How to Conduct a Risk Assessment for Infection Prevention and Control

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Program Moderator

Meg Kerr
AAAHC Vice President, Education and Development

2016 Standard 7.I.B.4

The written infection prevention and control program is:

- The result of a formal, documented infection prevention risk assessment to ensure that the program is relevant to the organization.

Questions:
1. What does an IP risk assessment look like?
2. How do I conduct this assessment?
Presenter

Marcia Patrick, RN MSN, CIC

- 30 years of experience in infection control, including acute care, ambulatory care, adult and pediatrics
- 30+ year member of the Association for Professionals in Infection Control and Epidemiology (APIC)
- APIC Board of Directors, 2009 to 2012
- Director of Infection Control for multiple hospitals and clinics
- Surveyor for AAAHC

Objectives

At the conclusion of the presentation, the participant will be able to:

- Understand the processes for preparing a facility risk assessment for the development of an effective infection prevention and control program
- Conduct a risk assessment for infection prevention and control

Remember...

It’s All About ...
Patient Safety!
Risk Assessment

- Team sport – input from everyone
- Do as a group or one-on-one with key personnel
- First time is most difficult
- You’ll guide the process but everyone contributes

Top Infection Control Risks

Can lead to significant patient/staff harm:

- Lack of hand hygiene
- Unsafe injection practices
- Poor cleaning, disinfection, sterilization
- Inadequate environmental cleaning
- To name but a few...

Facility Infection Risk Assessment

Purpose

- Provide a basis for infection surveillance, prevention and control (ISPC) activities
- Identify at-risk populations/procedures in your facility
  - High-volume, high-risk, or problem-prone procedures
- Assist in focusing surveillance efforts
- Meet regulatory and other requirements

Facility Infection Risk Assessment

Identify risks for acquiring and transmitting infections based on:
- Populations served (type/volumes)
- Types of procedures, general and specialty services
- Personnel numbers and types
- Geographic location and size of facility
- Area endemic infections and related risks
- Analysis of surveillance activities and other infection control data

Facility Infection Risk Assessment

COLLABORATE to conduct risk assessment (seek interdisciplinary input):
- Infection prevention personnel
- Medical and nursing staff
- Leadership
- Others: Building Management, Facilities, etc.

Document and prioritize risks:
- Use a template
- Determine which are most significant; which to address first

Elements to Consider

Geography/topography/weather
- Natural disasters - hurricanes, tornadoes, earthquakes, lahars, snow, rain, drought
- Accessibility of facility, nearest hospital, etc.

Population
- Community, patients, socioeconomics, other factors affecting health; adults vs. pediatrics
Elements to Consider (2)

Communications
- Within facility, among staff; with hospital(s)
- With community including Emergency Management, Health Department, medical society, professional groups, Emergency Medical Services
- Routine and emergency

Elements to Consider (3)

Employees
- Hand hygiene compliance
- Immunizations/policy/compliance
- Sharps injuries/protocol followed
- Sick policy; exclusion for certain illnesses
- TB control: screening, exposures, respiratory protection program, respirators, fit-testing

Elements to Consider (4)

Environment
- Appropriate for procedures, adequate space for instrument/scope cleaning, disinfection and sterilization
- Furnishings can be cleaned/disinfected
- Cleaning, disinfection of environment
- Biohazard waste management
- Construction: ICRA, involvement in planning, barriers, equipment, furnishings
- Requirements for ventilation in OR, CS
### Elements to Consider (5)

**Cleaning, Disinfection, Sterilization**
- Following AAMI, AORN, CDC Guidelines
- No reuse of disposables/single patient use
- Proper monitoring of sterilizers
- Proper monitoring of high level disinfection (HLD) practices
- Preventive maintenance on all equipment performed and documented
- Procedure for failed sterilizer or HLD tests

### Elements to Consider (6)

**Risks for Infections**
- Surgical site infections (SSI)
- Catheter-related UTIs
- Diarrheal diseases (C. difficile, others)
- Post-procedure pneumonia
- Respiratory diseases - flu, colds, etc.
- Significant organisms - MRSA, VRE, ESBLs, CRE, others

### Elements to Consider (7)

**Procedures offered:**
- Risks vary by type of procedure (endoscopy different from incision; Class II wounds riskier than Class I)
- Population served (nutritional status, hygiene, work setting, etc.)
- ASA score
- Education of the patient and family
Elements to Consider (8)

Emergency Management
- Role in community - coordinate with local EM and/or health department
- Anticipated emergencies (internal and external)
- Adequate staff training
- Adequate supplies, equipment for sustained operations or remain in place

Elements to Consider (9)

Education
- Initial orientation and training of new staff
- Include ALL staff, licensed independent practitioners
- Appropriate to job and education
- Includes mandatory items (e.g., OSHA Bloodborne Pathogens Standard & TB, chemical hazards, etc.)
- Patient education on infection risk reduction

Elements to Consider (10)

- Competency evaluation
- Staff members must demonstrate competency in performing their duties
- How this is evaluated on hire and after, or if tasks, procedures, or products change
- For physicians, done through peer review
Where do I find all of this information?

- Health department/local health jurisdiction can provide data on community TB cases to determine if this is an issue
- If you have no surveillance data, this will be part of your RA and ISPC Plan

Facility Risk Assessment

Assess documented risks to determine priorities based on relative risk
- WHO is at risk for infection or adverse event?
- What LEVEL of risk is present?
- What is the IMPACT on care, treatment or services?
- How PREPARED for this is the organization?

Facility Risk Assessment

- Name the event/risk/problem
- Likelihood of happening: 0=none; 1=low; 2=medium; 3=high
- Degree of risk: 0=none; 1=temp harm; 2=permanent harm; 3=life threatening
- Potential changes in care, treatment or services: 0=none; 1=low; 2=medium; 3=high
- Preparedness: 1=good; 2=fair; 3=poor
### Facility Risk Assessment

- Add up the scores and get the risk level
- Lower is better!
- You may adjust scores at this point

### Sample Risk Assessment

<table>
<thead>
<tr>
<th>Event</th>
<th>Likelihood</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High 3</td>
</tr>
<tr>
<td>E'quake</td>
<td>2</td>
</tr>
<tr>
<td>Poor HH Compl.</td>
<td>3</td>
</tr>
<tr>
<td>SSI</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Event</th>
<th>Degree of Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Life-Threat 3</td>
</tr>
<tr>
<td>E'quake</td>
<td>3</td>
</tr>
<tr>
<td>Poor HH Comp</td>
<td>2</td>
</tr>
<tr>
<td>SSI</td>
<td>1</td>
</tr>
</tbody>
</table>
### Sample Risk Assessment

#### Event Potential Change

<table>
<thead>
<tr>
<th>Event</th>
<th>Potential Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>E'quake</td>
<td>High 3, Med 2, Low 1, None 0</td>
</tr>
<tr>
<td>Poor HH Compl</td>
<td>1</td>
</tr>
<tr>
<td>SSI</td>
<td>2</td>
</tr>
</tbody>
</table>

Potential change in care, treatment or services

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### Sample Risk Assessment

#### Event Preparedness

<table>
<thead>
<tr>
<th>Event</th>
<th>Preparedness</th>
</tr>
</thead>
<tbody>
<tr>
<td>E'quake</td>
<td>Low 3, Med 2, High 1</td>
</tr>
<tr>
<td>Poor HH Compl</td>
<td>3</td>
</tr>
<tr>
<td>SSI</td>
<td>2</td>
</tr>
</tbody>
</table>

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### Sample Risk Assessment

<table>
<thead>
<tr>
<th>Event</th>
<th>Probability</th>
<th>Degree of Risk</th>
<th>Change</th>
<th>Preparedness</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>E'quake</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>HH Compl</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>SSI</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

Once you have scored each item and totaled scores, you have an idea of what needs to be addressed first, second, etc. From this, you develop goals and measurable objectives.
Goals

A goal is a broad statement indicating the change you want to make.

- Improve hand hygiene compliance
- Initiate earthquake preparedness kit
- Reduce the risk of SSIs

These are not measurable as they stand.

Measurable Objectives

- Specify measurable results over a specific time period
- Hand hygiene compliance will be 90% or better by the end of 2Q 2016 as measured by secret shoppers
- An earthquake kit with sustainment supplies to last 20 people at least 3 days will be in place by April 1, 2016

Measurable Objectives

- SSI rates for inguinal hernia repair will not exceed 0.3% by end of 3Q 2016 per surveillance data
- Antibiotics will be given within 1 hour before incision 95% of time by Oct. 30, 2015
- All skin preps will be with 2% CHG / 70% IPA (unless patient is allergic) by Oct. 1, 2015
- Tape for surgical dressings will be single-patient use by Sept. 15, 2015
Drilling Down

- The measurable objectives then become part of one or more staff management objectives for the next year. It’s the WHO of the objectives.
- For hand hygiene, it might go in each employee’s objectives: “Hands will be washed or ABHR used before and after each patient contact” (90% threshold).

Drilling Down (cont.)

- IV antibiotics will be administered within 1 hour of incision (95% threshold)
- A decision will be made as to WHO will do this: anesthesia, pre-op, OR nurse, etc. This goes into THEIR performance goals, and performance is monitored by checking patient charts.

Management

- Management responsibility to check compliance, but staff can help monitor. Charts reviewed in a group for elements can be instructional.
- Some organizations use personal goals and objectives as part of compensation. Bonuses are only awarded if facility goals and objectives are met as well as personal ones.
Facility Risk Assessment Examples

- Variety of ways to document assessment

Facility Description

**Facility Services:**

- Acme Ambulatory Surgery Center is a 20-bed facility with 4 operating rooms and 2 procedure rooms
- Performs outpatient surgical procedures and endoscopy on adult (age ≥ 18 years) and pediatric (2 – 17 years) patients
- Plastic surgery, general surgery, ear/nose/throat, dental, GI, GU, and vascular procedures
- Procedures performed under general, regional and local anesthesia as well as conscious and deep sedation
- Only patients with ASA score 1 and 2, BMI under 35.

Number of Procedures by Specialty

**# Procedures last fiscal year**

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Adult ≥18 yrs</th>
<th>Peds (2-17)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS</td>
<td>976</td>
<td>381</td>
<td>1357</td>
</tr>
<tr>
<td>Plastic</td>
<td>641</td>
<td>32</td>
<td>673</td>
</tr>
<tr>
<td>GI</td>
<td>122</td>
<td>798</td>
<td>920</td>
</tr>
<tr>
<td>GU</td>
<td>759</td>
<td>801</td>
<td>1560</td>
</tr>
</tbody>
</table>

GS= general surgery; GI= gastrointestinal procedures; GU=genitourinary procedures
Volumes by Procedure

Top 8 Procedures by Volume:
- Hernia repair
- Lap cholecystectomy
- Breast biopsy
- Breast augmentation
- Cystoscopy
- Colonoscopy
- Upper gastrointestinal endoscopy
- Exploration under anesthesia

Risk Assessment Example

Goals:
- Monitor-selected procedures and practices/processes (SSIs - outcome measure)
- Compare findings and trends internally over time
- Compare findings to external comparative databases such as National Healthcare Safety Network (NHSN) and state or other infection reporting programs

Decision-Making Process

Assessment:
- Breast biopsy is a clean procedure; should not get infected; is high volume—conduct surveillance of breast biopsy procedures (outcome measure)
- Many scopes (e.g., endoscopes, laparoscopes) used; infections related to scopes are difficult to identify; therefore scope cleaning and disinfection practices will be monitored (process measure)
- Monitor surgical site infections (SSI) related to Laparoscopic Cholecystectomy and Inguinal Hernia Repair (high volumes) to monitor SSI in General Surgery
Identify Risk Reduction Strategies

- Review literature, standards and guidelines
- Make recommendations to reduce risks
- Use a template to present your risk assessment findings and infection prevention strategies

Evaluate Effectiveness

- With written, measurable objectives, you can evaluate your progress periodically and at least annually
- This can be done in a table format or narrative
- Tables or charts are effective to communicate progress

Evaluation of 2015 Objectives

<table>
<thead>
<tr>
<th>2015</th>
<th>Goal</th>
<th>1Q</th>
<th>2Q</th>
<th>3Q</th>
<th>4Q</th>
<th>P/F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand hygiene</td>
<td>90% by 3Q</td>
<td>62%</td>
<td>85%</td>
<td>90%</td>
<td>90%</td>
<td>Pass</td>
</tr>
<tr>
<td>Antibiotic Administration</td>
<td>95% by 3Q</td>
<td>35%</td>
<td>60%</td>
<td>90%</td>
<td>95%</td>
<td>Fail</td>
</tr>
<tr>
<td>SSI Reduction</td>
<td>Hernia &lt;0.3% NLT 3Q</td>
<td>0.2</td>
<td>0.5</td>
<td>0</td>
<td>0</td>
<td>0.18</td>
</tr>
<tr>
<td>E’quake Prep</td>
<td>Kit for 20 x 3d, NLT 4/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Summary

- The risk assessment forms the basis of your infection prevention and control program
- It’s a team sport
- A living document - update as needed

Questions

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THANK YOU!