

Healthcare Epidemiology in the LTC Setting Bringing it all Together

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Speaker Disclosures

Dr. Nace has no conflicts of interest related to this presentation.

Learning Objectives

By the end of the session, participants will be able to:

- Discuss challenges faced by LTC facilities when implementing an infection control program
- Describe what a reasonable Infection Prevention & Control Program (IPCP) for nursing facilities might look like
- Discuss the role of interdisciplinary team members in supporting LTC infection control programs

Evolution of Nursing Homes & the Regulatory Environment



Marion Branch National Home for Disabled Volunteer Soldiers, Indiana



1965 Medicare & Medicaid



Nursing Home Reform Act of 1987
OBRA 87



2016 – CMS Updates "Requirements of Participation"



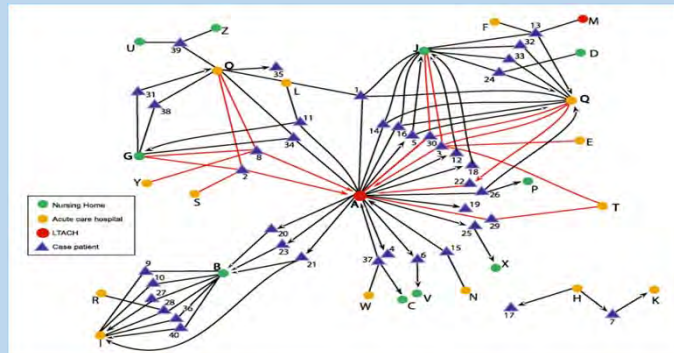
2009 – Infection Control Guidance Updated

Nursing Homes – Key Component of the Modern U.S. Healthcare System

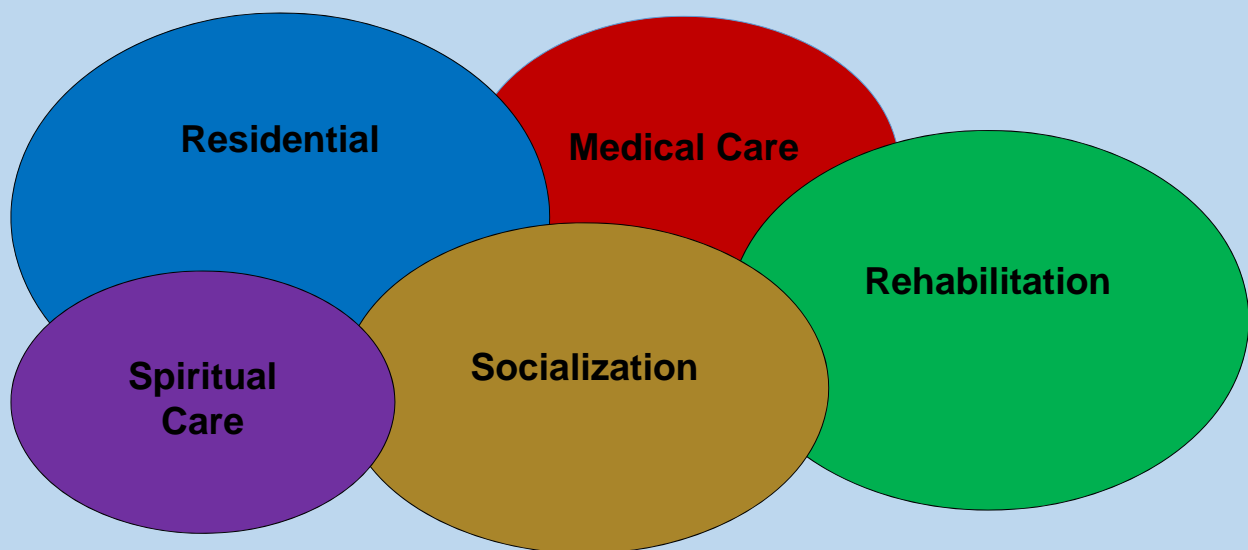
- Nursing Homes are the predominant institutional site for PA/LTC
- PA/LTC represents fastest growing spending category in US healthcare system*

Nursing homes are active participants in the transmission of MDROs across care sites**

* Chandra A, Dalton MA, Homes J. Health Affairs, May 2013
 **Won et al. Clin Infect Dis 2011; 53(6): 532-40

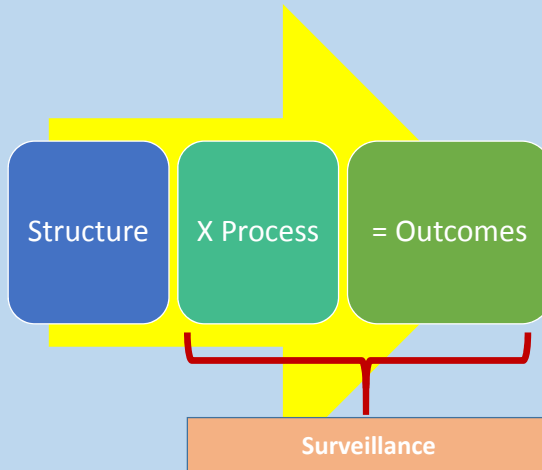


Nursing Facilities Roles



What is the Purpose of the IPCP in NFs?

- Prevent Healthcare Associated Infections
- Prevent Antimicrobial Resistance
- Prevent Adverse Drug Events



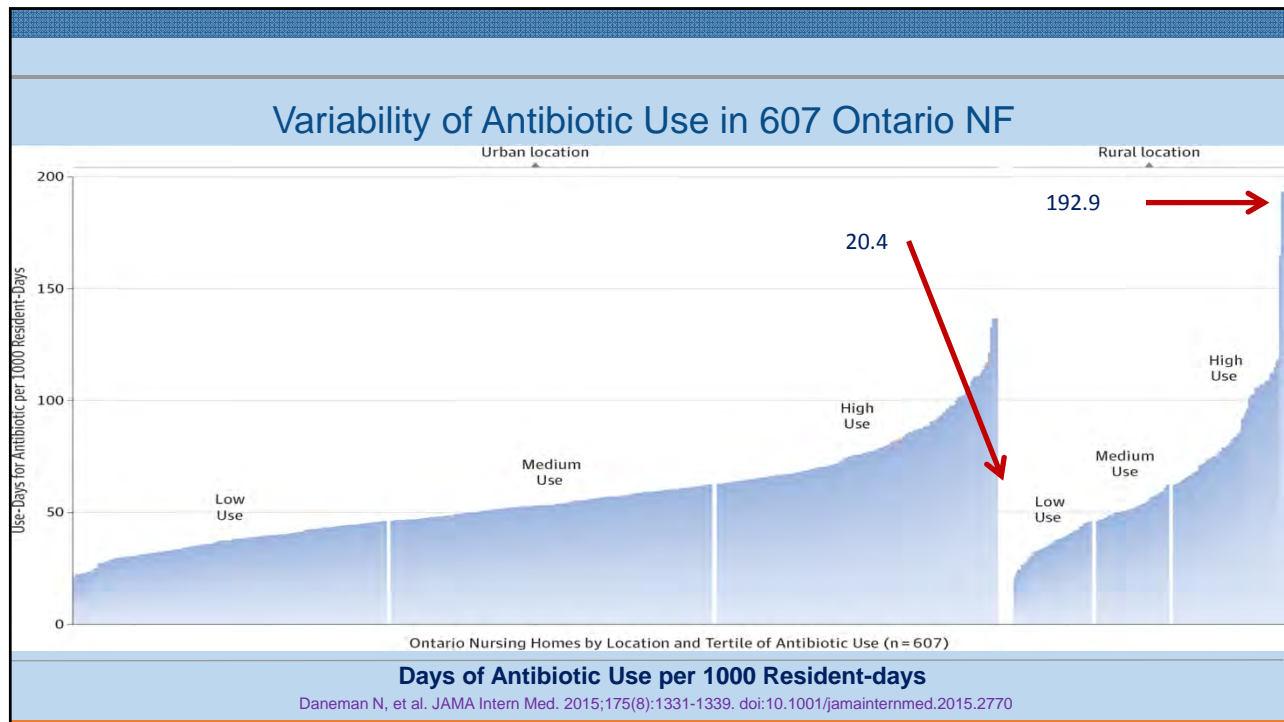
Harm from infections among SNF residents

- Infections were among the most common causes of harm; accounting for 26% of adverse events

Type of Harm	Events related to infection	Infection events deemed preventable	Transfers to hospital from infection event
Adverse events (n=148)	39 (25.8%)	22 (59%)	34 (87.2%)
Temporary (n=113)	20 (16.8%)	9 (45%)	NA

- Hospitalizations from infections were estimated to cost ~83 million dollars (the most expensive cause of harm)

OIG report: Adverse Events in Skilled Nursing Facilities: National Incidence Among Medicare Beneficiaries (OEI-06-11-00370), February 2014



Increased ADE Risk in Hi Abx Use Homes


- 24% increased risk of ADE in high use NFs
- Abx related ADE included -
 - C diff, diarrhea, gastroenteritis, MDROs, allergic reactions, general medical ADE
 - Focused on hospital or ED related ADE
- ADE risk occurred among residents with and without abx exposure

	All Residents	Residents Who Received Abx	Residents Who Didn't Receive Abx
Number Needed to Harm	53	71	83

Daneman N, et al. JAMA Intern Med. 2015;175(8):1331-1339. doi:10.1001/jamainternmed.2015.2770

Infection Control Regulations

- **1990-2009**

- 5 survey tags – *6 pages* 
- F441 – “Infection Control”
- F442 – “Preventing Spread of Infection”
- F443 – “Employees with Communicable Disease”
- F444 – “Handwashing”
- F445 – “Linens”
- Antimicrobial stewardship unknown
- No clear guidance on how to interpret the regs

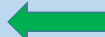
Infection Control Regulations

- **2005**

- F334 – “Immunizations” tag added
- New regulation addressing influenza and pneumococcal vaccination of residents
- Doesn’t address staff

Infection Control Regulations

• 2009

- *Surveyor Guidance* updated
- Collapsed tags to F441 – “Infection Control” – **34 pages** 
- Required infection control program
 - Included tracking of antimicrobial stewardship
 - Person who oversees, but short of requiring “IP”
 - Oversight not a full FTE
 - Hand hygiene
 - Transmission based precautions

STATE OF WISCONSIN / DEPARTMENT OF HEALTH SERVICES Division of Quality Assurance / Bureau of Nursing Home Resident Care

TOP TEN FEDERAL HEALTH CITATIONS – NATION, STATE, REGIONAL OFFICE – 2016

Nation	State	Southern (Madison)	Southeastern (Milwaukee)	Northeastern (Green Bay)	Northern (Rhineland)	Western (Eau Claire)
F323 - supervision to prevent accidents (6160)	F323 - supervision to prevent accidents (219)	F323 - supervision to prevent accidents (48)	F323 - supervision to prevent accidents (72)	F441 - infection control (48)	F371 - store, prepare, and serve food under sanitary conditions (28)	F323 - supervision to prevent accidents (52)
F441 - infection control (6018)	F441 - infection control (192)	F225 - investigate allegations of abuse (39)	F314 - prevention of pressure ulcers (68)	F315 - services to restore normal bladder function and prevent infection (40)	F441 - infection control (20)	F441 - infection control (52)
F309 - care promotes highest level of well-being (5324)	F314 - prevention of pressure ulcers (183)	F314 - prevention of pressure ulcers (37)	F309 - care promotes highest level of well-being (53)	F323 - supervision to prevent accidents (38)	F315 - services to restore normal bladder function and prevent infection (15)	F371 - store, prepare, and serve food under sanitary conditions (42)
F371 - store, prepare, and serve food under sanitary conditions (5307)	F371 - store, prepare and serve food under sanitary conditions (174)	F441 - infection control (33)	F225 - investigate allegations of abuse (48)	F371 - store, prepare, and serve food under sanitary conditions (35)	F425 - medication system assures accurate receipt and administration (14)	F309 - care promotes highest level of well-being (37)
F279 - develop comprehensive care plan (3389)	F225 - investigate allegations of abuse (154)	F371 - store, prepare and serve food under sanitary conditions (32)	F441 - infection control (39)	F425 - medication system assures accurate receipt and administration (35)	F314 - prevention of pressure ulcers (13)	F280 - periodically review and revise the plan of care (34)
F431 - labeling of drugs and biological (3275)	F309 - care promotes highest level of well-being (142)	F309 - care promotes highest level of well-being (29)	F514 - documentation (39)	F314 - prevention of pressure ulcers (34)	F332 - MEDICATION ERROR RATE < 5% (13)	F314 - prevention of pressure ulcers (31)

Courtesy V Griffin, Wisconsin Department of Health Services, Division of Quality Assurance / Bureau of Nursing Home Resident Care, 5/10/2017

Deficiencies for FY15 and FY14

Deficiencies Tags for FY15 and FY14

Tag #	Tag Title	RANK (#) FY15	RANK (#) FY14
F225	Investigate/Report Allegations/Individuals	10	10
F309	Provide Care/Services for Highest Well-being	9	8
F498	Nurse Aide Competency/Care Needs	8	5
F465	Safe, functional, sanitary, comfortable environment	7	NR
F323	Free of Accident/Hazards/Supervision	6	6
F279	Develop Comprehensive Care Plans	5	7
F226	Develop/Implement ANE Policies	4	3
F425	Pharmaceutical Service	3	4
F371	Food Procure, Store/Prepare/Serve	2	2
F441	Infection Control	1	1

TEXAS - <https://www.dads.state.tx.us/business/CBT/deficiencies/nf-2015.html>

Infection Control Regulations

• 2016

- Regulations changed – **Guidance Pending - ??How Many Pages??**
- Facilities must have an Infection Control & Prevention Program (ICPP)
- Facilities must have an Antimicrobial Stewardship Program (ASP)
 - Antibiotic use protocols
 - System to monitor antibiotic use

<https://www.federalregister.gov/documents/2016/10/04/2016-23503/medicare-and-medicaid-programs-reform-of-requirements-for-long-term-care-facilities>

Infection Control Regulations

- **2016**

- Facilities must delegate at least one infection preventionist (IP)
 - May designate more than one person
 - Primary professional training in nursing, medical technology, microbiology, epidemiology, or other related field and can be qualified by education, training, experience or certification
- **3 Phase Implementation**
 - Phase 1 – Nov 28, 2016 - IPCP
 - Phase 2 – Nov 28, 2017 - ASP
 - Phase 3 – Nov 28, 2019 - IP

Challenges for Facilities

- **Training**
 - Infection control
 - What is included in an IPCP?
 - What types of surveillance are there?
 - What is an ASP?
- **Annual Facility Risk Assessments**
 - What should be considered when performing an annual risk assessment?
- **Access to Expertise**

Impact of the New Regulations?

- **Facility Activities**

- Past implementation experience suggests that *facilities will change structure and processes*

- Prior IC regulations
- PA Act 95 of 2002 – Reporting LTC Staff Immunizations

- **Deficiency Citations**

- Will there be a shift in citations?

- **Outcomes**

- Uncertain if quality and outcomes will change
 - No alignment of facilities and practitioners
 - Lack of relevant QMs related to infections

Silos and Missed Marks



⇒ Outside of resident immunizations & UTI

- No facility-based QMs addressing infection control or ASP

⇒ No Impact for Impact Act

⇒ MIPS measures (physician quality payment system requirement) currently irrelevant to nursing facility settings

AND

⇒ MIPS QMs do not align with facility QM / incentives



Opportunities



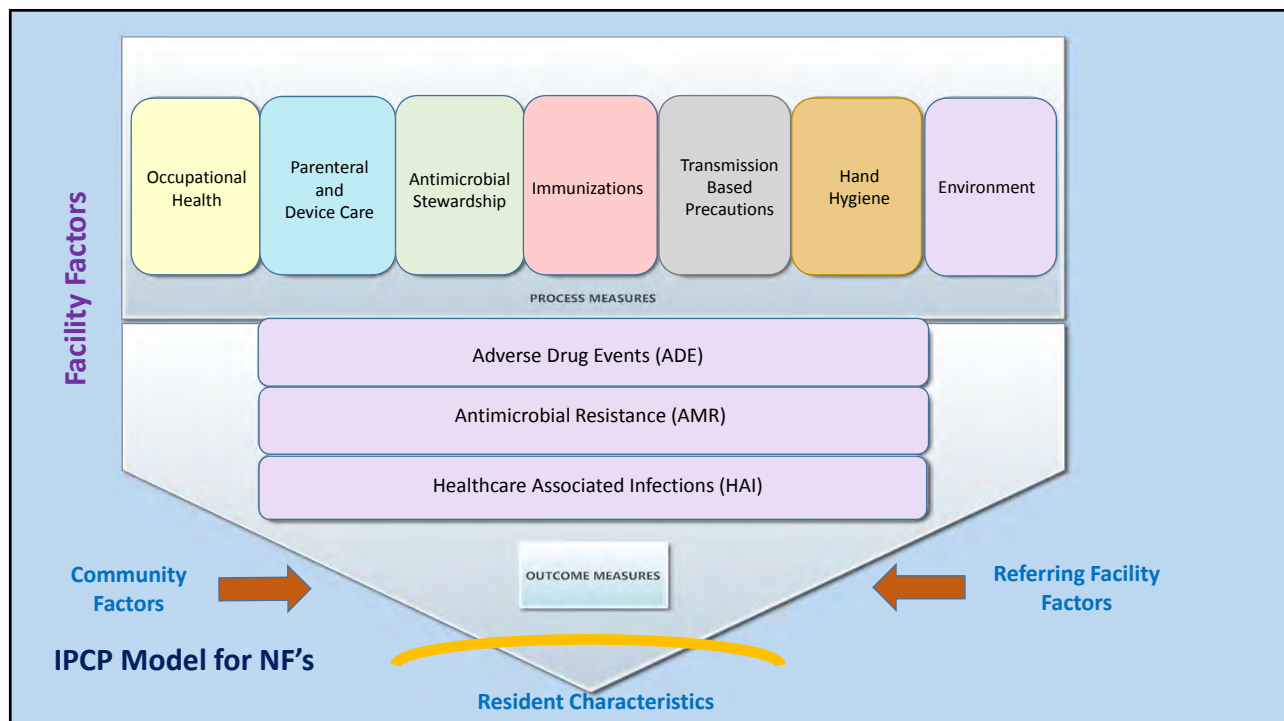
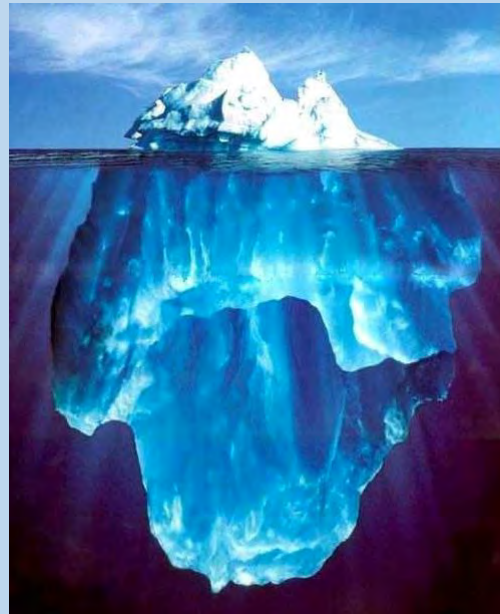
- NHSN
 - May prove to be an important data source
- AMDA
 - Promoting ASP as a CMS recognized “Improvement Activity” under MIPS
 - Working with stakeholders to develop relevant QMs
- NQF
 - Calls for measure development - Require substantial funding



The Infection Prevention and Control Program (IPCP)

Creating a Reasonable IPCP for NF

- The visible tip represents the **outcomes** of the IPCP
 - Limited activity should be spent here
- The non-visible portion represents the activities (processes) undertaken by the IPCP to improve outcomes
 - This is meat of the activity



IPCP Key Activities



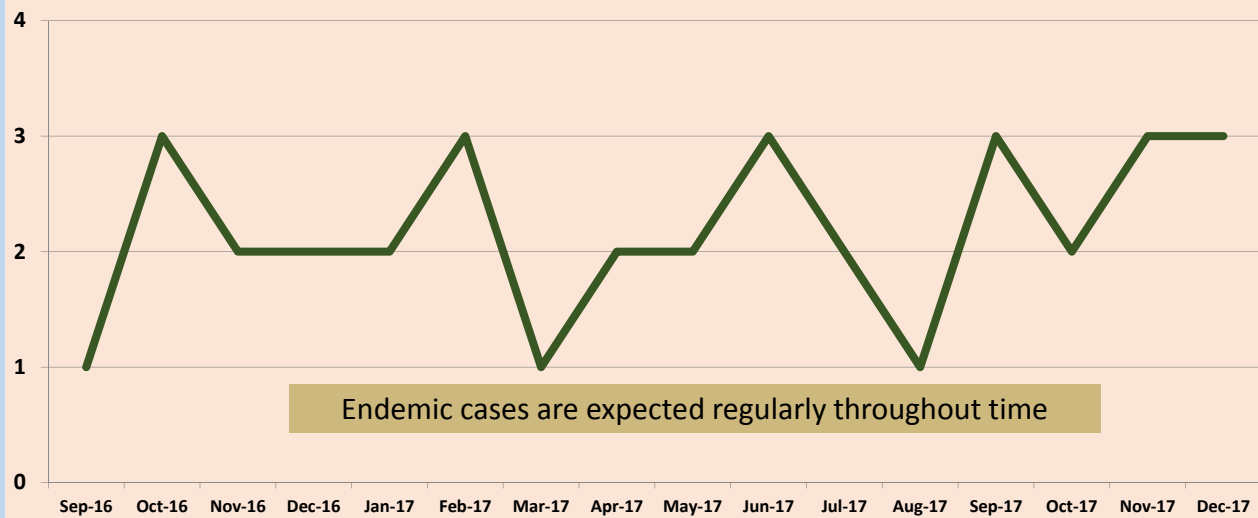
- Risk Assessment
 - Identifying key processes that are high volume, high risk, problem prone
- Surveillance (*Measurement*)
 - System to track, trend, monitor, & **assess** outcomes
 - Outcome measures – rates of disease, AMR, ADE
 - Process measures – rates of key components of processes

Surveillance Patterns

- **Common Cause**
 - Endemic disease
 - Seasonality / Cyclic
- **Special Cause**
 - Clusters
 - Outbreaks
 - Epidemics
 - Seasonality / Cyclic

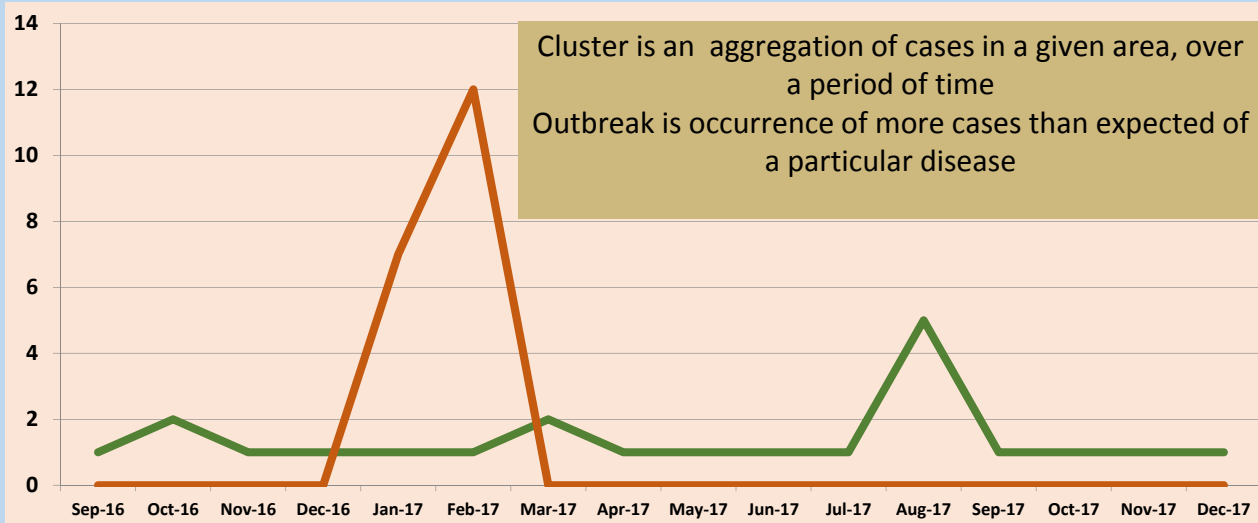
Surveillance Patterns - Common Cause

Endemic disease

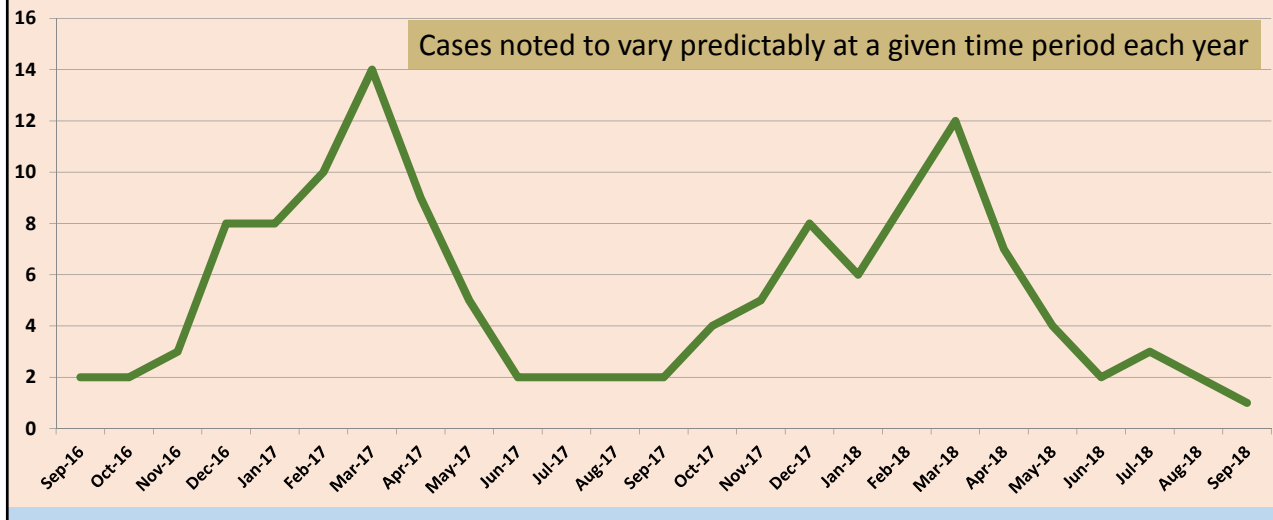


Surveillance Patterns - Special Cause

Clusters & Outbreaks



Surveillance Patterns – Common or Special Cause Seasonality / Cyclic



Typical Surveillance Patterns

Facility Acquired Infection	Type of Variation	Pattern	Considerations
UTI	Common Cause	Endemic	Cluster or seasonality suggests over-diagnosis
Respiratory	Common Cause	Endemic	Cluster or seasonality suggests respiratory viral cases
C diff	Common Cause	Endemic	Spike suggests inappropriate abx use; unlikely to be outbreak
Influenza	Special Cause	Cluster; Outbreak; Seasonal	Never endemic ; prompts immediate interventions
Norovirus	Special Cause	Cluster; Outbreak; Seasonal	Never endemic ; prompts immediate interventions
Hepatitis B	Special Cause	Cluster; Outbreak	Never endemic ; prompt immediate search for cause
Legionella	Either	Any	Often endemic; Clusters prompt search for cause
MDROs	Either	Anh	May be endemic; Clusters prompt search for cause

Defining Infections – “Criteria”

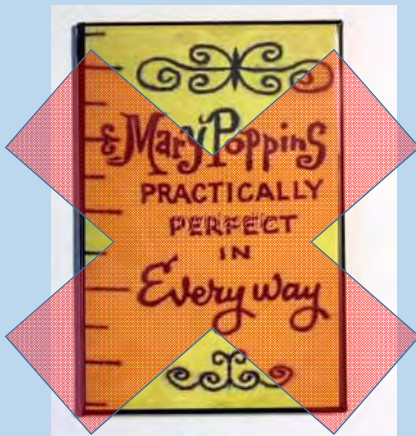


- To conduct surveillance – you must use infection definitions

- Definitions used will vary with your goals for surveillance
- Optimal definitions will have no false negatives and no false positives



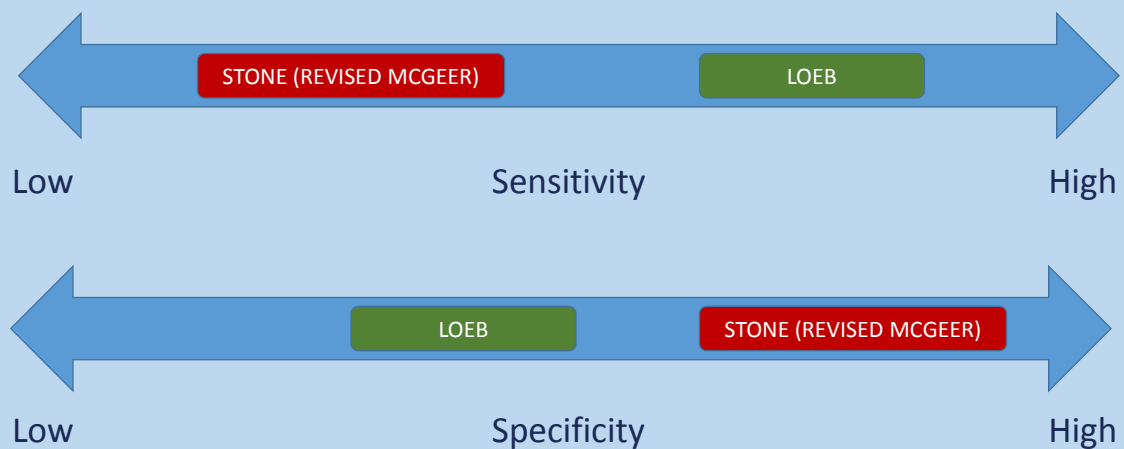
Reality Check – *Criteria Aren't Winds That Blow In From the East*



Various “Infection Criteria”

- There are several criteria used to define infections
 - McGeer, Stone, Loeb, PA-PSA, IDSA, etc
- These criteria serve different purposes
- May differ from what you are calling an infection in your facility
- **Stone (2012 Revised McGeer)**
 - Not very sensitive (miss some true infections)
 - Benchmark comparisons against other facilities (*upper portion of iceberg*)
- **Loeb**
 - More sensitive
 - Reasonable set of minimum criteria for when to start antibiotics (*appropriateness - lower portion of iceberg*)
- **PA Patient Safety Authority**
Similar to Stone

Infection Definition Tradeoffs



A Word on “Infection Criteria”

- May need to use more than one set of criteria
 - In PA – infections treated as well as PA-PSA reported infections
 - Infections you treat vs those meeting Loeb criteria (appropriateness measure)
- No set of criteria should always supplant clinical judgment
- Clinical judgment should not always supplant criteria

What is important is the process

AHRQ Tools

<https://www.ahrq.gov/nhguide/index.html>

The screenshot displays the AHRQ website's navigation and content. At the top, it includes the U.S. Department of Health & Human Services logo, navigation links (Home, About Us, Careers, Contact Us, Español, FAQ, Email Updates), and the AHRQ logo with the tagline "Agency for Healthcare Research and Quality Advancing Excellence in Health Care". A search bar is located on the right. Below the navigation bar, the "Home" page features a prominent article titled "Nursing Home Antimicrobial Stewardship Guide". The article includes a large image of hands holding pills and three sub-sections: "Overview of the Guide", "Browse Antimicrobial Stewardship Toolkits", and "Implement, Monitor, and Sustain a Program". At the bottom, there are three smaller images with call-to-action buttons: "Determine Whether To Treat >", "Choose the Right Antibiotic >", and "Engage Residents and Family >". A social media sharing sidebar is visible on the right side of the page.

SBAR Forms

Suspected LRI SBAR

Complete this form before contacting the resident's physician.
 Date/Time _____
 Nursing Home Name _____
 Resident Name _____ Date of Birth _____
 Physician/NP/PA _____ Phone _____
 Nurse _____ Fax _____
 Submitted by Phone Fax In Person Other _____
 Facility Phone _____

S Situation

I am contacting you about a suspected lower respiratory tract infection for the above resident.
 Vital Signs BP _____ / _____ HR _____ Resp. rate _____
 Temp. _____ O2 Sat _____

B Background

- No Yes The resident has COPD
- No Yes The resident is on supplemental O2
- No Yes The resident has diabetes
- No Yes O2 requirements have increased specify O2 _____
- No Yes The resident is a current smoker
- No Yes Resident has chest pain or difficulty breathing
- No Yes The resident is a former smoker
- No Yes Resident uses nebulizer/inhaler
- No Yes Other active diagnoses (especially chronic lung disease, chronic bronchitis, emphysema)
Specify: _____
- No Yes Advance directives for limiting treatment related to antibiotics and/or hospitalizations
Specify: _____
- No Yes Medication Allergies
Specify: _____
- No Yes The resident is on Warfarin (Coumadin*)

Loeb Criteria Checkboxes

Nursing Home Name _____ Facility Fax _____

Resident Name _____

A Assessment Input (check all boxes that apply)

Criteria are met if one of the four situations are met

- Resident with a fever of 102°F (38.9°C) or higher and one of the following**
- No Yes Respiratory rate of >25 breaths per minute
 - No Yes New or worsened cough
 - No Yes New or increased sputum production
 - No Yes O2 saturation <94% on room air or a reduction in O2 saturation of >3% from baseline
- Resident with a fever of 100°F (37.9°C) and less than 102°F (38.9°C)**
- No Yes Cough and at least one of the following
 - No Yes Pulse >100
 - No Yes Delirium (sudden onset of confusion, disorientation, dramatic change in mental status)
 - No Yes Rigors (shaking chills)
 - No Yes Respiratory rate >25 breaths per minute

Afebrile resident with COPD and age >65

- No Yes New or increased cough with purulent sputum production

Afebrile resident without COPD and age >65

- No Yes New or increased cough with purulent sputum production and at least one of the following
- No Yes Respiratory rate >25
- No Yes Delirium (sudden onset of confusion, disorientation, dramatic change in mental status)

Nurses: Please check box to indicate whether or not criteria are met

- Nursing home protocol criteria are met. The resident may have a lower respiratory tract infection and need a prescription for an antibiotic agent.*
- Nursing home protocol criteria are NOT met. The resident does NOT need an immediate prescription for an antibiotic, but may need additional observation.**

R - Request for Physician/NP/PA Orders

- Orders were provided by clinician through Phone Fax In Person Other _____
- Chest X-Ray
 - For cough, consider using a cough suppressant Dose _____ Route _____ Duration _____
 - For cough, consider using an inhaler/nebulizer Dose _____ Duration _____
 - Acetaminophen _____ mg, Route _____ Duration _____
 - Raise upper body (use multiple pillows) to sleep/rest
 - Encourage _____ ounces of fluid by mouth or G-Tube for _____ hours
 - Record fluid intake
 - Encourage salt water gargles
 - Assess vital signs, including temp, every _____ hours for _____ hours
 - Notify Physician/NP/PA if symptoms worsen or if unresolved in _____ hours
 - Initiate intravenous fluid hydration and/or Initiate hypodermoclysis.
 - Initiate the following antibiotic(s)
 - Antibiotic 1 _____ Dose _____ Route _____ Duration _____
 - Antibiotic 2 _____ Dose _____ Route _____ Duration _____
 - No Yes Pharmacist to adjust for renal function
 - Other, specify: _____

Physician/NP/PA signature _____ Date/Time _____

Telephone order received by _____ Date/Time _____

Family/POA notified (name) _____ Date/Time _____

* This is according to our understanding of best practices and our facility protocols.
 ** This is according to our understanding of best practices and our facility protocols. This information is insufficient to indicate an active lower respiratory tract infection.

Tool 4. Quarterly or Monthly Prescribing Profile

Resident Name	Infection Type/ Diagnosis	Last Treated	Organism Identified	Rx Date	Rx Duration	Antibiotic Name	Dose	Met Minimum Criteria

Example of McGeer Criteria Class Worksheet Checklist

- Complete worksheet for each resident with suspected infection
- Documents signs and symptoms
- Facilitates analysis of appropriateness

<http://www.dhhr.wv.gov/oeps/disease/ob/documents/toolkits/acute-respiratory-ltcf/case-class-acute-ri-ltcf.pdf>

McGeer's Case Classification Worksheet For Respiratory Illness in Long-Term Care Facilities (LTCFs)

Part III Case Classification (Ascertainment)

Pneumonia (ALL 3 criteria must be present)

- Chest radiograph interpretation as pneumonia or the presence of a new infiltrate
 - At least 1 of the constitutional criteria (See page 1)
 - At least 1 of the respiratory symptoms (See page 1)
- | CXR Date | Result |
|----------|--------|
| | |

Does the patient meet the criteria for pneumonia? (circle one) Yes No
(If yes → stop and complete the appropriate case classification in page 1: 'P')

Influenza-like Illness (ILI) (Fever and at least 3 other subcriteria must be present)

- Fever
- At least 3 of the following influenza-like illness subcriteria
 - Chills
 - New headache or eye pain
 - Myalgias or body aches
 - Malaise or loss of appetite
 - Sore throat
 - New or increased dry cough

Does the patient meet the criteria for ILI? (Circle one) Yes No
(If yes → stop and complete the appropriate case classification in page 1: 'I')

Lower respiratory tract infection (LRTI) (bronchitis or tracheobronchitis) (ALL 3 must be present)

- Chest radiograph not performed or negative results for pneumonia or new infiltrate
- At least 1 of the constitutional criteria (See page 1)
- At least 2 of the respiratory symptoms (See page 1)

Does the patient meet the criteria for LRTI? (Circle one) Yes No
(If yes → stop and complete the appropriate case classification in page 1: 'L')

Upper Respiratory Tract Infection (URTI): Common Cold Syndrome or Pharyngitis (At least 2 criteria must be present)

- Runny nose or sneezing
- Stuffy nose (ie, congestion)
- Sore throat or hoarseness or difficulty in swallowing
- Dry cough
- Swollen or tender glands in the neck (cervical lymphadenopathy)

Does the patient meet the criteria for URTI? (circle one) Yes No
(If yes → stop and complete the appropriate case classification in page 1: 'U')

If no → circle "none" in page 1

Nursing Home Antimicrobial Stewardship Guide

Toolkit 2. Monitor and Sustain Stewardship



Tool 2. Antibiotic Use Tracking Sheet [11x17 format]

Month:

Resident Name/Identifier	Room #	Admit Date	Admit From	Onset Date	Urinary Tract Infection	Respiratory	Skin/Soft Tissue	Gastrointestinal	Other Infection (Specify)	Signs & Symptoms	Indicates Respiratory Tract Used and Whether Criteria Were Met	HAIC/NUHAIC/Other Nosocomial*	Lab Results (organism identified)	X-ray	Other Contributing Factors	Prescribing Clinician (PC)	Prescription Date	Prescription Duration	Antibiotic Name	Dose	Change of Antibiotic (if needed)	Followup With PC	Followup With Resident/Family	Comments/Notes	

https://www.ahrq.gov/sites/default/files/wysiwyg/nhguide/3_TK2_T2-Antibiotic_Use_Tracking_Sheet_Final.pdf

* CAI = community-acquired infection; HAI = hospital-acquired infection; NHAIC = nursing home-acquired infection; Other Nosocomial = acquired in another health care setting

Reporting at QAPI / Infection Control Meeting

What Should I Report? – How Often Should I Report?

The QAPI process and IPCP will both be more data driven.

- Regular QAPI reporting
 - Outcome measures - disease rates, MDRO rates
- Periodic / As needed reporting
 - Process measures – audits of PPE compliance;

Examples of Risk Assessment and Process
Surveillance Activities for the 7 Components of an
IPCP

Occupational Health

- Risk Assessment
 - Completing a Community TB Risk Assessment
 - Hepatitis B Program and Policies
 - HCP Influenza Immunization Program

- Process Measures
 - Number or rate of PPD conversions among staff
 - Number of staff who accept hepatitis B vaccination
 - Rate of influenza vaccination among staff



Parenteral and Device Care

- Risk Assessment
 - POC Device Policies
 - Line care policies
 - Standards for care
 - Training expectations
 - Injection safety training
 - Urinary catheter care
 - Phlebotomy services

- Process Measures
 - Line care observations
 - Injection safety observations
 - POC device use audits
 - Rates of CAUTI
 - Line infection rates
 - Percent of false positive blood cultures



Toolkit for Implementing Single Patient Use Glucose Meters in Long-Term Care Facilities

Wisconsin

- <https://www.dhs.wisconsin.gov/dqa/memos/13-007-tool-kit.pdf>


Implementing Single Patient Use Glucose Meters
March 2013 Page 10

VII. SAMPLE: Competency of Glucose Meter Monitoring

Name - Nurse Evaluated	Unit	Date
Wearing Name Tag? <input type="checkbox"/> YES <input type="checkbox"/> NO		Name - Nurse Observer
Scoring: 1 = Yes, completed properly 2 = Few exceptions noted 3 = No, major errors noted		
Action	Score	Items to Review
1a. Check MD order for monitoring schedule.		
1b. Gather equipment (meter, test strips, lancet, alcohol swab, gloves, sharps container).		
2. Take equipment to bedside, use paper towel barrier, and inform resident of procedure; provide privacy.		
3. Turn meter on. Compare code number on meter with number on test strip bottle per manufacturer's directions.		
4. Use proper hand hygiene.		
5. Apply gloves.		
6. Remove test strip from container, close cap immediately, and insert strip in meter when meter displays "insert strip" per manufacturer's directions.		
7. Cleanse resident's finger with soap and warm water or alcohol and air dry thoroughly to avoid false reading.		
8. Puncture side of finger (not tip) by holding single patient use safety lancet perpendicular to skin and pricking site with lancet. Lightly squeeze or milk the puncture site, until a hanging drop of blood has formed; apply drop of blood to reaction zone on test strip.		
9. Place barrier under meter if placed on a surface. Note meter results.		
10. Dispose of lancet in sharps container.		
11. Cleanse resident's finger or blot dry. Apply pressure to puncture site, if necessary.		
12. After reading result, dispose of test strip per facility policy.		
13. Remove gloves.		
14. Wash hands.		
15. Dispose of barrier.		
16. Return clean equipment to storage area.		
17. Record result on MAR and compare result with previous level and parameters.		
18. Notify MD if results are outside of resident's parameters.		
Comments:		

Example of a Checklist for Assessing Competency for Urinary Catheter Insertion


http://m.bardmedical.com/media/143117/edu_bestpracticesfoleyadvance_skillschecklistinserremoval.pdf



BARD® ADVANCE FOLEY TRAY SYSTEM Insertion and Removal Skills Training Checklist

Objectives:	Task Completed	Trainer Initials
1. Clinician will demonstrate understanding of the device indications, contraindications, warnings and precautions.		
2. Clinician will demonstrate competency in the proper insertion and removal of an indwelling urinary catheter.		
Supplies: BARD® ADVANCE Foley Catheter Tray		
Foley Catheter Insertion		
1. Confirm patient meets the CDC Guidelines for Appropriate Indications for Indwelling Urethral Catheter Use:		
• Patient has acute urinary retention or bladder outlet obstruction		
• Need for accurate urine output measurements		
• Use for selected surgical procedures		
• To assist in healing of open sacral or perineal wounds		
• Patient requires prolonged immobilization		
• To improve comfort for end of life care		
• Select the smallest Foley catheter possible, consistent with good drainage		
2. Preparation:		
• Conduct a 15-30 second antiseptic hand wash and don clean gloves		
• Open outer packaging, remove tray and open CSR wrap		
• Position patient:		
• Place underpad beneath patient, plastic or "shiny" side down		
• Use provided castile soap wipes to cleanse patient's peri-urethral area using downward strokes from anterior to posterior		
• Discard gloves. Perform hand hygiene with provided alcohol hand sanitizer gel		
3. Insert Foley Catheter using aseptic technique and sterile equipment:		
• Maintain aseptic technique and don sterile gloves		
• Position fenestrated drape on patient appropriately		
• Use the syringe with the green plunger to deposit lubricant into tray-top for Foley catheter lubrication		
• Remove top tray and place next to bottom tray (keep on CSR wrap)		
• Attach the water-filled syringe to the inflation port		
✓ Note: It is not necessary to pre-test the Foley catheter balloon		
• Remove Foley catheter from wrap and lubricate catheter		
• Prepare patient with packet of pre-saturated antiseptic swab sticks:		

Page 1
2708-665



Example of a Checklist for Assessing Competency for Urinary Catheter Insertion

CDC Website

<https://www.cdc.gov/hai/prevent/tap/resources.html>

http://patientsafetyauthority.org/EducationalTools/PatientSafetyTools/cauti/Documents/f_checklist.pdf

DOYLESTOWN HOSPITAL
Nursing Services
Infection Control

Foley Catheterization: Female
PERFORMANCE CHECKLIST

NAME: _____ POSITION: _____
UNIT: _____

The above named health care provider has met all performance criteria (critical behaviors) identified below as of _____, validated by: _____
Date Signature Printed Name

The above named health care provider has not met the performance criteria (critical behaviors) identified below with a checkmark (✓) in "has not met" box. **Refer to action plan.**

Date Signature of Evaluator Printed Name

CRITICAL BEHAVIORS	MET	NOT MET	COMMENTS
1. Assemble needed Equipment for peri-bath and foley catheterization.			<i>Uses 14 Fr. Catheter as first choice</i>
2. Explain procedure to patient.			<i>Introduce self, explain purpose and necessity of procedure, teach if able. Maintain patient privacy. Keep patient warm.</i>
3. Perform Hand Hygiene. Don gloves. Perform peri-bath. Discard disposable peri-bath equipment.			<i>Cleanse patient's perineum with soap & water to reduce bacterial contamination. Make sure to wipe basin with disinfectant wipe after use.</i>
4. Perform Hand Hygiene. Follow Standard Precautions			
5. Position patient.			
6. Open catheterization tray (maintain sterility of contents) and make a sterile field with the wrapper			<i>Open edges away</i>
7. Place plastic-lined sheet under buttocks, by folding corners over hands.			
8. Don sterile gloves.			
9. Place fenestrated drape over perineum			<i>Do not contaminate gloves</i>
10. Arrange tray contents for use: • Pour iodine solution over cotton balls • Lift top tray and place onto sterile field • Dispense lubricant onto tray • Remove plastic shield from Foley and lubricate end of catheter			<i>No balloon check necessary before insertion</i>

<http://www.mnreducinghais.org/prevention/injection.html>

HealthEast
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Safe Injection Practices Infection Prevention Audit Tool

Unit/Dept/Clinic: _____ Date: _____ Completed by: _____

**All practices found to be not satisfactory require an action to be listed in the comments area*

Practice to be Assessed	Manner of Confirmation	Satisfactory	Not Satisfactory*	N/A	Comments
ASEPTIC TECHNIQUE					
1. Hand hygiene is performed (soap/water or hand sanitizer), prior to accessing supplies, handling vials and IV solutions, and preparing or administering medications.	<input type="checkbox"/> Observation <input type="checkbox"/> Interview <input type="checkbox"/> Both				
2. Disposable gloves are worn according to HealthEast policy/procedure.	<input type="checkbox"/> Observation <input type="checkbox"/> Interview <input type="checkbox"/> Both				
3. Medications and supplies are stored and prepared in a clean area on a clean surface.	<input type="checkbox"/> Observation <input type="checkbox"/> Interview <input type="checkbox"/> Both				
4. Needles and syringes are stored in their original packaging/wrapper. They are not stored unwrapped as sterility cannot be assured.	<input type="checkbox"/> Observation <input type="checkbox"/> Interview <input type="checkbox"/> Both				
5. Skin at the injection/insertion site is prepared with the appropriate antiseptic which is allowed to dry on the skin.	<input type="checkbox"/> Observation <input type="checkbox"/> Interview <input type="checkbox"/> Both				
6. The injection site is not touched after skin antisepsis has been done.	<input type="checkbox"/> Observation <input type="checkbox"/> Interview <input type="checkbox"/> Both				
NEEDLES/SYRINGES					
7. Sterile, single use syringes are always used for any type of injection or infusion. Manufacturer prefilled syringes are always used for only one patient.	<input type="checkbox"/> Observation <input type="checkbox"/> Interview <input type="checkbox"/> Both				
8. Needles, cannulas and syringes are always used as single use (used for only one patient) and are never re-used on other patients or to access medications/solutions more than once.	<input type="checkbox"/> Observation <input type="checkbox"/> Interview <input type="checkbox"/> Both				
9. Medications are never administered from the same syringe or needle to more than one patient. Changing the needle but not the syringe is unacceptable.	<input type="checkbox"/> Observation <input type="checkbox"/> Interview <input type="checkbox"/> Both				
10. The sterile needle/cannula and/or syringe is removed from the packaging just prior to use. Storage of syringes removed from packaging (even with capped needles) is prohibited.	<input type="checkbox"/> Observation <input type="checkbox"/> Interview <input type="checkbox"/> Both				
11. Medications are not prepared in one syringe and then transferred to another syringe.	<input type="checkbox"/> Observation <input type="checkbox"/> Interview <input type="checkbox"/> Both				

Central Line Checklist

<https://www.cdc.gov/hai/pdfs/bsi/checklist-for-clabsi.pdf>

Checklist for Prevention of Central Line Associated Blood Stream Infections

Based on 2011 CDC guideline for prevention of intravascular catheter-associated bloodstream infections: <https://www.cdc.gov/infectioncontrol/guidelines/bai/index.html>
 Strategies to Prevent Central Line–Associated Bloodstream Infections in Acute Care Hospitals: 2016 Update <http://www.ajic.org/abstract/S0196-676516>

For Clinicians:

Follow proper insertion practices

- Perform hand hygiene before insertion.
- Adhere to aseptic technique.
- Use maximal sterile barrier precautions (i.e., mask, cap, gown, sterile gloves, and sterile full body drape).
- Choose the best insertion site to minimize infections and noninfectious complications based on individual patient characteristics.
 - Avoid femoral site in obese adult patients.
- Prepare the insertion site with 70% chlorhexidine with alcohol.
- Place a sterile gauze dressing or a sterile, transparent, semipermeable dressing over the insertion site.
- For patients 18 years of age or older, use a chlorhexidine impregnated dressing with an FDA cleared label that specifies a clinical indication for reducing CLABSI for short-term non-tunneled catheters unless the facility is demonstrating success at preventing CLABSI with baseline prevention practices.

Handle and maintain central lines appropriately

- Comply with hand hygiene requirements.
- Bathe ICU patients over 2 months of age with a chlorhexidine preparation on a daily basis.
- Scrub the access port or hub with friction immediately prior to each use with an appropriate antiseptic (chlorhexidine, povidone iodine, an isopropyl, or 70% alcohol).
- Use only sterile devices to access catheters.
- Immediately replace dressings that are wet, soiled, or dislodged.
- Perform routine dressing changes using aseptic technique with clean or sterile gloves.
 - Change gauze dressings at least every two days or semipermeable dressings at least every seven days.
 - For patients 18 years of age or older, use a chlorhexidine impregnated dressing with an FDA cleared label that specifies a clinical indication for reducing CLABSI for short-term non-tunneled catheters unless the facility is demonstrating success at preventing CLABSI with baseline prevention practices.
- Change administration sets for continuous infusions no more frequently than every 4 days, but at least every 7 days.
 - If blood or blood products or fat emulsions are administered change tubing every 24 hours.
 - If propofol is administered, change tubing every 6-12 hours or when the vial is changed.

Promptly remove unnecessary central lines

- Perform daily audits to assess whether each central line is still needed.

For Healthcare Organizations:

- Educate healthcare personnel about indications for central lines, proper procedures for insertion and maintenance, and appropriate infection prevention measures.
- Designate personnel who demonstrate competency for the insertion and maintenance of central lines.
- Periodically assess knowledge of and adherence to guidelines for all personnel involved in the insertion and maintenance of central lines.
- Provide a checklist to clinicians to ensure adherence to aseptic insertion practices.
- Reeducate personnel at regular intervals about central line insertion, handling and maintenance, and whenever related policies, procedures, supplies, or equipment changes.
- Empower staff to stop non-emergent insertion if proper procedures are not followed.
- Ensure efficient access to supplies for central line insertion and maintenance (i.e. create a bundle with all needed supplies).
- Use hospital-specific or collaborative-based performance measures to ensure compliance with recommended practices.

Supplemental strategies for consideration:

- Antimicrobial/Antiseptic impregnated catheters
- Antiseptic impregnated caps for access ports



Aseptic Technique for Dressing Changes

https://www.jointcommission.org/topics/clabsi_toolkit_chapter_3.aspx

Aseptic versus Clean Technique

Aseptic technique, a method used to prevent contamination with microorganisms, is recommended by the evidence-based guidelines for all instances of insertion and care of central venous catheters.

Aspect	Aseptic Technique	Clean Technique
Utilization of Barriers	Requires the use of various barriers to prevent the transfer of microorganisms from health care personnel and the environment to the patient during a procedure, such as the following: <ul style="list-style-type: none"> • Sterile gloves • Sterile gowns • Sterile drapes • Masks 	Involves reducing the numbers of microorganisms to minimize the risk of transmission from the environment or health care personnel, using the following: <ul style="list-style-type: none"> • Appropriate hand hygiene • Clean gloves
Patient and Equipment Preparation	Involves procedures for patient and equipment preparation, such as the following: <ul style="list-style-type: none"> • Antiseptic skin preparation of the patient at the time of the procedure. • Sterile instruments • Sterile equipment • Sterile devices 	Efforts are made to prevent direct contamination of supplies and materials.
Environmental Controls	Includes environmental controls, such as the following: <ul style="list-style-type: none"> • Keeping doors closed during operative procedures • Minimizing traffic into and out of operating rooms • Excluding unnecessary personnel during procedures 	Patient's environment undergoes routine cleaning.
Contact Guidelines	Only sterile-to-sterile contact is allowed; sterile-to-nonsterile contact must be avoided.	Sterile-to-sterile rule does not apply.

Note: Anytime a central venous catheter is inserted when adherence to aseptic technique cannot be ensured, as might occur during a medical emergency, it is essential that the catheter be replaced as soon as possible, preferably within 48 hours (Intensive Nurses Society, Intensive Nursing Standards of Practice. *J Inf Nurs*. 2011 Jan-Feb;34 Suppl 1:S1-110. O'Grady NP, et al.; Healthcare Infection Control Practices Advisory Committee [HICPAC]. Guidelines for the prevention of intravascular catheter-related infections. *Clin Infect Dis*. 2011 May;52(9):e162-193. Epub 2011 Apr 1).

Antimicrobial Stewardship

- Risk Assessment
 - Guideline adherence (*caution - this won't be black or white*)
 - Broad spectrum antibiotic use
 - Antimicrobial resistance
 - C diff burden

- Process Measures
 - Antibiotic use measures – antibiotic starts, antibiotic days
 - Rate of compliance with Loeb (or other treatment) criteria
 - Rate of treatments over 7 days
 - MDRO rates
 - Rate of usage of specific antibiotics such as floxacins



UTI Test Tracking Sheet

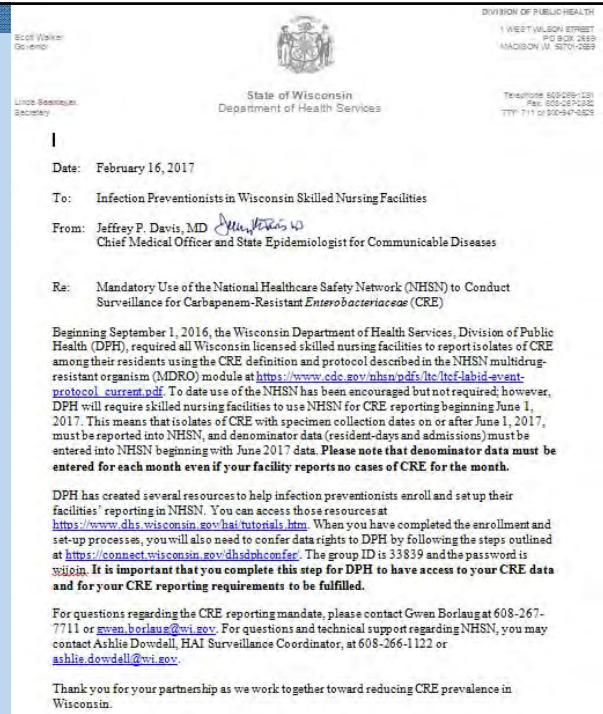
General Information		Nursing Assessment				Provider Ordering Results			Audit of Process						
Room	Resident's Name	Date Symptoms Started (mm/dd/yy)	Localizing Urinary Signs and Symptoms (Choose 1 or more from dropdown)	Non-Localized Geriatric Signs and Symptoms (Choose 1 or more from dropdown)	Warning Signs (Choose 1 or more from dropdown)	Other Signs or Symptoms not listed	Physician or Provider	UA Ordered (No = 0, Yes = 1 blank for N/A)	Culture Ordered (No = 0, Yes = 1 blank for N/A)	Meets Facility Criteria for Non-cath UTI (No = 0, Yes = 1 blank for N/A)	Meets Facility Criteria for Cath Associated UTI (No = 0, Yes = 1 blank for N/A)	Provider Action Compatible with Script (No = 0, Yes = 1 blank for N/A)	If Inappropriate Medical Director Review (No = 0, Yes = 1 blank for N/A)	Medical Director Review Completed (mm/dd/yy)	Additional Comments
			Costovertebral angle pain, New or worsening incontinence, Acute		Fever, Hemodynamic instability, Tachycardia										

- Tracks testing for suspected UTI
- Symptoms checked on drop down list
- Interdisciplinary approach – engages Medical Director
- Can be used to determine rate of compliance with Loeb or other criteria

Wisconsin HAI in LTC Coalition – UTI Test Tracking Sheet. Courtesy V Griffin, 5/10/2017
<https://www.dhs.wisconsin.gov/regulations/nh/hai-events-index.htm>

MDRO Tracking Mandated CRE Reporting WI

- CRE tracking in WI
 - Voluntary as of Sep 1, 2016
 - Mandatory as of Jun 1, 2017
- NHSN reporting module
- All facilities must enter information monthly, even if no cases occurred in the facility
 - Must report the denominator monthly
 - https://www.cdc.gov/nhsn/pdfs/ltc/ltcf-labid-event-protocol_current.pdf



Immunizations

- Risk Assessment
 - Vaccine education
 - Resident immunization – influenza and pneumococcal disease
- Process Measures
 - Immunization rates
 - Documentation audits
 - Was education provided?
 - Were vaccine information statements (VIS) given?



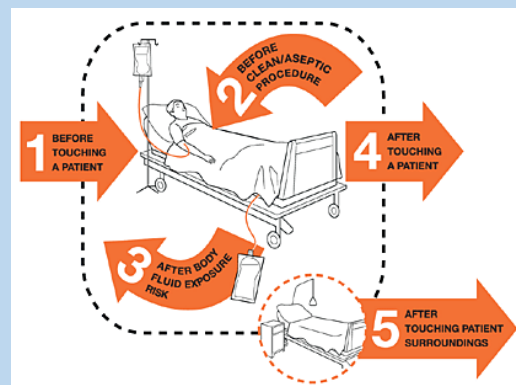
Transmission Based Precautions

- Risk Assessment
 - MDRO transfer
 - Outbreak spread
- Process Measures
 - PPE compliance audits
 - Rate of education compliance



Hand Hygiene

- Risk Assessment
 - 5 Moments
 - Accessibility of Alcohol Based Sanitizers
 - Resident hand hygiene
- Process Measures
 - Compliance observations and audits
 - ABHG dispenser audits
 - Percentage empty (or broken) by unit
 - Rate of use of resident hand wipes



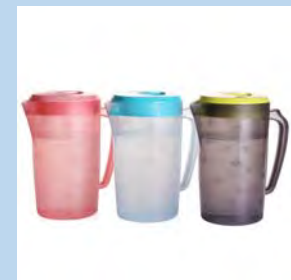
WHO
Sample Hand Hygiene
Observation Form

http://www.who.int/gpsc/5may/tools/evaluation_feedback/en/

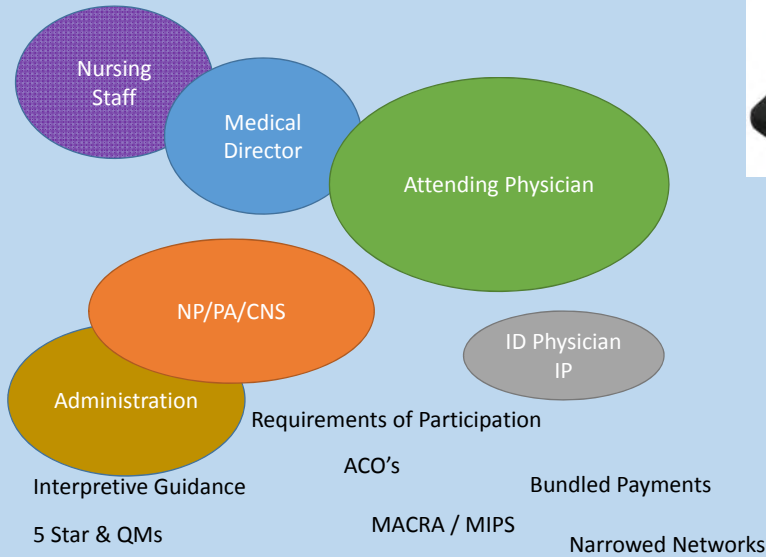
Environment

- Risk Assessment
 - Legionella (in areas prone to legionella)
 - MDDRO / C diff risk
 - Water pitcher contamination

- Process Measures
 - Water cultures or faucet cultures
 - Terminal cleaning audits
 - Linen handling audits
 - Water pitcher audits



How Does this Impact Me?



How Does This Impact Me?

- Administration and Governing Board
 - Know the final guidance
 - Ensure IPCP and QAPI programs are active
 - Ensuring right leaders are in place
 - Set expectations for the program
 - Monitoring and responding to results
 - Ensuring resources
 - Appropriate FTE for IP
 - Assess need for consultant expertise
 - Do we have the data sources needed
 - Reach out to lab to obtain antibiograms
 - Do we have the diagnostic testing necessary
 - Frequency of lab draws in facility
 - Timeliness of results
 - Do we have the most appropriate types of testing

How Does This Impact Me?

- All Nursing Staff
 - Active participants in surveillance
 - Know signs and symptoms of infections – *avoid early closure of differential diagnosis*
 - Thoroughly documenting signs/symptoms of infections
 - Accurately and timely communicating potential and confirmed infections
 - Recognizing increases in infection rates on the unit
 - Must be responsible partner in antimicrobial stewardship activities
 - Adequate evaluation in response to CNA, resident, or family concerns
 - Monitoring response
 - Not just vitals Q shift
 - How is the resident doing?
 - Understand role doesn't end when culture ordered or sensitivities checked
 - Make recommendations

How Does This Impact Me?

- Medical Director
 - Need to read the final guidance
 - Active participant in IPCP and QAPI programs
 - Communication and outreach to practitioners
 - Actively intervening with practitioners
 - Assisting in community and facility assessments
- Attending Physicians and NP / PA / CNS
 - Must respond to pharmacy and facility recommendations
 - Align MIPS or APM (ACO) requirements
 - Meeting quality metrics to remain on staff and/or in network
 - Meeting resident & family expectations
 - Practice specialization likely (training or certification in PA/LTC Medicine by ABPLM)

How Does This Impact Me?

- ID Physician and Hospital Based IP?
 - Drivers
 - Greater role expected with ACO's and narrowed networks
 - Uncertainty in the ID physician's traditional acute care based role
 - Potential roles
 - Unlikely to take on the MD or primary care role
 - Invaluable partner in addressing the need for more formalized IPCPs in nursing facilities
 - Collaborating with acute to LTC antibiotic therapy programs
 - Caveats
 - Need to make sure there is an understanding of the NF environment and culture
 - Focus on stewardship

References

- Final Requirements of Participation (NF Regs)
 - <https://www.federalregister.gov/documents/2016/10/04/2016-23503/medicare-and-medicaid-programs-reform-of-requirements-for-long-term-care-facilities>
- CDC Principles of Epidemiology in Public Health
 - <https://www.cdc.gov/ophss/csels/dsepd/ss1978/index.html>
- Practical Healthcare Epidemiology
 - Lautenbach E, Woeltje KF, Malani PN. University of Chicago Press, Chicago, IL; 3rd Ed: 2010
- WI Healthcare-Associated Infections in LTC Coalition Events
 - <https://www.dhs.wisconsin.gov/regulations/nh/hai-events-index.htm>

References

- AHRQ Nursing Home Antimicrobial Stewardship Toolkits
 - <https://www.ahrq.gov/nhguide/index.html>
- Collaborative Healthcare-Associated Infection Network
 - <http://www.mnreducinghais.org/>
- Injection Practices – HAI Prevention Strategies
 - <http://www.mnreducinghais.org/prevention/injection.html>
- PA Patient Safety Authority
 - <http://patientsafetyauthority.org>

Questions?

Thank You!



Contact Information

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