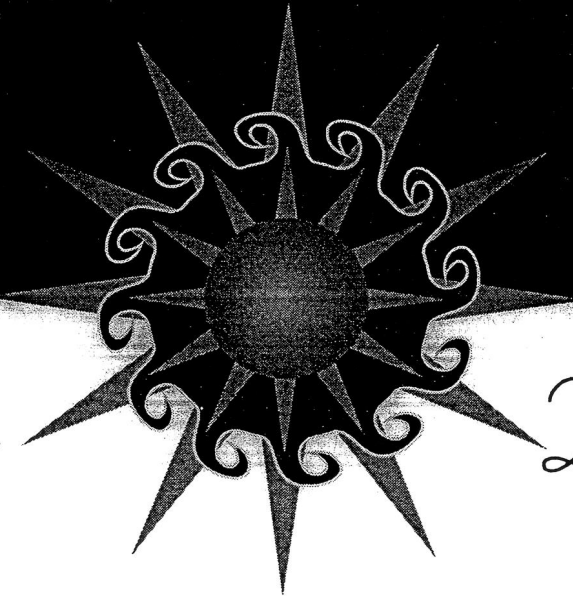


PROFESSIONAL DEVELOPMENT WORKSHOP

Risk Assessment for
Infection Prevention and
Control Programs

APIC



June 7-11
2009

Session #3600

Wednesday, June 10

1:30 pm - 4:00 pm

Convention Center: Room 304

FACULTY BIOGRAPHY
Professional Development Workshop
Session # 3600
Risk Assessment for Infection Prevention and Control Programs

Lee, Terrie, RN, MS, MPH, CIC

Terrie Lee has worked in infection prevention since 1980. She is the Director of Epidemiology and Employee Health for the Charleston Area Medical Center in Charleston, WV, with three acute care hospitals and many ambulatory sites. She holds a BS in Nursing from Alderson-Broaddus College, an MS in Management/Health Care Administration from WV College of Graduate Studies, and an MPH from Ohio State University. She has been certified in infection prevention and control (CIC) since the first exam in 1983. She authored many surveillance materials, including APIC's Recommended Practices for Surveillance. Terrie has been very active in APIC and served on or chaired many local and national committees. She also served on the Board of Directors and as President in 1995. She has spoken for local through international groups, specializing in surveillance, risk assessment, and management topics. Terrie has been on the faculty of many APIC courses, and loves to train and coach our future experts.

Terrie B. Lee, RN, MS, MPH, CIC
Infection Control Risk Assessment
APIC - Ft. Lauderdale
June 10, 2009



Infection Control Risk Assessment

Terrie B. Lee, RN, MS, MPH, CIC
Director, Epidemiology & Employee Health
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Charleston, WV

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Review of Risk Assessment

- Part of infection prevention & control planning process
- Serves as starting point of a well-developed plan
- Together with the IPC plan, form the foundation of the IPC program
- Required by Joint Commission

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IC.01.03.01

- The hospital identifies risks for acquiring and transmitting infections

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Risks Identified Based on:

- Geographic location, community, and population served
- The care, treatment, and services provided
- The analysis of surveillance activities and other IPC data

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Risks

- Reviews, identifies risks at least annually and with significant changes
- Require input from IP, medical staff, nursing, and leadership
- Prioritized and documented

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IC.01.04.01

- Based on the identified risks, the hospital sets goals to minimize the possibility of transmitting infections.

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Goals Include

- Limiting unprotected exposure to pathogens
- Limiting transmission of infections associated with procedures
- Limiting transmission of infections associated with use of medical equipment, devices, and supplies

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Goals Include

- Improving compliance with hand hygiene guidelines

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IC.01.05.01

- The hospital has an infection prevention and control plan

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IC.02.01.01

- The hospital implements its infection prevention and control plan

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Implementation Includes

- Activities including surveillance to minimize, reduce, or eliminate risk of infection
- Standard precautions
- Transmission-based precautions
- Outbreak investigation

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Implementation Includes

- Methods for storing and disposing of infectious waste
- Methods of communicating responsibilities for prevention and control to LIPs, staff, visitors, patients, and families
- Reporting information to staff and to local, state, and federal public health

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Implementation Includes

- Reporting infection information to transferring and receiving organizations
- Reduction of risk associated with medical equipment, devices and supplies
 - Cleaning, disinfection, sterilization, disposal, storage
 - Issues related to reprocessing of SUDs

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Implementation Includes

- Employee health-related issues
 - Screening
 - Handling of infections
 - Exposures
- Influenza vaccination program for staff and LIPs

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NPSG.07

- Prevention of Infection
- .07.01 – Hand Hygiene
- .07.02 – Sentinel Events – Root cause analysis

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NPSG.07

- .07.03 – MDROs (13 EPs)
- .07.04 – Central Line Associated Bloodstream Infections (17 EPs)
- .07.05 – Surgical Site Infections (12 EPs)
- Phase-in requirements in 2009
- All implemented by 1/1/2010

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NPSG.13

- Requirements for patient education (and documentation) in 2009
 - Hand hygiene
 - Contact precautions
 - Respiratory hygiene
 - Surgical site infection prevention

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IC.03.01.01

- The hospital evaluates the effectiveness of its infection prevention and control plan annually and whenever risks significantly change.

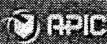
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Evaluation Includes

- Prioritized risks
- IPC plan's goals
- Implementation of IPC plan's activities
- Communication to patient safety program
- Use of findings when revising plan

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Risk Assessment Process

- Homework & Planning
 - Forms
 - Standards
 - Data
 - Current issues

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Risk Assessment Process

- Team Recruitment
 - Invitation
 - Solicit information in advance – What are the most important infection prevention & control problems?
 - What are our most frequent reasons for admission, procedures performed, etc.

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Risk Assessment Team

- IP staff
- EH
- Medical staff
- Laboratory
- Pharmacy
- Nursing
- Surgery
- Housekeeping
- Maintenance
- Administration
- Central processing
- Quality department
- JC coordinator

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Risk Assessment Meeting

- Commitment for attendance/participation
- Time for thought and discussion
- Prioritizing risks
- Determining IPC plan

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Organization Evaluation

- Factors to include
 - Geographic and environmental
 - Population characteristics
 - Area endemic infections
 - Other area-related risks
 - Medical care characteristics
 - Services provided

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Organization Evaluation

- Description of factors
- Characteristics that increase risk for infection
- Characteristics that decrease risk for infection
- Include findings in risk assessment tool

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Risk Assessment Form Components

- Probability of event occurring
- Impact/severity
 - Health
 - Financial
 - Legal
 - Regulatory, accrediting
- Current systems

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Risk Score

- Derived from multiplication of three component numbers
- Group consensus vs. mathematical averaging or summation

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Prioritization

- Rank order risks using risk scores
- Each organization's priorities will be different

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Risk Assessment Exercise

- Discuss each potential risk
- Come to group consensus on assignment of number for each component
- Multiply component numbers to calculate risk scores
- Occasionally compare risk scores to validate with group

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Infection Prevention and Control Plan

- Develop a plan for each strategy with persons, resources, timelines, etc.
- Get ICC and administrative support
- Develop partnerships with key staff
- Don't take on too many at one time
- Build in objectives, measurements and evaluation

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The IPC Progress Report

- Rank ordered priorities
- Goals (broad statements)
- Objectives (specific & measureable – support the goal)
- Strategies (steps to take to achieve the objective)
- Evaluation (how you will measure your success)
- Progress and analysis (current status and next steps)

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Group Exercise

- For top three risks identified, develop:
 - Goals
 - Objectives
 - Strategies for implementation
 - Method of evaluation

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Risk Assessment/Planning

- Documentation of processes
- Group involvement/organizational support
- Process/forms for reporting
- Tracking of results
- Program improvement

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**General Community Hospital
2009 Infection Control Risk Assessment**

Geographic and Population Risk Assessment

Factors	Characteristics That Increase Risk	Characteristics That Decrease Risk
<u>Geographic & Environmental:</u> The three counties served by GCH, are located in the mountainous region along the Mission River, and are rural communities with a largely non-industrial financial base. Chief employment is local & state government, agriculture, mining, forestry, education, retail, tourism, and healthcare. The area served encompasses 2440 square miles with a population density average of 23 people per square mile. GCH is the only acute care hospital in a 40 mile radius, and is located near a major interstate, a small airport, and a railway line. Many in the area served live one hour or more from the hospital.	Workers are exposed to work related trauma injuries, agricultural and animal-handling diseases and infections, chronic lung diseases due to mining and agriculture. Travel to health care facilities is problematic due to distance and rural roads. Access to the area by travelers bringing illnesses from other areas is an on-going risk. Potential for coal mine incidents exists.	Sparse population decreases spread of disease as experienced in densely populated urban areas (ex: TB, AIDS). This area usually lags 2-3 years behind urban centers in types of infections becoming endemic (ex: MRSA, VRE, ESBLs), which gives us a chance to educate prior to seeing cases. Reliance on home-grown food limits outbreaks of imported illnesses (ex: ecoli 0157:H7, salmonella)
<u>Population Characteristics:</u> The three counties have an aggregate population of 57,000. 18% of the population are over 65 years of age, 35% are 40 – 65, 23% are 20-39, 24% are under 20. Racial makeup is over 95% Caucasian, 3% African-American, 1.6% Hispanic, 0.2% native American, 0.16% Asian, and 0.04% other or mixed. Median per household income is less than \$25,000. Many acute care in-patients and ED & Out-patients are self-pay or Medicaid. 1 Federal and 2 State prisons are served in the care area.	Many low income under-insured families and without regular health care provider. Oral and dental infections are frequent as well as infections exacerbated by poor nutrition. Illicit drug use has become a problem with associated infections on the rise, particularly Hep C, skin infections, dental abscesses. Diabetes and COPD are the major underlying illnesses in the over 65 population, with frequent re-admissions for infectious processes such as pneumonia.	Half of the population is young with good immune systems
<u>Other Area-related Risks:</u> Several large annual attractions such as the State Fair, area street food fair, Pioneer Days,	Potential exists for large-scale food borne infections outbreaks, traumatic outdoor sports & hunting wounds, waterborne illness	Health and First Aid booths supplied by the hospital and medical school during community activities. GCH serves as training resource.

Factors	Characteristics That Increase Risk	Characteristics That Decrease Risk
Civil War Reenactment, etc. bring thousands of tourists to the area. Recreational activities such as camping, mountain hiking, river rafting, swimming, water & snow skiing, caving are popular tourist attractions.	outbreaks.	
<u>Area Endemic Infections:</u> LaCrosse encephalitis, MRSA, annual Influenza outbreak, Rabies epizootic, Hepatitis C	Health Department is under-funded to investigate contacts of transmissible illness.	Hospital-based reduction activities included public information and campaigns to reduce LaCrosse risk. Influenza vaccine clinics for seniors, HCWs, physicians, contract workers. Visits to schools and health fairs to teach MRSA control.
<u>Medical Care Characteristics:</u> GCH has over 75 physicians representing 25 specialties, and is affiliated with the Mission Valley School of Osteopathic Medicine with an active medical student rotation program as well as interns and residents in Family Practice. The hospital also affiliates with 3 RN programs and the Region IV School of Practical Nursing.	There is no Infectious Disease physician, and several specialties have only 1 or 2 providers, necessitating transfer for higher level of care. Young medical providers may not have the experience to recognize certain infections (e.g. measles, anthrax). Low incidence of some illnesses makes HCWs complacent (ex: AIDS, VRE) and less likely in some departments to take all the precautions necessary for infection prevention (e.g. hand hygiene).	The medical staff is fairly stable, and comfortable with the local population and the usual endemic illnesses.
<u>Services Provided:</u> • Medical • Surgical • Intensive & Coronary Care • Emergency • Obstetrics • Pediatrics • Pulmonology • Sleep Studies • Wound Center • Out-patient Surgery, Endoscopy, Lab, Radiology, MRI, PET Scan • Cardiac Catheterization • 3 Physician Offices	No full-time epidemiologist. Patient reliance on ED for routine care. Care for ventilator patients. Large geriatric and medically underserved population, many under-educated regarding health options, low compliance with hygiene & isolation. Significant LTC population. No other acute hospital within 40 miles. Medical & Nursing School students. High staff turnover with frequent use of temp agency nurses. Serve 3 prisons. Primarily semi-private rooms. Increasing MRSA in ED & out-patients. Less than 75% of staff take flu vaccine. Resistance by surgeons for new techniques. Hand hygiene compliance <90%.	Short length of stay. All private rooms in ICU. Strong cardio-pulmonary staff with 2 pulmonologists. Strong ED staff. Good compliance TB skin tests among staff & physicians. Wound center for chronic wounds, decreasing re-admissions. Commitment to education.

Infection Control Risk Assessment

Instructions

Evaluate every potential risk for infection/contamination/exposure in each of the three categories of probability, impact, and current systems. Add additional events as necessary.

Issues to consider for probability include, but are not limited to:

1. Known risk
2. Historical data
3. Reports in literature

Issues to consider for impact include, but are not limited to:

1. Threat to life and/or health
2. Disruption of services
3. Loss of function
4. Loss of community trust
5. Financial impact
6. Legal issues
7. Regulatory/accrediting/organizational issues

Issues to consider for preparedness include, but are not limited to:

1. Status of current plans/ implementation
2. Training status
3. Availability of backup systems
4. Community/ Public Health resources

Multiply the ratings for each risk in the area of probability, impact, and current systems. The total values, in descending order, will represent the events most in need of organization focus and resources for planning. Determine a value below which no action is necessary. Acceptance of risk is at the discretion of the organization.

[illegible]

[illegible]

Infection Control Risk Assessment
2009

Potential Risks/Problems	Probability					Risk/Impact (Health, Financial, Legal, Regulatory)					Current Systems					Score
	Expect it	Likely	Maybe	Rare	Never	Catastrophic Loss (life/limb/ function/ financial)	Serious Loss (Function/ Financial/ Legal)	Prolonged Length of Stay	Moderate Clinical/ Financial	Minimal Clinical/ Financial	None	Poor	Fair	Good	Solid	
	4	3	2	1	0	5	4	3	2	1	5	4	3	2	1	
Other																
Risk of Community Outbreak																
New Program - Mandatory Reporting Law																
New Program																
New Procedure																
New Procedure																
Other																
Other																
Other																

The Infection Control (IC) Risk assessment grid is a visual tool to develop IC program priorities and stratify infection risks based on our geography, location in the community, our patient population and the review of our previous IC data analysis. The annual IC Plan is developed based on these risks.

The IC Risk assessment is an ongoing, continual process. A more focused review is done on an annual basis after reviewing the quarterly and annual reports with the Infection Control committee.

Risk Assessment Completed on: 12/2/08

Present (list names): ID MD, ICC Chair Pharmacy IP CS EH OR RN Housekeeping MD Engineering Lab Administration

General Community Hospital Infection Control Progress Report

Priority#	Priority	Goal	Objective	Strategies	Evaluation	Progress/Analysis
1.	Contact Precautions	Improve compliance with Contact Precautions	1. Provide contact precautions education for at least 95% of clinical staff by March 31.	1. Develop educational programs by January 26. 2. Provide education in multiple formats.	Reports from managers by April 28. Education records reported to Infection Control Committee (ICC).	Department Manager education completed in February. Education of clinical staff in progress using PowerPoint presentation. Presentation available through managers in staff meetings; also available on Epidemiology website. Next Steps: Epidemiology staff and isolation committee members will present program to ancillary departments. Self-instructional packet will be developed for hard-copy access.
			2. Ensure supplies (gloves, gowns, antiseptic soap, signage) are available for 100% of monitored patients needing contact precautions.	1. Develop monitoring system/tool. 2. Conduct baseline monitoring. 3. Conduct monitoring through departmental QI, tracer evaluations, other monitoring opportunities.	Compliance rates reported to ICC quarterly.	Monitoring tool developed. Next Steps: Tool to Nursing QI council for use beginning in April. This will be monitored monthly.
2.	Hand Hygiene	Increase compliance with hand hygiene policy.	1. Improve hand hygiene monitoring results.	1. Improve monitoring tool. 2. Increase monitoring of hand hygiene compliance. 3. Pursue computer desktop reminders.	New tool in use. Quarterly reports to ICC.	Monitoring was conducted in February. Overall compliance rate reported: 96%. No non-compliance reported during mock JCAHO survey.
3.	SSI – Bariatric procedures	Reduce risk of SSI in bariatric surgery patients.	Reduce bariatric SSI to 3.38%	Implement SIP measures	Quarterly reports to ICC.	2007 year end report: 3.75%
4.	VAP in ICU patients	Reduce risk of VAP in ICU patients.	Reduce VAP to target rates: SICU – 2.2 MICU – 4.14	Implement ventilator bundles to minimize VAPs.	Quarterly reports to ICC	February: SICU – 1.7 (below target) MICU – 5.20 (above target)

Approved by Infection Control Committee: 2/27/09

Infection Control Progress Report 2008

Priority #	Priority	Goal	Objective	Strategies	Evaluation	Progress/Analysis
I.						

Approved by ICC: _____