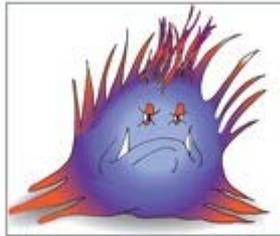


APIC's Most Wanted



CRE
(Scopus Pollutus)



MRSA
(Resistus Maximus)



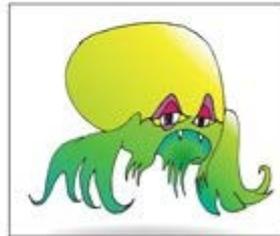
C. difficile
(Fecal malificus)



Influenza
(Sufficatus Obstructicus)



Acinetobacter
(Vermis Robustus)



Tuberculosis
(Coughigus Unrelentii)

International Infection Prevention Week October 16-22, 2016
www.apic.org/infectionpreventionandyou

INFECTION PREVENTION 'IT'S A BUGGY BUSINESS'

Candi Shearen R.N., BC, CIC

Director of Education and Infection Prevention; Welcov Healthcare

Disclosures



Nothing to disclose

I like BUGS!

And have obviously liked them for a very long time!!!



Candi.... Outside her favorite room

Objectives

- State the major changes in LTC Infection Prevention Federal Law
- Describe the major components of an effective surveillance program in LTC
- Explain when and how transmission based precautions are utilized in LTC

NEW SNF Requirements of Participation

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- Draft July 16, 2015 Federal Register
- Final September 28, 2016 – become effective November 28, 2016
 - ▣ <https://www.federalregister.gov/documents/2016/10/04/2016-23503/medicare-and-medicaid-programs-reform-of-requirements-for-long-term-care-facilities>
 - ▣ Implemented in three phases
 - Phase 1: November 28, 2016 (All IPC Program regs)
 - Phase 2: November 28, 2017 (Risk Assessment / Antibiotic Stewardship Program – ASP)
 - Phase 3: November 28, 2019 (IPCO and QAPI integration)

Infection Prevention Changes (483.80)

- MUST HAVE IPCO – he/she must have more training beyond their professional degree (Phase 3)
 - ▣ No actual number in regulation but CMS IP consultant recommending 16 hour class
 - CMS and CDC working on training to fit this requirement
 - Many programs in country already available
- This IPCO must be a member of the facilities QAPI committee and report to that committee on the IP and control program on a regular basis. (Phase 3)
- MUST HAVE an antibiotic stewardship program that would include antibiotic use protocols as well as monitoring the antibiotic use in the facility. (Phase 2)
 - ▣ Suggests need to work with a pharmacist
 - ▣ USE CDC Core Measures for Nursing Homes

Summary of Core Elements for Antibiotic Stewardship in Nursing Homes

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Leadership commitment

Demonstrate support and commitment to safe and appropriate antibiotic use in your facility

Accountability

Identify physician, nursing and pharmacy leads responsible for promoting and overseeing antibiotic stewardship activities in your facility

Drug expertise

Establish access to consultant pharmacists or other individuals with experience or training in antibiotic stewardship for your facility

Action

Implement at least one policy or practice to improve antibiotic use

Tracking

Monitor at least one process measure of antibiotic use and at least one outcome from antibiotic use in your facility

Reporting

Provide regular feedback on antibiotic use and resistance to prescribing clinicians, nursing staff and other relevant staff

Education

Provide resources to clinicians, nursing staff, residents and families about antibiotic resistance and opportunities for improving antibiotic use

Immunizations moved to IPC Regulation

- Influenza (Resident can state HX of influenza Vaccine)
- Pneumococcal
 - ▣ PCV13 (Prenvar 13)
 - ▣ PPSV23

ADULT PNEUMOCOCCAL VACCINATION		Age 19-64 WITH UNDERLYING CONDITIONS						
RISK GROUP	RISK FACTORS OR MEDICAL CONDITIONS	VACCINE TIMING			DOSAGE			
Do not administer PCV13 and PPSV23 at the same visit								
Immunocompetent	Smoker Chronic Heart <i>CHF, Cardiomyopathies, not hypertension</i> Chronic Lung <i>Asthma, COPD, Emphysema</i> Chronic Liver <i>Cirrhosis</i> Alcoholism Diabetes	IF PPSV23 PREVIOUSLY GIVEN • No additional doses needed until age 65			PPSV 23			
	Cerebrospinal Fluid Leaks Cochlear Implants	IF PPSV23 PREVIOUSLY GIVEN • Wait 1 year before giving PCV13	PCV 13	INTERVAL 8 WEEKS	PPSV 23			
Immunocompromised	HIV Infections Chronic Renal Failure / Nephrotic Syndrome Leukemia Lymphoma Hodgkin Disease General Malignancy Multiple Myeloma Congenital / Acquired Immunodeficiency Iatrogenic Immunosuppression Solid Organ Transplant Functional or Anatomic Asplenia Sickle Cell Disease/ Other Hemoglobinopathies Congenital / Acquired Asplenia	IF PPSV23 PREVIOUSLY GIVEN • Wait 1 year before giving PCV13 • Wait 5 years before giving a second dose of PPSV23	PCV 13	INTERVAL 8 WEEKS	PPSV 23	INTERVAL 5 YEARS	PPSV 23	Two doses of PPSV23 recommended before age 65, and one dose after

Infection Prevention Changes (CONT)

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- ❑ Most likely will be broken up into several tags as was prior to the last update in 2009
- ❑ System for preventing, reporting, investigating and controlling infections and communicable diseases (must review and update program policy at least annually and as needed)
 - ❑ Surveillance system to ID possible communicable diseases before they spread – **including definitions of infection**
 - ❑ ID when and to whom possible infections should be reported – **including state specific reportable diseases and performance improvement with incidents/outbreaks**
 - ❑ Transmission-based prevention Precautions
 - ID when precautions should be used for resident AND removed
 - ❑ Circumstances when employees with infections (including skin lesions) must avoid direct contact with residents or their food
 - ❑ Hand hygiene procedures.
 - ❑ Risk assessment for individuals and for facility **(Phase 2)**

Infection Control Assessment Tool for Long-term Care Facilities

This tool is intended to assist in the assessment of infection control programs and practices in nursing homes and other long-term care facilities. If feasible, direct observations of infection control practices are encouraged. To facilitate the assessment, health departments are encouraged to share this tool with facilities in advance of their visit.

Overview

Section 1: Facility Demographics

Section 2: Infection Control Program and Infrastructure

Section 3: Direct Observation of Facility Practices (optional)

Section 4: Infection Control Guidelines and Other Resources

Infection Control Domains for Gap Assessment

- I. Infection Control Program and Infrastructure
- II. Healthcare Personnel and Resident Safety
- III. Surveillance and Disease Reporting
- IV. Hand Hygiene

Also coming.....

- CMS Nursing Home and Hospital IPC project
 - 3 year project to improve assessment of IPC regulations in nursing homes and hospitals and during transitions of care
 - Will be unannounced surveys
 - Main purpose is education – no citations unless IJ
 - 2016 – completing 10 pilot nursing home surveys
 - 2017 – will do 40 hospitals and 40 nursing home surveys
 - Will review findings with facilities
 - Will give Technical assistance
 - 2018: Revisit surveys

Intent for compliance for the F441

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- **The intent of this regulation is to assure that the living center develops, implements, and maintains an Infection Prevention and Control Program**
 - **Perform surveillance and investigation** to prevent, to the extent possible, the onset and the spread of infection;
 - **Prevent and control outbreaks and cross-contamination using transmission-based precautions in addition to standard precautions**

Intent for compliance for the F441 (CONT)

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- ▣ **Use records of infection incidents to improve its infection prevention processes and outcomes by taking corrective actions, as indicated;**
- ▣ **Implement hand hygiene (hand washing) practices consistent with accepted standards of practice, to reduce the spread of infections and prevent cross-contamination; and**
- ▣ **Properly store, handle, process, and transport linens to minimize contamination.**

BASE of IP program is Surveillance

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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.”

Surveillance – basic facts...

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- **Surveillance is most essential component of an effective infection prevention program. Elements of a surveillance system include:**
 - ▣ **Use of surveillance tools such as infection surveys and data collection templates, walking rounds throughout the facility. (iscrub for IPAD or iPhone)**
 - ▣ **Use of standardized definitions and listings of the symptoms of infections. (SHEA guidelines – published in September 2012 in ICHE)**
 - **<http://www.jstor.org/stable/pdfplus/10.1086/667743.pdf>**

Definition Criteria Background

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- Original McGeer definitions written by multidisciplinary team with common interest in LTC
 - ▣ Based on available literature
 - ▣ Consensus discussion
 - ▣ NNIS (National Nosocomial Infection Surveillance Definitions)
- Published in AJIC (American Journal of Infection Control) 1991

Rationale for Revision

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- Resident population/diseases/care needs changed
- Improved diagnostics to assist with surveillance
- Increase in evidence-based literature
- NHSN hospital definitions

Surveillance of Infections

- For infection surveillance purposes, infections should be attributed to a LTCF onset if:

There is no evidence of an incubating infection at the time of admission to the facility (on the basis of clinical documentation of appropriate signs and symptoms and not solely on screening microbiologic data)

AND

Onset of clinical manifestation occurs >2 calendar days after admission.

Surveillance of Infections (cont.)

- 3 conditions should be met when applying the new surveillance definitions:
 1. Symptoms must be new or acutely worse.
 2. Non-infectious causes of signs and symptoms should be considered and evaluated before an event is considered an infection.
 3. Identification of infection should consider the clinical presentation and any microbiologic or radiologic information that is available.
 - Microbiologic and radiologic findings should not be the only criteria for defining an event as an infection.
 - Diagnosis by a physician alone also is not sufficient for a surveillance definition of infection and must be accompanied by documentation of compatible signs and symptoms. (DX of an infection is NOT based on these definitions. They are solely for surveillance purposes – LOEB criteria for Clinicians)

Definitions for Constitutional Criteria

□ **Fever**

- Single oral temperature $>100^{\circ}\text{F}$

OR

- Repeated oral temperatures $>99^{\circ}\text{F}$ or rectal temperatures $>99.5^{\circ}\text{F}$

OR

- Single temperature $>2^{\circ}\text{F}$ over baseline from any site (oral, tympanic, axillary)

□ **Leukocytosis**

- Neutrophilia ($>14,000$ leukocytes/ mm^3)

OR

- Left shift ($>6\%$ bands or $\geq 1,500$ bands/ mm^3)



Definitions for Constitutional Criteria

- **Acute change in mental status from baseline** (all of the following criteria must be present; see Confusion Assessment Criteria for evidence of change – next slide)

- Acute onset
- Fluctuating course
- Inattention

AND

- Either disorganized thinking or altered level of consciousness



Confusion Assessment Method Criteria

Acute Onset	Evidence of acute change in resident's mental status from baseline
Fluctuating	Behavior fluctuating (coming and going or changing in severity during the assessment)
Inattention	Resident has difficulty focusing attention (e.g., unable to keep track of discussion or easily distracted)
Disorganized thinking	Resident's thinking is incoherent (e.g., rambling conversation, unclear flow of ideas, unpredictable switches in subject)
Altered level of consciousness	Resident's level of consciousness is described as different from baseline (e.g., hyperalert, sleepy, drowsy, difficult to arouse, nonresponsive)
Note: Criteria are adapted from a study by Lim and MacFarlane.	

Definitions for Constitutional Criteria

□ Acute functional decline

■ A new 3-point increase in total activities of daily living (ADL) score (range, 0-28) from baseline, based on the following 7 ADL items, each scored from 0 (independent) to 4 (total dependence)

- Bed mobility
- Transfer
- Locomotion within LTCF
- Dressing
- Toilet use
- Personal hygiene
- Eating



Surveillance Programs... What should be included?

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Points to Consider	Infections	Comments
<i>A. Infections which should not be routinely included in surveillance</i>		
Limited 1. Transmissibility 2. Preventability	Ears, Sinus, Oral infections, Fungal, or Viral (herpetic) skin infections	Rarely transmitted Associated co-morbid conditions
At Risk Populations:	Post-op; CLABSI; VAP	NHSN definitions
<i>B. Infections that should be routinely included in surveillance</i>		
1. Transmission evident 2. Prevention possible	ILI; C-Difficile, Viral Gastroenteritis and Conjunctivitis	Associated outbreaks in Residents and HCWs
3. Significant Clinical	LRTI; UTI; SSTIs, Pressure Ulcers	Associated morbidity and hospitalizations
4. Serious Outbreaks	Gr A Strep; Scabies; Flu; Viral Hepatitis; Norovirus	Rare, Highly contagious



What are the significant changes?

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- Added *C-difficile* and Norovirus under Gastroenteritis
- Influenza can be diagnosed all year long
- Eye infections are under mucosal/skin category
- More specific criteria for most definitions

Surveillance: F441

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- ▣ We should Identify the processes or outcomes selected for surveillance and statistical analysis of data that uncover an outbreak and give...
- ▣ Feedback of results to the primary caregivers so that they can assess the residents for signs of infection. (Dissemination of information)
- ▣ Total house surveillance USUALLY done in LTC, Acute care does Target surveillance
 - ▣ Dr. Stone from CDC recommending we do more target surveillance in LTC
- ▣ Two types of surveillance
 - ▣ (Process and outcome) should be implemented in living centers.

Process Surveillance

Practices related to resident care

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- **Minimizes exposure to a potential source of infection;**
- **Uses appropriate hand hygiene prior to and after all procedures.**
- **Ensures that appropriate sterile/aseptic techniques are followed; for example, that staff:**
 - ▣ **Use sterile/non-sterile gloves, fluids, and materials, when indicated depending on the site and the procedure**
 - ▣ **Avoid contaminating sterile procedures.**
 - ▣ **Ensure that contaminated/non-sterile items are not placed in a sterile field.**
 - ▣ **Uses Personal Protective Equipment (PPE) when indicated.**

Process Surveillance (cont...)

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- Ensures that reusable equipment is appropriately cleaned, disinfected, or reprocessed; and
- Uses single-use medication vials and other single use items appropriately (proper disposal after every single use).

Outcome Surveillance

Identify and Report Infection

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- Documentation
- Monitoring
- Data Analysis
- Communicable Disease Reporting
- Education
- Antibiotic Review – with pharmacy and lab data



Two Surveillance questions you ALWAYS ask....

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- Is infection present?

- Is it HAI (HealthCare Acquired Infection) or CAI (Community Acquired Infection)
 - Determine by time:
 - **3 day rule for bacteria**
 - **Incubation Period for Viruses**
 - Exceptions:
 - **SSI = 30 days**
 - **Implant = 90 days**

Best Practices for Surveillance

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- Walking rounds daily – GUM SHOE method
 - ▣ Any subtle changes in the residents – ask CNAs, housekeepers, licensed staff etc.....
 - ▣ Any clusters/outbreaks – residents or employees
 - ▣ View/document line listing of infections; 24 hour reports; shift to shift reports
 - ▣ Educate on infection definitions
 - ▣ Resident/family interviews
- Discuss at facility clinical meeting:
 - ▣ View lab results –anything unusual?
 - ▣ View ATB use
 - ▣ View Nursing Notes (especially if electronic)
- Evaluate new admissions/readmission charts

Surveillance importance:

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- Data collection and analysis of your data
 - ▣ Resident Line listing – remember this just means you are evaluating them to see if they meet the criteria for infection – does NOT mean you count them!
 - Monthly resident infection line listing
 - ▣ Employee Infections Line Listing

INFECTION SURVEILLANCE DATA COLLECTION FORM

Resident Name: _____ Unit: _____ Room # _____

Date of Onset of Symptoms: _____ Report Completed by: _____

Urinary Tract Infection

Non-Catherized Resident		Catheterized Resident	
Both criteria 1 and 2 must be present		Both criteria 1 and 2 must be present	
<p>1. At least 1 of the following sign or symptom subcriteria</p> <ul style="list-style-type: none"> a. Acute dysuria or acute pain, swelling, or tenderness of the testes, epididymis, or prostate b. Fever or leukocytosis (see Table 2) and at least 1 of the following localizing urinary tract subcriteria <ul style="list-style-type: none"> i. Acute costovertebral angle pain or tenderness ii. Suprapubic pain iii. Gross hematuria iv. New or marked increase in incontinence v. New or marked increase in urgency vi. New or marked increase in frequency c. In the absence of fever or leukocytosis, then 2 or more of the following localizing urinary tract subcriteria <ul style="list-style-type: none"> i. Suprapubic pain ii. Gross hematuria iii. New or marked increase in incontinence iv. New or marked increase in urgency v. New or marked increase in frequency 		<p>1. At least 1 of the following sign or symptom subcriteria</p> <ul style="list-style-type: none"> a. Fever, rigors, or new-onset hypotension, with no alternate site of infection b. Either acute change in mental status or acute functional decline, with no alternate diagnosis and leukocytosis c. New-onset suprapubic pain or costovertebral angle pain or tenderness d. Purulent discharge from around the catheter or acute pain, swelling, or tenderness of the testes, epididymis, or prostate 	
<p>2. One of the following microbiologic subcriteria</p> <ul style="list-style-type: none"> a. At least 10⁵ cfu/mL of no more than 2 species of microorganisms in a voided urine sample b. At least 10² cfu/mL of any number of organisms in a specimen collected by in-and-out catheter 		<p>2. Urinary catheter specimen culture with at least 10⁵ cfu/mL of any organism(s)</p>	
<p>NOTE: Pyuria does not differentiate symptomatic UTI from asymptomatic bacteriuria. Absence of pyuria in diagnostic tests excludes symptomatic UTI in residents of long term care facilities. (cfu: colony-forming units.) In the absence of a clear alternate source of infection, fever or rigors with a positive urine culture result in the non-catheterized resident or acute confusion in the catheterized resident will often be treated as UTI. However, evidence suggests that most of these episodes are likely not due to infection of a urinary source.</p>			
<p><i>UTI should be diagnosed when there are localizing genitourinary signs and symptoms and a positive urine culture result. A diagnosis of UTI can be made without localizing symptoms if a blood culture isolate is the same as the organism isolated from the urine and there is no alternate site of infection.</i></p> <p><i>Urine specimens for culture should be processed as soon as possible, preferably within 1-2 h. If urine specimens cannot be processed within 30 min of collection, they should be refrigerated. Refrigerated specimens should be cultured within 24 h.</i></p>		<p><i>Recent catheter trauma, catheter obstruction, or new-onset hematuria are useful localizing signs that are consistent with UTI but are not necessary for diagnosis.</i></p> <p><i>Urinary catheter specimens for culture should be collected following replacement of the catheter (if current catheter has been in place for >14 d).</i></p>	

Infection Report Form, Revised per McGeer Criteria of 10/2012

Name _____ Room #: _____ Med. Rec. # _____ Date of Birth: _____

Date Infection was first noted _____ Date of admission/re-admit if less than 1 month _____

Was resident hospitalized due to this infection? Yes No Allergies _____

HAI-Healthcare Acquired - Nosocomial Infection Ongoing Infection Admission Infection No Infection

Constitutional Criteria for Infection, Revised 2013, See "Surveillance Definitions of Infection in LTC Facilities: Revisiting the McGeer Criteria" of 10/2012			
<p>All three criteria should be met when applying the surveillance definitions:</p> <ol style="list-style-type: none"> All symptoms must be new or acutely worse Alternative non-infectious causes of signs and symptoms (ex; dehydration, medications) should generally be considered and evaluated before an event is deemed an infection. Identification of infection should not be based on a single piece of evidence but should always consider the clinical presentation and any microbiologic or radiologic information that is available. 			
Definitions for Constitutional Criteria in LTC Residents	A. Fever	<ol style="list-style-type: none"> Single oral temperature >37.8 (>100F) OR Repeated oral temperatures > 37.2 CR (99F) Or rectal temperatures > 37.5 C (99.5 F) OR Single temperature >1.1 C (2 F) over baseline from any site (oral, tympanic, axillary) 	
Definitions	B. Leukocytosis (One criteria must be present)	<ol style="list-style-type: none"> Neutrophilia (>14,000 leukocytes/mm³) OR Left shift (6% bands or > 1,500 bands/mm³) 	
Definitions	C. Acute change in mental status from baseline (All Criteria Must Be Met)	<p>Table 3. Confusion Assessment Method Criteria (CAM criteria, McGeer Study)</p> <ol style="list-style-type: none"> Acute onset - Evidence of acute change in resident's mental status from baseline Fluctuating Behavior fluctuating (eg, coming and going or changing in severity during the assessment) "Fluctuating Course" Inattention Resident has difficulty focusing attention (eg, unable to keep track of discussion or easily distracted) Disorganized thinking Resident's thinking is incoherent (eg, rambling conversation, unclear flow of ideas, unpredictable switches in subject) Altered level of consciousness Resident's level of consciousness is described as different from baseline (eg, hyperalert, sleepy, drowsy, difficult to arouse, nonresponsive) 	
Definitions	D. Acute functional decline	<ol style="list-style-type: none"> A new 3 point increase in total activities of daily living (ADL) score (range, 0-28) from baseline, based on the following 7 ADL items, each scored from 0 (independent) to 4 (total dependence): Bed Mobility, Transfer, Locomotion within LTC facility, Dressing, Toilet use, Personal Hygiene, Eating 	
Check box only after criteria have been met			
	Infection/Site	Criteria	Conditions and comments
<input type="checkbox"/> Respiratory Tract Infection	<input type="checkbox"/> Common Cold Syndrome or Pharyngitis At least 2 criteria must be present	<input type="checkbox"/> Runny nose or sneezing <input type="checkbox"/> Stuffy nose (nasal congestion) <input type="checkbox"/> Sore throat or hoarseness or difficulty swallowing <input type="checkbox"/> Dry cough <input type="checkbox"/> Swollen or tender glands in neck (Cervical lymphadenopathy)	Fever may or may not be present. Symptoms must be acute (new) and not attributable to allergies (seasonal or Medicinal)
	<input type="checkbox"/> Influenza-like illness Criteria 1 and 2 must be present Did resident receive influenza vaccine before or during this flu season? <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1. Fever <input type="checkbox"/> 2. MUST HAVE at least 3 of the following: <input type="checkbox"/> chills <input type="checkbox"/> sore throat <input type="checkbox"/> New or increased dry cough <input type="checkbox"/> new headache or eye pain <input type="checkbox"/> malaise or loss of appetite <input type="checkbox"/> myalgias or body aches	If criteria for influenza-like illness and another upper or lower respiratory tract infections (RTI) are met at the same time, only the diagnosis of influenza-like illness should be recorded. Seasonality is no longer a criterion to define influenza-like illness because of the increasing uncertainty surrounding the timing of the start of the influenza season, the peak of influenza activity, and the length of the season.
	<input type="checkbox"/> Pneumonia (All 3 criteria must be present)	<input type="checkbox"/> 1. Chest x-ray demonstrating pneumonia, or a new infiltrate. <input type="checkbox"/> 2. At least 1 of the respiratory subcriteria: <input type="checkbox"/> New or increased cough <input type="checkbox"/> New or increased sputum production <input type="checkbox"/> Oxygen sat <94% on room air or an decrease in Oxygen sat >3% from baseline <input type="checkbox"/> New or changed lung examination abnormalities (rales, rhonchi, wheeze) <input type="checkbox"/> Pleuritic chest pain <input type="checkbox"/> Increased respiratory rate (>25/min), <input type="checkbox"/> 3. At least one of the constitutional criteria	For both pneumonia and LRTI, the presence of underlying conditions that could mimic the presentation of a RTI (ex; congestive heart failure (CHF) or interstitial lung diseases) should be excluded by a review of clinical records and an assessment of presenting symptoms and signs... NOTE: THIS DIAGNOSIS CAN BE MADE ONLY IF A CHEST X-RAY WAS TAKEN
	<input type="checkbox"/> Lower respiratory tract infections: (LRTI) i.e. bronchitis, tracheobronchitis (All 3 criteria must be present)	<input type="checkbox"/> 1. Chest film not performed or negative results for pneumonia or new infiltrate: <input type="checkbox"/> 2. At least 2 of the respiratory subcriteria: <input type="checkbox"/> New or increased cough <input type="checkbox"/> New or increased sputum production <input type="checkbox"/> Oxygen sats <94% on room air or a decrease Oxygen sats > 3% from baseline <input type="checkbox"/> New or changed lung exam abnormalities <input type="checkbox"/> Pleuritic chest pain <input type="checkbox"/> Respiratory rate (>25 breaths/min) <input type="checkbox"/> 3. At least one of the constitutional criteria increased respiratory rate (> 25/min), worsening of mental or functional status.	For both pneumonia and LRTI, the presence of underlying conditions that could mimic the presentation of a RTI: (CHF or interstitial lung diseases) should be excluded by a review of clinical records and an assessment of presenting symptoms and signs.

LINE LISTING OF RESIDENT INFECTIONS

Month _____ Year _____

Room _____ Unit _____ Name _____ Admission date _____ Type of Infection _____ If UTI, foley present? Yes/ No	Symptoms/Date	Cultures: Date/Site/Results	Treatment	Other actions (if needed)	Does not meet infecti on criteria	HAI	CAI
Room _____ Unit _____ Name _____ Admission date _____ Type of Infection _____ If UTI, foley present? Yes/ No	Symptoms/Date	Cultures: Date/Site/Results	Treatment	Other actions (if needed)	Does not meet infecti on criteria	HAI	CAI
Room _____ Unit _____ Name _____ Admission date _____ Type of Infection _____ If UTI, foley present? Yes/ No	Symptoms/Date	Cultures: Date/Site/Results	Treatment	Other actions (if needed)	Does not meet infecti on criteria	HAI	CAI
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Room _____ Unit _____ Name _____ Admission date _____ Type of Infection _____ If UTI, foley present? Yes/ No	Symptoms/Date	Cultures: Date/Site/Results	Treatment	Other actions (if needed)	Does not meet infecti on criteria	HAI	CAI

HAI = healthcare-associated infection CAI = community acquired infection

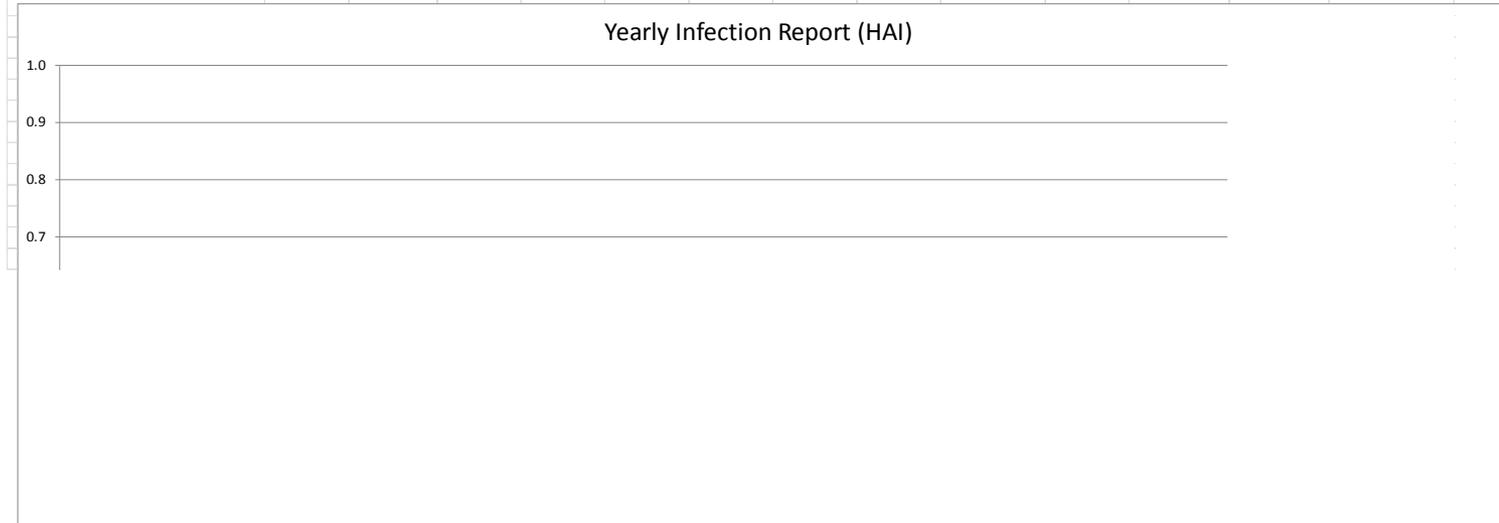
Data Analysis

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- **Oversee infections and spot trends/clusters/outbreaks**
 - ▣ **Collect info during surveillance**
 - **Categorizes each infection by body site and according to whether they are in-house or community acquired.**
 - ▣ **Distinguishes infection rates – number of infections per 1000 patient days – for each unit and for entire facility (template – computes rates for you)**
 - **Patient day refers to one patient in one bed for one day**

	#DIV/0!												
eye infection	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!
	#DIV/0!												
ear infection	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!
	#DIV/0!												
mouth and peri-oral infections	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!
	#DIV/0!												
skin infections	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!
	#DIV/0!												
system infections	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!
	#DIV/0!												
Fever of unknown origin	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!
	#DIV/0!												
clostridium difficile	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!
	#DIV/0!												
MRSA	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!
	#DIV/0!												
VRE	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!
	#DIV/0!												
ESBL	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!
	#DIV/0!												
Totals													
Total # of HAI infections (a)	0	0	0	0	0	0	0	0	0	0	0	0	0
Unit census (b)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Rate of Infection by month	#DIV/0!												
Last years rate of infection by month													

Yearly Infection Report (HAI)



Report at QAPI.....

- NOT just your numbers....
- ANALYZE your data and INTERPRET your findings
- What did you do with incidents?
 - ▣ RCA (Root Cause Analysis)
 - ▣ Break in system or System change needed?
 - ▣ Training
 - ▣ Auditing

Regarding physicians

- Education regarding the revised definitions and the LOEB criteria for Clinicians
- Assess first, then call
 - ▣ Give option of not treating
 - ▣ Antibiotic use is not equivalent to infection diagnosis
- Antibiotic Stewardship

Precautions in LTC

CONTACT PRECAUTIONS

(In addition to Standard Precautions)



Visitors: Report to nurse prior to entering



Hand Hygiene:

Wash hands or perform alcohol hand gel according to Standard Precautions



Gloves:

Wear gloves when entering room or cubicle

Wear gloves whenever touching resident or their environment

Remove gloves before leaving room



Gowns:

Wear gown when entering room or cubicle

Remove gown and observe hand hygiene before leaving the room



Resident Equipment:

Dedicate equipment as able/needed



Standard precautions

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- Treat all cares/treatments of ALL residents as if their body fluids are infected. Utilize barriers with:
 - Blood
 - All body fluids, secretions & excretions *except* sweat regardless of whether or not they contain visible blood
 - Non-intact skin
 - Mucous Membranes
- Utilize PPE (Personal Protective Equipment) with contact

PPE / Barriers

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□ Gloves

- Indicated for procedures where body fluids are handled
 - Never exit a room with gloves on
 - Wash– Glove –Wash

□ Gowns, Aprons and Other Protective Clothing

- Indicated for use when performing tasks that will likely soil the employee's clothing with infective material – when entering contact precaution room

□ Masks, Eye Protection and Face Shields

- Indicated when splashing, spatter, spraying or generation of droplets of body fluids.



Sequence for Donning PPE

- Gown first
- Mask or respirator
- Goggles or face shield
- Gloves

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator



3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



4. GLOVES

- Extend to cover wrist of isolation gown



USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene



Sequence for Removing PPE

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- Gloves
- Face shield or goggles
- Gown
- Mask or respirator



Figure 1. Centers for Disease Control and Prevention protocol for removing healthcare worker personal protective equipment (PPE).



Transmission Based precautions

46

- ▣ Used WITH standard precautions
- ▣ Designed for residents documented or suspected to be infected or colonized with highly transmissible or epidemiologically important pathogens
- ▣ Three types that may be combined depending on disease type
 - Contact
 - Droplet
 - Airborne (Most LTC facilities don't use this but must have something in place for suspected cases)

Transmission based Precautions (Continued)

47

- Determination of type and duration of precaution used: Appendix A Isolation Guidelines
- EXAMPLE: Abscess – Draining major versus Abscess – draining minor or limited.

Type and Duration of Precautions Needed for Selected Infections and Conditions
 CDC Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings, 2007

Infection/Condition	Precautions		Comments
	Type *	Duration †	
Abscess			
Draining, major	C	DI	No dressing or containment of drainage; until drainage stops or can be contained by dressing.
Draining, minor or limited	S		Dressing covers and contains drainage
Acquired immunodeficiency syndrome	S		Post-exposure chemoprophylaxis for some blood exposures.
Actinomycosis	S		Not transmitted from person to person
Adenovirus infection (see agent-specific guidance under gastroenteritis, conjunctivitis, pneumonia)			
Amebiasis	S		Person to person transmission is rare. Transmission in settings for the mentally challenged and in a family group has been reported. Use care when handling diapered infants and mentally challenged persons.
Anthrax			Infected patients do not generally pose a transmission risk.
Cutaneous	S		Transmission through non-intact skin contact with draining lesions possible, therefore use Contact Precautions if large amount of uncontained drainage. Handwashing with soap and water preferable to use of waterless alcohol-based antiseptics, since alcohol does not have sporicidal activity.
Pulmonary	S		Not transmitted from person to person.
Environmental: aerosolizable spore-containing powder or other substance	A,C	DE	Until decontamination of environment complete. Wear respirator (N95 mask or PAPRs), protective clothing; decontaminate persons with powder on them. (http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5135a3.htm) Hand hygiene: Handwashing for 30-60 seconds with soap and water or 2% chlorhexidine gluconate after spore contact (alcohol handrubs inactive against spores.) Post-exposure prophylaxis following environmental exposure: 60 days of antimicrobials (either Doxycycline, Ciprofloxacin, or Levofloxacin) and post-exposure vaccine under IND.
Antibiotic-associated colitis (see <i>Clostridium difficile</i>)			
Arthropod-borne viral encephalitides (eastern, western, Venezuelan equine encephalomyelitis; St Louis, California encephalitis, West Nile virus), and viral fevers (dengue, yellow fever, Colorado	S		Not transmitted from person to person except rarely by transfusion, and for West Nile virus by organ transplant, breast milk or transplacentally. Install screens in windows and doors in endemic areas. Use DEET-containing mosquito repellants and clothing to cover extremities.

Transmission based Precautions (Continued)

48

- Base on conditions that facilitate transmission
 - ▣ Uncontained respiratory secretions
 - ▣ Coughing or sneezing
 - ▣ Uncontained copious wound drainage
 - ▣ Diarrhea
- Determine Resident being out of room:
 - ▣ 4 Cs – Clean; Contained;
Cooperative and Cognitive!



Transmission based Precautions (Continued)

49

□ Contact Precautions

- Residents **known or suspected** to have serious illnesses easily transmitted by direct resident contact or by contact with items in the resident's environment.
- Private room, cohort with same organism, or low risk resident
- **Gloves** with direct or indirect contact of resident/environment
- **Gowns** when entering room
- **Dedicate equipment**

CONTACT PRECAUTIONS

(In addition to Standard Precautions)



Visitors: Report to nurse prior to entering



Hand Hygiene:

Wash hands or perform alcohol hand gel according to Standard Precautions



Gloves:

Wear gloves when entering room or cubicle

Wear gloves whenever touching resident or their environment

Remove gloves before leaving room



Gowns:

Wear gown when entering room or cubicle

Remove gown and observe hand hygiene before leaving the room



Resident Equipment:

Dedicate equipment as able/needed

Transmission Based precautions

(Continued)

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□ Droplet Precautions

- Use for residents with infections that can be transmitted by droplet
- Private room, cohort with same infection or low risk resident.
 - If low risk resident, must maintain spacial separation of at least 6 feet between the infected resident and other residents/visitors
 - Door may remain open
- Mask when entering room / cubicle
- Resident should wear mask during transport outside room

□ Airborne Precautions

- MUST have Airborne Isolation Rooms in order to do this in LTC

DROPLET PRECAUTIONS

(In addition to Standard Precautions)



Visitors: Report to nurse prior to entering



Hand Hygiene:

Wash hands or perform alcohol hand gel according to Standard Precautions



Gloves:

Wear gloves if handling tissues or other items with infective material or environment that could be contaminated with infective material
Remove gloves before leaving room



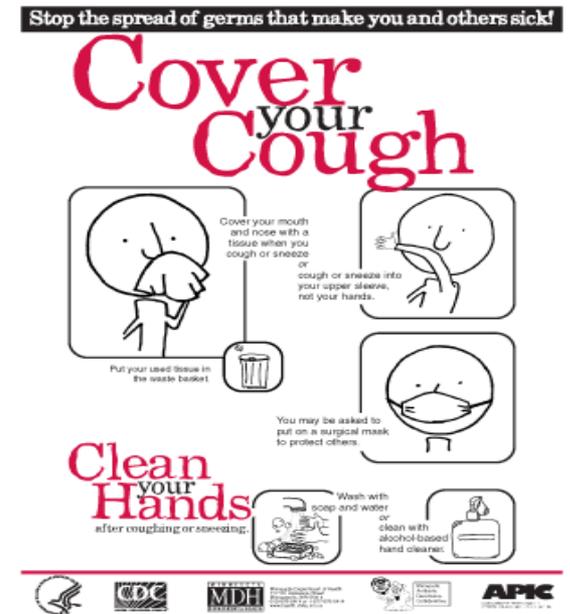
Masks:

Wear masks when entering room or cubicle
Remove mask and observe hand hygiene before leaving the room

Respiratory / cough etiquette

51

- ❑ Use along with Droplet Precautions
- ❑ Cover your nose/mouth when cough /sneeze
- ❑ Use tissues to contain respiratory secretions and dispose of them in the nearest waste receptacle after use
- ❑ Wash hands or use ABHR (alcohol based hand rub after having contact with respiratory secretions and contaminated objects/materials





C-Diff (clostridium difficile)

52

- ❑ Contact precautions in place when ‘active’ symptoms.
 - ❑ Removed 24 -72 hours after watery stools have subsided
- ❑ May leave room if stool contained, good hygiene and uses hand hygiene. Remember the 4 Cs with transmission based precautions (Cognition/Clean/Cooperative/Contained)
- ❑ DO NOT DO f/u cultures
- ❑ Can cohort with another c-diff or low risk roommate
- ❑ Handwashing with soap and water – more effective than alcohol gel
- ❑ **CLEANING ENVIRONMENT KEY... NOT JUST HIGH TOUCH AREAS BUT ALL AREAS of room**
 - ❑ Dedicate equipment – including commode if no private BR
 - ❑ Commode liners



VRE (Vancomycin Resistant Enterococcus)

53

- ❑ Contact precautions in place – modified per individual case
 - ❑ Retesting not required and not recommended. Remove from precautions when signs and symptoms have resolved
- ❑ May leave room if contained, good hygiene and uses hand hygiene. Use 4 C's
- ❑ Can cohort with another VRE resident or low risk roommate
- ❑ If VRE newly diagnosed and patient/resident has shared a room with another person, roommate's stool or rectal swab should be considered
- ❑ CLEANING ENVIRONMENT KEY... NOT JUST HIGH TOUCH AREAS BUT ALL AREAS of room
- ❑ Dedicate equipment
- ❑ Spread primarily through environment and HCWs hands – STRICT hand hygiene!



MRSA (Methicillin Resistant Staphylococcus Aureus)

54

- ❑ Contact precautions in place – modified per individual case
 - ❑ Any site with active MRSA
 - ❑ Colonized Foley catheter associated MRSA
 - ❑ Wounds heavily colonized with MRSA
 - ❑ Tracheostomy patients colonized sputum that are unable to handle secretions
- ❑ May leave room if contained, good hygiene and uses hand hygiene. Use 4 Cs
- ❑ Retesting not required and not recommended. Remove from precautions when signs and symptoms have resolved
- ❑ Can cohort with another MRSA resident or low risk roommate
- ❑ **CLEANING ENVIRONMENT KEY... NOT JUST HIGH TOUCH AREAS BUT ALL AREAS of room**
- ❑ Dedicate equipment
- ❑ Spread primarily through HCWs hands – STRICT hand hygiene



ESBL (Extended spectrum beta-lactamases)

55

- ❑ Contact precautions in place – modified per individual case
- ❑ May leave room if contained, good hygiene and uses hand hygiene. Use 4 C's
- ❑ Retesting not required and not recommended. Remove from precautions when signs and symptoms have resolved
- ❑ Can cohort with another ESBL resident or low risk roommate
- ❑ **CLEANING ENVIRONMENT KEY... NOT JUST HIGH TOUCH AREAS BUT ALL AREAS of room**
- ❑ Dedicate equipment
- ❑ Spread primarily through environment and HCWs hands – **STRICT** hand hygiene



A.baumannii (Acinetobacter baumannii - AB)

56

- ❑ **Contact precautions in place – modified per individual case**
- ❑ May leave room if contained, good hygiene and uses hand hygiene.
Use the 4 Cs
- ❑ Retesting not required and not recommended. Remove from precautions when signs and **symptoms have resolved**
- ❑ **Can cohort with another AB resident or low risk roommate**
- ❑ **CLEANING ENVIRONMENT KEY... NOT JUST HIGH TOUCH AREAS BUT ALL AREAS of room**
- ❑ **Dedicate equipment**
- ❑ **Spread primarily through HCWs hands – STRICT hand hygiene**



CRE (carbapenem-resistant Enterobacteriaceae)

57

- **STRICT** Contact Precautions.
- No current guidelines to remove from precautions
- May leave room if wound secretions are contained, are continent, has good hygiene and uses reliable good hand hygiene.
 - Ensuring therapy and other rehabilitation treatments and activities are performed at routine locations (e.g., therapy/rehabilitation room, hallway) Resident should perform hand hygiene and have clean clothing/gown prior to leaving the room. These activities should be IN resident room if do not meet above criteria
- Can cohort with another CRE resident or private room – Can be dangerous to Neutropenic resident – should not share caregiver with CRE patient
- CLEANING ENVIRONMENT KEY... NOT JUST HIGH TOUCH AREAS BUT ALL AREAS of room
- Dedicate equipment
- Spread primarily through environment and HCWs hands – STRICT hand hygiene
- When to do CHG bathing

SUGGESTED READINGS/REFERENCES

58

- ❑ Infection Control F441 Guidance
<http://www.cms.hhs.gov/transmittals/downloads/R52SOMA.pdf> - also in Infection Control manual
- ❑ Only EPA registered products effective against c-diff can be used for cleaning rooms where residents have active disease -- website has names of products that fit into this category:
www.epa.gov/oppad001/list_i_clostridium.pdf
- ❑ Surveillance Definitions of Infection in Long-Term Care Facilities: Revisiting the McGeer Criteria
<http://www.jstor.org/stable/pdfplus/10.1086/667743.pdf>
- ❑ Development of Minimum Criteria for the Initiation of Antibiotics in Residents of Long-Term (Loeb Criteria)
http://www.jstor.org/stable/10.1086/501875?origin=JSTOR-pdf&seq=1#page_scan_tab_contents
- ❑ CDC Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings, 2007
<http://www.cdc.gov/hicpac/pdf/isolation/isolation2007.pdf>

SUGGESTED READINGS/REFERENCES

(cont.)

59

- ❑ <https://www.federalregister.gov/documents/2016/10/04/2016-23503/medicare-and-medicaid-programs-reform-of-requirements-for-long-term-care-facilities>
- ❑ <https://www.federalregister.gov/articles/2015/07/16/201517207/medicare-and-medicaid-programs-reform-of-requirements-for-long-term-care-facilities>
- ❑ Control of Communicable Diseases Manual: David L Heymann MD, Editor; 19th Edition. APHA press
- ❑ Ready References to Microbes: Kathy Brooks RN, PHD, CIC; 3rd Edition. APIC press
- ❑ Reportable Diseases in SD
<http://doh.sd.gov/documents/diseases/infectious/RptDiseaseList.pdf>
- ❑ Infection Prevention Guide to LTC; 1st edition 2013; APIC press

Bottom Line

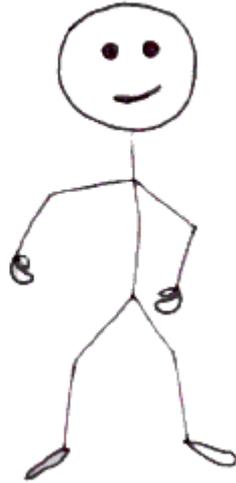
60



Infection Prevention must
be an important part of
our LTC facilities
programs

Go forth and conquer!

This is
my
thank you
dance!



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Questions and Discussion