid column
- After the procedure:
  - Was a sterile dressing applied to the site
  - Was a correction required to ensure compliance with Safety & Return completed practices? Explain. Yes No
- Was a correction required to ensure compliance with Safety & Return completed practices? Explain. Yes No

Please return completed form to the designated location in your area  
 Version 12/2004

## Supplies

- Human factors engineering
  - *System must enable users to do the "right" thing and prevent them from doing the "wrong" thing*
- Package all supplies together
- Standardization promotes adherence
- Minimize decisions that have to be made
- Train to the standard

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## Technique

- Observe practice
  - *Dressing changes and site care*
  - *Accessing via ports/hubs*
  - *Tubing, components*
- Clear policy/procedure
- Test the policy/procedure in simulated environment
- Identify obstacles to the process
- Recognize cultural diversities

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## Site Selection

- Subclavian offers easiest opportunities for site care, as a general rule
- Experience of clinicians often guide site selection
- Use of ultrasound and simulation environments may be of assistance
- If unable to change site, then practices and processes must be geared toward best patient outcomes

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## Education/Training

- Needs of learners
- Cultural diversity
- Experiential learning (simulations, safe environments to perform and monitor)
- Observation of practice
- Culture of identifying and reacting/responding to breaches in safe practice

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## Blood Cultures

- Be aware of current practice and its gaps
- Avoid drawing via central lines
  - *If it is done, be aware of practice specifics*
- Attention to skin preparation
- Collect enough blood volume
- Cleanse tops of culture bottles
- Use blood transfer devices
- Transport promptly to lab

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**PURPOSE:** To provide guidelines for obtaining blood samples for culture in a manner that minimizes contamination and maximizes clinically relevant results.

### **POLICY STATEMENTS:**

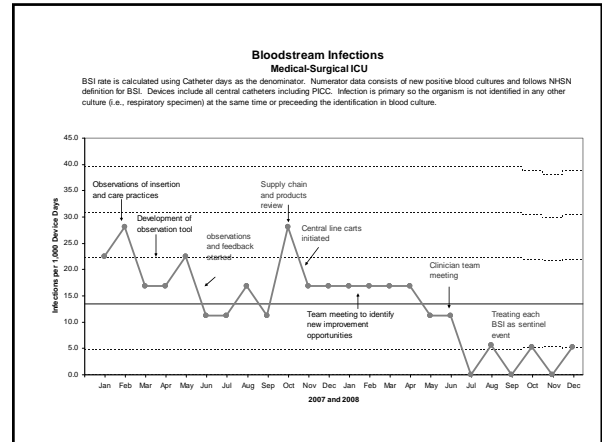
1. Critical elements involved in obtaining blood cultures includes adequate skin disinfection, adequate blood volume (i.e., at least 10 cc per bottle for adults), and hand hygiene practice performed by the collecting healthcare worker.
2. Blood cultures are to be drawn 30-60 minutes apart unless ordered otherwise by the clinician.
3. If one culture is to be obtained from a central vascular access device (CVAD) and another via a peripheral venipuncture, those cultures can be obtained one right after the next unless otherwise ordered by the clinician.
4. If a peripheral blood culture is ordered to be obtained after removal of a CVAD, blood for that culture should be obtained 30-60 minutes after removal of the CVAD.
5. Blood drawn via arterial lines is never an acceptable specimen for blood culture in the adult patient. Blood drawn via an umbilical artery catheter (UAC) is acceptable practice in the neonate.
6. Peripherally drawn blood cultures represent the optimal specimen as those obtained via CVAD are more likely to be contaminated by organisms residing in the device itself or device components (i.e., tubing, end caps).
7. Appropriate safety devices and personal protective equipment must be used when obtaining any blood specimen. Examples of such safety devices include safety needle/butterfly, blood transfer device, and gloves. Additional safety devices are selected and used based upon anticipated activities of the individual obtaining the specimen.
8. If the patient has a multi-lumen device (i.e., triple lumen central venous catheter), it is not necessary to draw cultures from each of the lumens unless specified by the ordering clinician.

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### Antimicrobial Management

- Accuracy in blood cultures as basis for therapy
- Administration of therapy
  - *Right route (central v peripheral access)*
  - *Timeliness*
- Observe for evidence of collateral damage
- Know why the antibiotic is administered and demonstrate that knowledge through practice

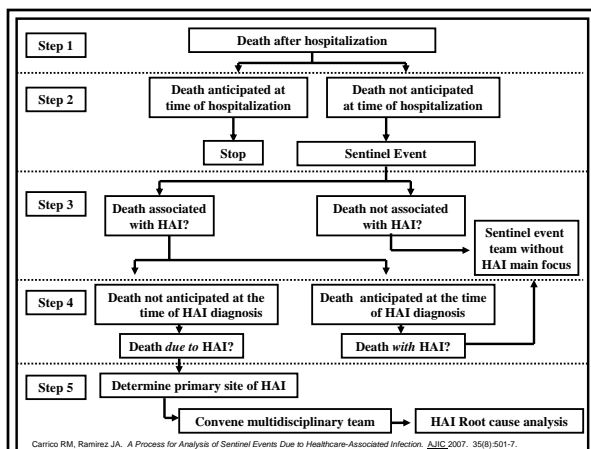
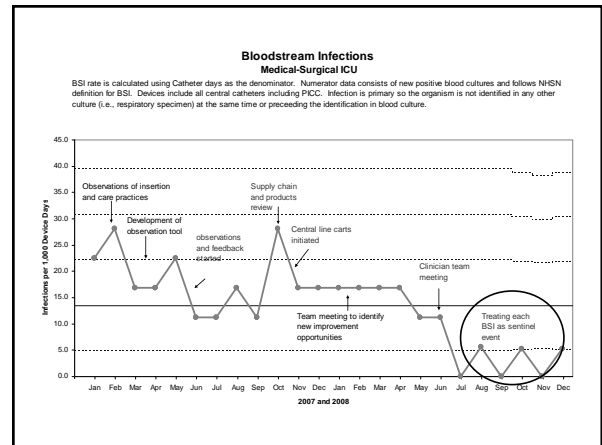
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### The Healthcare Worker of Tomorrow (and later today)

Matures <1946	Baby Boomers 1946-1964	Gen X 1965-1980	Millennials 1981-present
Hard work	Personal fulfillment	Uncertainty	"What's next"
Duty	Optimism	Personal focus	On my terms
Sacrifice	Crusading causes	Live for today	Just show up
Thriftiness	Buy now/Pay later	Save, save, save	Earn to spend
Work fast	Work efficiently	Eliminate the task	Do exactly what's asked

Courtesy: Marquerite Jackson RN PhD



### Infection Prevention Practice Competencies for Healthcare Workers

- Understands how transmission occurs
- Able to apply this knowledge in preventing transmission
- Recognizes who is involved in preventing transmission
- Able to apply the knowledge regarding transmission prevention in all settings
- Applies critical thinking skills to problem solve
- Actively collaborates with others in working toward the goal of transmission prevention

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### Competent Workforce

- Recognizes infection risks due to intravascular devices
- Able to apply that knowledge in infection prevention
- Able to apply that knowledge in all healthcare settings
- Critical thinking skills and problem solving
- Collaborates with others in working toward infection prevention

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### Patient Scenario

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Why not go out on a limb?  
Isn't that where the fruit is?

-Mark Twain

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### Resources

- Marschall J et al. Strategies to Prevent Central Line-Associated Bloodstream Infections in Acute Care Hospitals. *Infection Control and Hospital Epidemiology* October 2008, Vol. 29. Supp 1
- Carayon P et al. Work System Design for Patient Safety: the SEIPS Model. *Qual Safe Health Care*. 2006 Dec; 15 Suppl 1:i50-8.
- Carrico R et al. Infection Prevention and Control Competencies for Hospital-Based Healthcare Personnel. *American Journal of Infection Control*. 2008 Dec; 36(10):691-701.

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