

# Infection Control Risk Assessment Infection Prevention and Control Program Plan

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SEPTEMBER 2017



# Merriam-Webster says:

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## Risk-

the chance that an investment (such as a stock or commodity) will lose value

at risk

: in a state or condition marked by a high level of risk or susceptibility  
*patients at risk of infection*

## Assessment-

the action or an instance of making a judgment about something

the act of assessing something

: *appraisal assessment of damages*  
*an assessment of the president's achievements*

# What's the Value of Risk Assessment?

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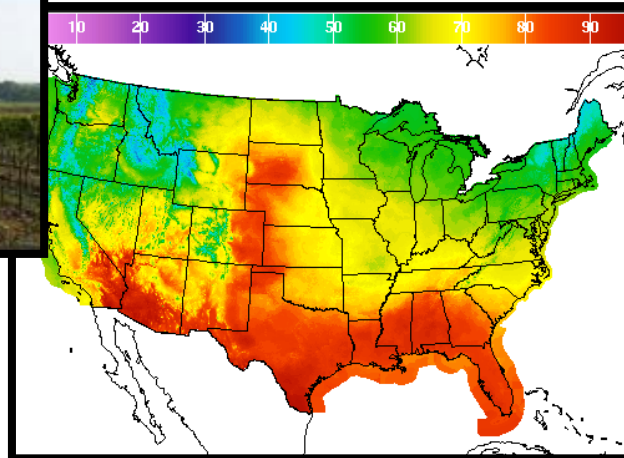
- Provides a basis for infection surveillance, prevention and control activities
- Identifies at-risk populations/procedures in your facility
- Assists in focusing surveillance efforts toward targeted goals
- Aids in meeting regulatory and other requirements

# Top Ten Elements to Consider

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# Geography/topography/weather



# Population

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# Communications

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# Employees

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# Environment

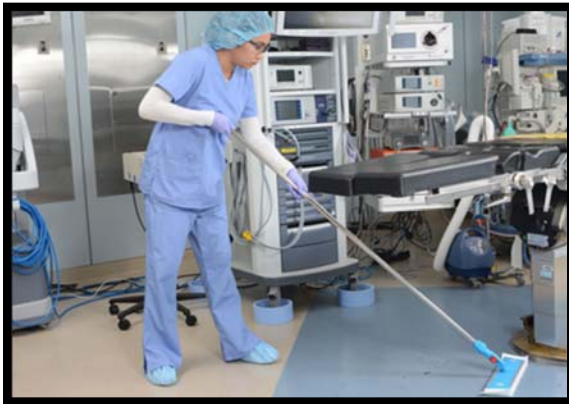
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# Cleaning/Disinfection/Sterilization

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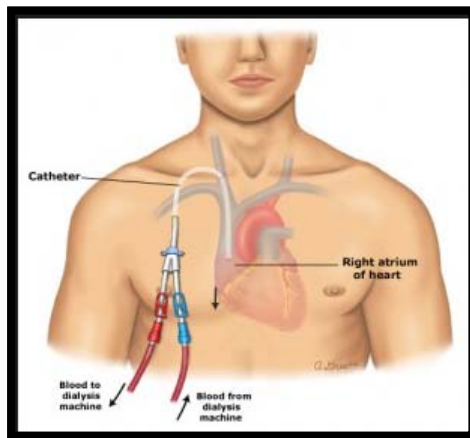
# Risks for Infection

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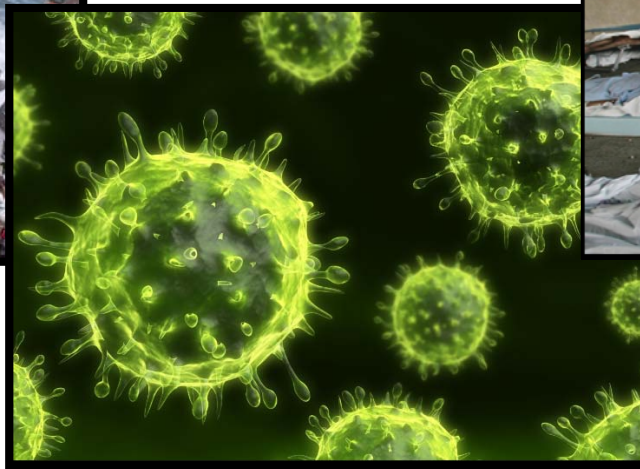
# Procedures

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# Emergency Management

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# Sample Infection Prevention Program Plan

**Hospital:**  
**Department:**  
**Director:**

A risk assessment is a component of the Infection Control Program Plan (IC-101). The risk assessment is formally reviewed at least annually and whenever significant changes occur in the elements that affect risk. Sources of data for the risk assessment include but are not limited to daily review of positive tests from the microbiology/virology laboratories, the facility antibiogram, results of targeted surveillance reported to NHSN, results of focused-reviews performed after device-associated infection, review of all hospital deaths looking for evidence of healthcare-acquired infection, communicable disease surveillance shared by the local and state health department, as well as other local and regional facilities that refer patients. Findings and conclusions from the risk assessment are used to craft Infection Control program annual goals and surveillance plan. The plan is reviewed and approved annually by the Infection Control Committee. Committee membership includes medical staff (including the hospital epidemiologist and the chair of the Antimicrobial Stewardship Task Force), nursing personnel, infection preventionists, the chief of Microbiology and hospital leadership.

<b>Risk Assessment of Patient Population</b>		
<b>Factors Affecting Risk</b>	<b>Characteristics that increase risks</b>	<b>Characteristics that decrease risks</b>
<p>Geographic location, community environment, and population characteristics:</p> <ul style="list-style-type: none"> <li>• Tertiary care pediatric facility with &gt;10,000 admissions each year</li> <li>• Patient base primarily composed children 0 to 18 years</li> <li>• Minority of patients represent adults &gt; 18 years with congenital anomalies requiring the expertise of pediatric subspecialists or those with severe developmental disabilities</li> <li>• Referral base includes primarily Metro Louisville, southern Indiana, and western Kentucky</li> <li>• Level 4 obstetrical care unit with &gt; 3000 deliveries</li> </ul>	<ul style="list-style-type: none"> <li>• Growing number of people without health insurance</li> <li>• Growing refugee population—risk for vaccine preventable diseases</li> <li>• International travel</li> <li>• Emerging infectious diseases (Vaccine refusal)</li> <li>• Homeless population</li> <li>• Increased community-acquired MDRO</li> <li>• Ongoing <i>B. pertussis</i> transmission in community</li> <li>• Home of the Innocents (medically fragile population)</li> <li>• Increased maternal population with narcotic addiction</li> <li>• Increased maternal population with Hepatitis C/ HIV</li> <li>• Increase neonatal population with Neonatal Abstinence Syndrome</li> </ul>	<ul style="list-style-type: none"> <li>• Coordinated and proactive response approach to communicable disease-related threats as mandated by the Louisville Metro Health Dept and the Kentucky State Department of Health</li> <li>• System Infection Control Matrix facilitates coordination, availability of topic experts</li> <li>• System Employee Health Matrix facilitates comprehensive approach to healthcare worker health and safety</li> <li>• Louisville Metro disaster planning</li> <li>• Collaboration with community and regional referral hospitals</li> <li>• Collaboration with the University Of Louisville School Of Medicine, especially the Department of Pediatrics</li> <li>• Collaboration with system and community related to NAS program</li> <li>• Collaboration with Louisville Metro Health Dept. and the Kentucky State Department of Health for reporting of infants born to Hepatitis C-positive mothers</li> </ul>
<p>Care, treatment and services provided:</p> <ul style="list-style-type: none"> <li>• 101-bed NICU</li> <li>• 34-bed PICU with expansion planned for a CVICU</li> <li>• Oncology unit with bone marrow transplant unit</li> <li>• Regional pediatric trauma center</li> <li>• Emergency department with &gt; 60,000 visits annually (including AEU and direct admits, outpatient labs and ED visits)</li> <li>• Burn unit</li> <li>• Comprehensive inpatient medical services</li> <li>• Comprehensive surgical services for children including but not limited to:               <ul style="list-style-type: none"> <li>• General surgery</li> <li>• Cardiovascular surgery</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Medical devices such as peripheral and central catheters, urinary catheters, endotracheal and tracheostomy tubes, chest tubes, arterial lines,</li> <li>• Neutropenic patients</li> <li>• Bone marrow transplant patients</li> <li>• Heart and kidney transplant patients</li> <li>• Premature, extremely low birth weight patients</li> <li>• Neonatal Abstinence Syndrome infants</li> <li>• Construction activity (i.e. airborne pathogens)</li> <li>• Waterborne pathogens</li> <li>• Surgical procedures using implants</li> <li>• Hemodialysis and peritoneal dialysis</li> <li>• Extracorporeal membrane oxygenation</li> <li>• Burden of community-associated viral illness in pediatric patients</li> <li>• Developmental needs of pediatric patients</li> </ul>	<ul style="list-style-type: none"> <li>• Facility-wide implementation central line associated bloodstream infection prevention collaborative</li> <li>• Implementation of a ventilator-associated pneumonia (VAP) prevention bundle</li> <li>• Facility-wide implementation of a urinary catheter insertion and maintenance bundle</li> <li>• Comprehensive hand hygiene program based on the WHO “My Five Moments”</li> <li>• Antimicrobial surgical prophylaxis</li> <li>• Participation in NHSN</li> <li>• Low prevalence of VRE</li> <li>• Low prevalence of HIV in children</li> <li>• Participation in Solutions for Patient Safety collaborative</li> <li>• Facility-wide “Reaching for Zero” Error Prevention Training</li> <li>• Participation in Children’s Hospital Association SCOPE Collaborative</li> </ul>

# Sample Risk Assessment

Risk Assessment Infection Prevention and Control January 2016				
Facility	Risk Factors	Risk of Infection		
Geographic Location & Community Environment	Teaching Urban= 5	High Risk= 3		
Programs/Services Provided/new	Expanded Services= 4	Medium Risk= 2		
Characteristics of Patient Population	1,2,3,5,6,7	High Risk= 3		
Care, Treatment, and Services – Inpatient	1,2,3,5,6,7	High Risk= 3		
Care, Treatment, and Services – Ambulatory Care/Out Patient	1,2,3,5,7	Medium Risk= 2		
Surveillance	Impact or Acquisition	Risk of infection and transmission to others	Reporting Requirement	Priority Score
Central Line Blood Stream Infections	Problem Prone 3	High Risk=3	CMS 4	10
Surgical Site Infections	Problem Prone 3	Medium Risk= 2	CMS 4	9
Hand Hygiene – NPSG	Problem Prone 3	High Risk= 3	CMS 3	9
MDRO: MRSA, VRE, etc	Problem Prone 3	High Risk= 3	CMS 3	9
C.diff	Problem Prone 3	High Risk= 3	CMS 3	9
Catheter related UTI	Problem Prone 3	Medium Risk= 2	CMS 4	9
Reportable Diseases	Problem Prone 3	Medium Risk= 2	State 5	9
Suspected Ebola Patient	Problem Prone 3	Medium Risk= 3	Federal, State, Local 5	11
Internal/External	Probability of Occurrence	Risk/Impact	Preparedness	Priority Score
Construction/Renovation	High Risk= 3	Health and Safety= 4	Prepared= 1	8
Utility Outage (water/electricity)	Medium risk= 2	Health and Safety= 4	Prepared = 1	6
Influx of Respiratory Illness	Medium Risk= 2	High Disruption= 3	Partial Preparedness= 2	5
Outbreak/Unusual organism event	Medium risk= 2	High Disruption= 3	Prepared= 1	5
Bioterrorism/Emergency Management	Low Risk= 1	Health and Safety= 4	Prepared = 1	6
TB (see TB Risk Assessment)	Low Risk=1	Moderate Disruption= 2	Prepared = 1	4
Suspected Ebola Patient	Low Risk=1	Moderate Disruption= 4	Prepared = 2	7
<b>KEY:</b>				
Teaching Urban = 5 Urban = 4 Suburban = 3 Rural = 2  New Services = 5 Expanded Services = 4 No new services = 0	<b>Characteristic of Patient Population</b> Neonate= 6 Immuno-compromised = 5 Elderly = 4 Trauma = 3 In patient surgery =2 Outpatient = 1 Obstetric=7 Failure 100% = 5 Failure 75% = 4 Failure 50% = 3 Failure 25% = 2 Success = 0	BMTU/Oncology = 5 NICU = 4 Surgical = 3 Med/Surg = 2  High risk = 3 Medium risk = 2 Low risk = 1 No risk = 0	Problem Prone = 3 High Volume = 2 High Cost = 1  Kentucky Mandatory = 5 Required by CMS = 4 Required by Leadership = 3 Required by facility = 2 Not required = 0	Life Threatening = 5 Health and Safety = 4 High disruption = 3 Moderate Disruption = 2 Low Disruption = 1  Not prepared = 3 Partial Preparedness = 2 Prepared = 1



# From Assessment to Action

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- Goals
  - Broad statement indicating change you want
  - “Big picture”
- Objectives
  - Specific, quantifiable, time-sensitive
  - SMART goals
    - Specific
    - Measurable
    - Attainable
    - Relevant
    - Time bound
- “Who, what, when, where and how “ of strategy to achieve change

# Goal Example

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- How do you word this as a SMART goal: “Improve hand hygiene”
- SMART GOAL
  - BY \_\_\_\_\_ (WHEN) \_\_\_\_\_ (WHO WHAT) FROM \_\_\_\_\_  
TO \_\_\_\_\_ (MEASURE )
  - By February 15, 2006 (time bound), increase by four (measurable & achievable) the number of community health centers in [State] that have incorporated into the clinic system electronic medical records with reminders of treatment protocols (specific & relevant).

# Sample Action Plan

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Indicator/Metric/ Performance Measure	Goal(s) / Target Values <i>(Used for Performance Improvement measures; Must include baseline and target values for each)</i>	Data Source / Method(s) <i>(Include sample size, number of records, surveys, etc. that will be reviewed, WHAT will be reviewed, e.g., medical records, opinion surveys, etc., WHO will collect the data, and WHO will analyze the data)</i>	Owner / Team Reporting Process <i>(Include frequency of report, i.e., monthly, quarterly, and WHO is responsible for taking action on the results)</i>
Surveillance, Prevention and Control of infection:  Targeted Surgical Site Infections (SSI)			



# End of Year Evaluation

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- Met
- Not met
  - Why
    - Focus shifted to something of greater risk
    - Barriers within the organization
      - Culture
      - Financial
  - Re-evaluate
    - Annually perform risk assessment and update you plan

# Group Work

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# What is the Risk for a Zombie Apocalypse?

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# Risks for a Zombie Apocalypse?

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- Zombie outbreaks result from a variety of pathogens
- Multiple modes of transmission
  - Bite (most common)
  - Animal or insect vectors
  - Contaminated water
  - Airborne
- Infection uniformly fatal
- No vaccine available

Internal/External	Probability of Occurrence High risk = 3 Medium risk = 2 Low risk = 1 No risk = 0	Risk/Impact Life Threatening = 5 Health and Safety = 4 High disruption = 3 Moderate Disruption = 2 Low Disruption = 1	Preparedness Not prepared = 3 Partial Preparedness = 2 Prepared = 1	Priority Score <b>TOTAL</b>
ZOMBIES				





# Zombie Outbreaks in Healthcare Facilities

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- Zombie patient bites doctor
- Zombie doctor rounds and bites all of her patients
- Zombie patients descend on common areas
- Zombie cooties contaminate toys in playroom, all the equipment in physical therapy suite

<b>Indicator/ Metric/ Performance Measure</b>	<b>Goal(s) / Target Values</b> <i>(Used for Performance Improvement measures; Must include <u>baseline</u> and <u>target values</u> for each)</i>	<b>Data Source / Method(s)</b> <i>(Include sample size, number of records, surveys, etc. that will be reviewed, WHAT will be reviewed, e.g., medical records, opinion surveys, etc., WHO will collect the data, and WHO will analyze the data)</i>	<b>Owner / Team Reporting Process</b> <i>(Include frequency of report, i.e., monthly, quarterly, and WHO is responsible for taking action on the results)</i>



# Questions

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# References

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