


An Introduction to Infection Prevention for the Novice
Gail Bennett, ICP Associates Inc.
A Webber Training Teleclass

An Introduction to Infection Prevention for the Novice


Gail Bennett, RN, MSN, CIC
ICP Associates, Inc.

Hosted by Paul Webber
paul@webbertraining.com




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Thanks for joining us today!



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How do I know if we have a comprehensive infection prevention program?



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Infection Prevention Activities

- Surveillance
- Education
- Consultation
- Performance Improvement
- Policies and Procedures
- Committee Management
- Outbreak Investigation


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Surveillance of Infections



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Surveillance: The Method



CDC Definition

"The ongoing, systematic collection, analysis, and interpretation of health data essential to the planning, implementation, and evaluation of public health practice, closely integrated with the timely dissemination of these data to those who need to know."

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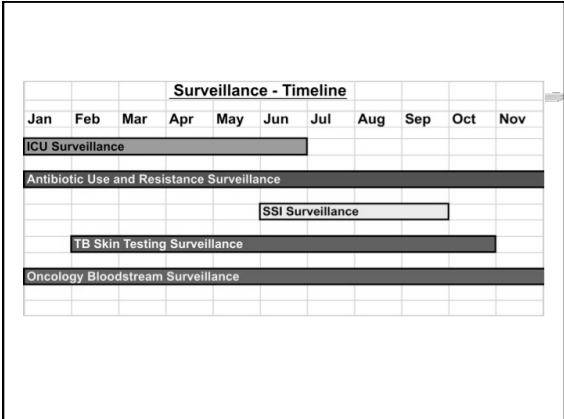
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Types of Surveillance

- Traditional, total house surveillance
 - ▮ Finding ALL healthcare associated infections ALL of the time
 - ▮ Useful to establish endemic rates
 - ▮ Rarely used by hospitals; may be required for LTCFs
 - ▮ Time consuming

Types of Surveillance

- Limited, periodic surveillance
 - ▮ Surveillance of specific healthcare associated infections for a specific time period
 - ▮ A good method to use in rotating infections to be monitored and when time is limited

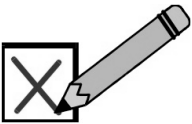


Types of Surveillance

- Targeted Surveillance
 - ▮ Geographic locations or types of healthcare associated infections may be targeted for review
 - ▮ May consider:
 - ▮ High risk
 - ▮ High volume
 - ▮ Problem prone


What's Recommended for Healthcare Associated Infection Surveillance?

- Active
- Prospective
- Patient-based
- Incidence
- Priority-directed
- Risk-adjusted



Changes in Surveillance due to Setting

- General surveillance methods
- Definitions used
- Reporting of data



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Healthcare Associated Infection Definition

- A localized or systemic condition that resulted from adverse reaction to the presence of an infectious agent or its toxin
- Not present or incubating on admission to the healthcare facility

Two surveillance questions

- 1. **Is infection present?**
 - ▮ Use definitions of infection to determine
- 2. **Is it healthcare associated?**
 - ▮ Determine by the incubation period of the organism
 - ▮ Previously facilities used 48 or 72 hour rule (bacteria) – LTCFs and others often still use that. Acute care follows National Healthcare Safety Network (NHSN) criteria.
 - ▮ Viruses – individual incubation periods
 - ▮ Exceptions: SSI - 30 days
 - ▮ With implant: 1 year

Definitions of Infections for Acute Care

- CDC definitions
- <http://www.cdc.gov/nhsn/psc.html>

Definitions of Infections for LTC

- McGeer definitions
- American Journal of Infection Control, 1991; 19;1-7.
- www.apic.org

Final Definitions of Infections for Home Care

- American Journal of Infection Control, 2008
- Developed by APIC
- www.apic.org

Definitions of Infections for Behavioral Health, Correctional Facilities, Drug Treatment Facilities, Rehab, LTACs

- Standardized definitions have not yet been published
- Must adapt existing definitions
- Long Term Acute Care facilities (LTACs) may consider acute care definitions

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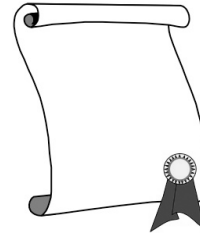
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Low numbers or low risk for development of HAIs?

- Outcome surveillance:
 - Patient/client infections

- Process surveillance:
 - Monitoring hand hygiene
 - Monitoring process for exposure work-ups
 - Monitoring timing of doses of hepatitis B immunization given

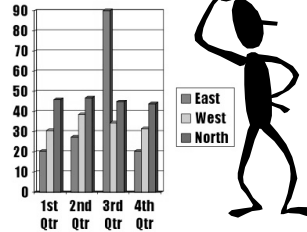
Forms and software programs give structure to surveillance



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Methods of Presentation of Data (if using a manual system)

- Line listing
- Resistant organism line listing
- Monthly summaries
- Tables, graphs, charts
- Maintain in surveillance notebook



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LINE LISTING OF INPATIENT INFECTIONS

Room _____ Unit _____		Symptoms/Date	Culture(s) Date/Site/Result	Treatment	Other actions (if needed)	Was not sent infection status	HAI	CAI
Name _____	Admission date _____	Type of Infection _____	IF/TL culture present? Yes/No					
Name _____	Admission date _____	Type of Infection _____	IF/TL culture present? Yes/No					
Name _____	Admission date _____	Type of Infection _____	IF/TL culture present? Yes/No					
Name _____	Admission date _____	Type of Infection _____	IF/TL culture present? Yes/No					
Name _____	Admission date _____	Type of Infection _____	IF/TL culture present? Yes/No					

HAI = healthcare-associated infection CAI = community acquired infection

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LINE LISTING OF OUTPATIENT INFECTIONS

Room _____ Unit _____		Symptoms/Date	Culture(s) Date/Site/Result	Treatment	Other actions (if needed)	Was not sent infection status	HAI	CAI
Name _____	Start of care date _____	Type of Infection _____	IF/TL culture present? Yes/No					
Name _____	Start of care date _____	Type of Infection _____	IF/TL culture present? Yes/No					
Name _____	Start of care date _____	Type of Infection _____	IF/TL culture present? Yes/No					
Name _____	Start of care date _____	Type of Infection _____	IF/TL culture present? Yes/No					
Name _____	Start of care date _____	Type of Infection _____	IF/TL culture present? Yes/No					

HAI = healthcare-associated infection CAI = community acquired infection

HEALTHCARE-ASSOCIATED INFECTION SUMMARY REPORT BY INPATIENT DAYS

	Month/Year					Infections/1000 Patient Days
	UNIT	1	2	3	4	
Urinary Tract						
With Foley						
Without Foley						
Respiratory						
Upper						
Lower (pneumonia or bronchitis)						
Wound						
Surgical						
Decubitus						
Other (skin)						
Conjunctivitis						
Sepsis (Bloodstream)						
Other						
TOTAL BY FLOOR OR UNIT						
A. This month's total						
B. Total Patient Days for						
C. Infections per 1000						

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HEALTHCARE-ASSOCIATED INFECTION
SUMMARY REPORT BY OUTPATIENT VISITS

	Month Year					Infections/1000 Patient Days
	UNIT					
	1	2	3	4	TOTAL	
Urinary Tract						
With Foley						
Without Foley						
Respiratory						
Upper						
Lower (pneumonia or bronchitis)						
Wound						
Surgical						
Decubitus						
Other (skin)						
Conjunctivitis						
Sepsis (Bloodstream)						
Other						
TOTAL BY FLOOR OR UNIT						
A. This month's total infections					B. Total outpatient visits for month	C. Infections per 1000 outpatient visits
					x 1,000	=

Surveillance notebook

- Large enough to hold 1-2 year's data
- Divided by month (Jan. - Dec. tab dividers)
- Behind the month's tab:
 - ! Monthly summary
 - ! Line listing
 - ! Outbreak forms
 - ! Compliance monitoring
 - ! Lab results (if you choose to keep them)

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Two surveillance questions

1. Is infection present?
 - ! Use definitions of infection to determine
2. Is it healthcare associated?
 - ! Determine by time
 - ! Bacteria frequently may incubate in 48 hours
 - ! Viruses - incubation period
 - ! Exceptions: SSI - 30 days
 - ! With implant: 1 year
 - ! Acute care facilities generally use the NHSN criteria

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Healthcare Associated Infection Rates using Device Days

New cases of CAUTI _____ X 1000 =
 Total indwelling catheter days
 # CAUTI per 1000 indwelling catheter days

Calculation: 10 patients with an indwelling catheter were identified as CAUTI. Total indwelling catheter days for all patients (580) = 10/580 = .01724 X 1000 = 17.4 CAUTI per 1000 indwelling catheter days

Statistics (example LTC)

New infections for the month _____ X 1000 = ____
 Total resident days inf/1000 resident days

Example: 11 inf./3100 days = .00354 X 1000 = 3.5 infections per 1000 resident days

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Statistics (example outpatient visits)

New infections for the month _____ X 1000 = ____
 Total outpatient visits inf/1000 outpatient

Example: 1 inf./210 outpatient visits = .0047 X 1000 = 4.7 infections per 1000 outpatient visits

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Education

- Orientation
- Annual, mandatory programs
- One on one teaching



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Orientation (Examples)

- Pamphlets
- TB Fact Sheet
- Hepatitis B Vaccine Fact Sheet
- General IP information, e.g., hand hygiene, PPE
- BBP training:
 - May use a variety of methods
 - Training must be done BEFORE we offer vaccine
 - Qualified person must be available to answer questions

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Annual Mandatory IC Training

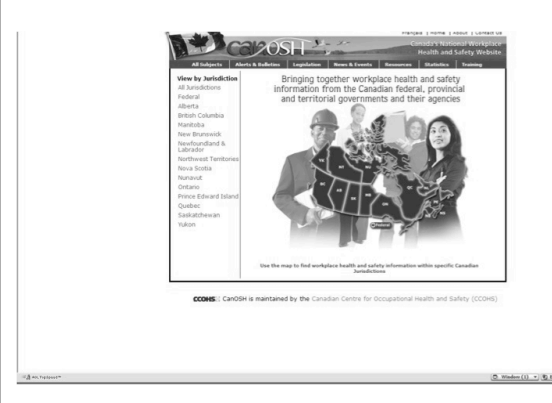
- Must include bloodborne pathogens and TB
- 100% attendance required by OSHA



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Scenario

- CCOHS walks in your facility in 2010 and starts requesting documents
- "I need your documentation of all employees (FT and PT) for 2008 and proof that they all completed the 2008 mandatory bloodborne pathogens training program."
- "How quickly can you have that ready?"

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Documenting 100% attendance at annual, mandatory IC program

- Recommendation: if no software program to monitor attendance, print a list of all associates working with the facility at the time of the training.
- Have each associate sign in beside their name
- Review list for those associates who have not signed beside their names to know who needs to attend a make-up course.
- Maintain the records in a safe place.

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One on One Teaching

- May provide during compliance or surveillance rounds
- Anytime non-optimal technique is observed
- Provide privacy for staff when counseling is done
- Document in your records

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Consultation – You're the Consultant

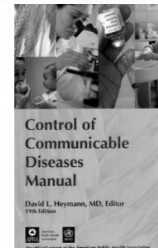
Use resources to get answers!

- Web sites
- Professional Guidelines
- Textbooks
- Guidelines/policy manuals
- CHICA or APIC chapter
- Other



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Excellent resource
\$35.00
629 pages
Heymann, Editor
19th Edition
Available at
www.amazon.com
and other sites



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- Centers for Disease Control and Prevention (www.cdc.gov)
- NHSN (www.cdc.gov/nhsn)
- CHICA-Canada (www.chica.org)
- Association for Professionals in Infection Control and Epidemiology (www.apic.org)
- Infection Control certification (www.cbic.org)
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Quality Assurance/Performance Improvement

- Performance Improvement Program – have an active PI program for Infection Prevention
- Compliance Monitoring

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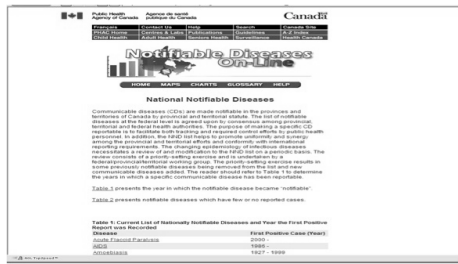
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INFECTION PREVENTION ASSESSMENT OF FACILITY				
Facility:		Date of Review:	Reviewer:	
CRITERIA	REQUIREMENTS	RATING	ACTION NEEDED:	
		C N A		
Isolation Rooms	Appropriate signage in place Supplies and PPE available Trash and linen handled per policy Appropriate PPE used by staff Appropriate patient/family education Airborne precautions (if applicable) <ul style="list-style-type: none"> • Door closed • Negative pressure is monitored • Appropriate air exchange (if indicated) 			
Hand Hygiene	Sinks for handwashing are appropriately stocked with soap, paper towels, trash cans Sinks are available in all areas as needed Alcohol handrubs are available as needed			
Refrigerators	Food is dated and discarded within 48 hours			
Halls	Uncluttered Horizontal and vertical surfaces are clean No hallway obstruction			

COMPLIANCE ROUNDS		
DATE	UNIT	CONDUCTED BY
PROBLEM TO BE MONITORED: SAFER SHARPS AND SHARPS DISPOSAL		
AREA MONITORED OR PATIENT REVIEWED:	OPPORTUNITIES FOR IMPROVEMENT:	
1. All sharps devices in use are devices with safety engineering? a. Needles & syringes b. IV systems c. Lancets d. Scalpels (debridement kits) e. Butterflies f. Other	Yes	No
2. Sharps devices are disposed into an appropriate needle/sharp disposal container? a. Biohazard label b. Red or orange in color c. Puncture resistant on all sides		
3. Opening can be secured prior to disposal?		
4. Sharps containers are discarded when no		


Notifiable Diseases Reporting Requirements



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Policies and Procedures

- Have P&Ps based on regulations, standards, and current guidelines
- Enforce your policies
- Monitor for compliance
- Review regularly
- Make changes as needed



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Committee Management: Infection Control

- Meet on a regular schedule
- Make the meeting convenient
- Have a well prepared written agenda
- Prepare concise, accurate minutes that show problem-solving for IC

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Outbreaks

- Outbreak (excess cases over normal)
- Inpatient facilities will usually recognize their outbreaks
- May be more difficult with outpatient facilities



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Outbreak Investigation

- Know when and where to get help!
- Clearly document your investigation.
- See outbreak investigation form.



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OUTBREAK INVESTIGATION FORM

STEPS OF AN INVESTIGATION

1. **Verify the diagnosis; identify the agent!**

Describe the initial magnitude of the problem and what symptoms got the facility's attention.

What diagnosis has been established?

What agent (bacterial, viral, other) has been identified?

Develop a case definition (specific criteria for a case).
 Example: All residents who have had 3 or more loose stools in the last 24 hours.

CASE DEFINITION:
2. **Confirm that an outbreak exists.**

Use your case definition to find all cases.

Based on your knowledge in #1, are the numbers of cases above what is endemic (usually seen) in the _____?

Yes No

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Recent outbreaks relating to Ambulatory Careand an important message to all healthcare organizations!

- **Failure to adhere to basic principles of aseptic technique for the preparation and administration of parenteral medications**
- **Unsafe practices**
 - Syringe reuse between patients during parenteral medication administration to multiple patients
 - Contamination of medication vials or IV bags by accessing them with a used syringe and/or needle
 - Failure to follow basic injection safety practices when preparing and administering parenteral meds to multiple patients
 - Inappropriate use of fingerstick devices and glucometer equipment between patients
- APIC Position Paper: *Safe Injection, Infusion, and Medication Vial Practices in Healthcare*, 2009
www.apic.org

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Glucometers

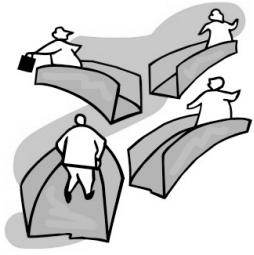
- Decontaminate after every use!
- See manufacturer's recommendation re: product to use



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Problem-solving for Infection Prevention

- Assessing
- Planning
- Implementing
- Evaluating



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Thank you!!

- Gail Bennett
- gailbennett@icpassociates.com
- www.icpassociates.com
- 706.235.1167



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THE NEXT FEW TELECLASSES	
11 Mar. 10	(Novice Teleclass) MRSA Prevention Basics Speaker: Dr. Bill Jarvis, Jason & Jarvis Associates
18 Mar. 10	(Novice Teleclass) How to Prepare for CIC Certification Without Becoming Certifiable Speaker: Susan Cooper, Southeastern Ontario Infection Control Network
23 Mar. 10	(Free Teleclass) Voices of CHICA Speaker: Directors & Guests of the Community & Hospital Infection Control Association of Canada
25 Mar. 10	(Novice Teleclass) Infections in the Elderly Speaker: Christine Nutty, Infection Advice Inc.
01 Apr. 10	Microbial Control of Electronic Medical Equipment Speaker: Dr. Charles John Palenik, Indiana University School of Dentistry
08 Apr. 10	Simple Precautions – Simplifying Infection Control Speaker: Dr. Jim Hutchinson, Health Care Corporation of St. John's
13 Apr. 10	(Free Teleclass) Improvement in Healthcare Settings Around the World

www.webbertraining.com/schedule1.php

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