

# JOB TITLE = INFECTION PREVENTIONIST... WHAT NOW?

## PART 2



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## **OBJECTIVES**

 Discuss the role of the Infection Preventionist in program evaluation.

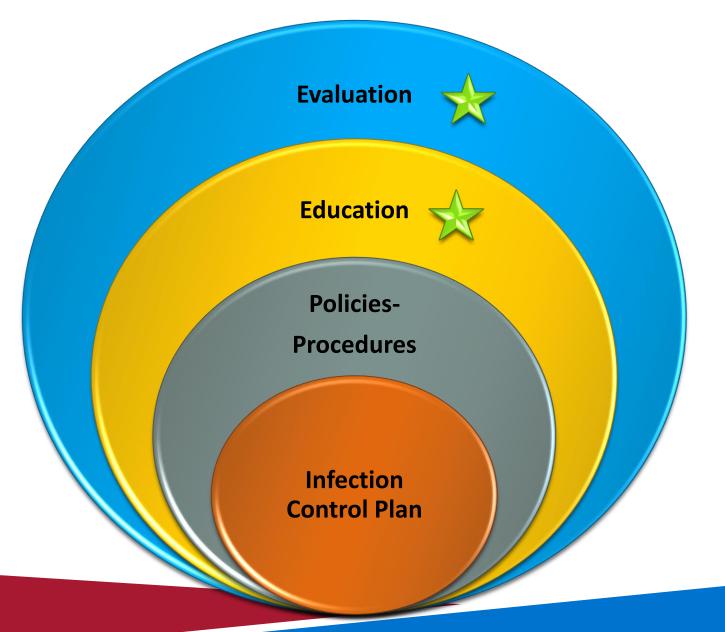
 Identify key elements of an Infection Prevention long-term care program.



## **NO DISCLOSURES**



## **CORE ELEMENTS**







## **EDUCATION**



## **EDUCATION TIPS**

- Shared responsibility (IP needs to know the "what")
- Tailor to audience (adult learners, cognitive ability)
- Computer based vs. live
- Key times:
  - ✓ Upon hire
  - ✓ Annual
  - √ When changes occur
- Documentation
- Competencies



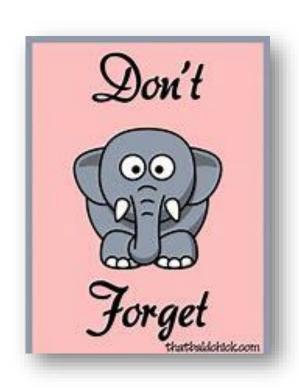


## **ESSENTIAL HCP EDUCATION**

- ☐ Bloodborne Pathogen (BBP) Exposure Control Plan
- ☐ Tuberculosis (TB) Infection Control Plan
- □Standard precautions/transmission based precautions
  - ✓ MDROs
  - √ Hand hygiene
  - ✓ PPE selection, donning & doffing
  - ✓ Safe injection practices including glucometer care/use
  - ✓ Respiratory hygiene/cough etiquette
- □ Cleaning & disinfection
- □ Antibiotic stewardship



## **ESSENTIAL EDUCATION**



## Residents and families need education too!

- ☐ Hand hygiene
- □ Respiratory hygiene
- □Flu & pneumococcal immunization benefits/potential side effects
- □Antibiotic stewardship
- □Transmission based precautions\*



## **COMPETENCY TIPS**



- Based on population served, determine who requires competencies
  - → High risk, resident contact, service provided, device related, data collected, regulatory, outbreaks
  - → Employee specific and goes into employee file
- Upon hire, annually and if issues identified
- Performed by someone who is deemed competent to observe
  - → Employee health, IP, unit supervisor, SDC, ancillary staff leadership
- Utilize a standardized checklist for measuring performance
- Have a plan for remediation with identified concerns



## **SAMPLE COMPETENCY**

	Competency Validation		
	Soap & Water (ABHR) (60% - 95% alcohol content)		
Alcohol based Hand Rus	(ABTIK) (00% - 33% alcohol content)		
Type of validation: Return demonstration	☐ Orientation ☐ Annual ☐ Other		
Employee Name:	Job Title:		
Hand Hygiana with S	con 9. Water	Comp	etent
Hand Hygiene with S	YES	NO	
1. Checks that sink areas are supplied with	soap and paper towels		
2. Turns on faucet and regulates water tem	perature		
3. Wets hands and applies enough soap to	cover all surfaces of hands		
<ol> <li>Vigorously rubs hands for at least 15 second hands, between fingers, and wrists</li> </ol>			
5. Rinses thoroughly keeping fingertips poir			
6. Dries hands and wrists thoroughly with p			
7. Discards paper towel in wastebasket			
8. Uses paper towel to turn off faucet to pre	event contamination to clean hands		
Hand Hygiene w	ith ABHR		
9. Applies enough product to adequately co			
10. Rubs hands including palms, back of hand surfaces dry			
General Obser	vations		
11. Direct care providers—no artificial nails o	or enhancements		
12. Natural nails are clean, well groomed, an			
13. Skin is intact without open wounds or ras	shes		
Comments or follow up actions:			

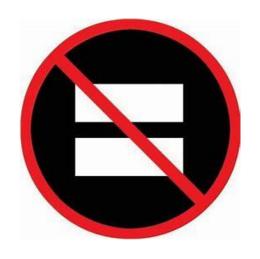




## **EVALUATION**



## **Surveillance Criteria**



# Clinical Diagnosis Or MDS



## **SURVEILLANCE**

# Key points

### HEALTHCARE ASSOCIATED INFECTIONS (HAI)

- Standardized, nationally recognized surveillance criteria
  - → E.g., 2012 updated McGeer, CDC National Healthcare Safety Network (NHSN), etc.
  - → Include in infection control plan
- Specific criteria must be met (documentation required)
  - → "All or none"; If not all criteria met, exclude from IC data

**Outcome Measure** 



## **SURVEILLANCE TIPS**

- Focus is on facility acquired infections based on risk assessment
  - → Facility-wide (total) surveillance
  - →Targeted (focused) surveillance



- Be consistent
- Try to do it "real time" to take action if necessary
- Educate staff on S&S for documentation



## **SURVEILLANCE TIPS**



### Triggers for investigation

- → Antibiotic report
- → Culture report (also helps with monitoring appropriate isolation)
- $\rightarrow$  Provider orders
- → Daily huddles/stand up
- → Be aware of residents admitted with MDROs or C. difficile for risk of transmission

#### Infection Line List

- → This can include all of your investigation
- → Include a column for "meets criteria"



## SURVEILLANCE DEFINITION COMPARISON

### **McGeer 2012 Criteria**

- Publication
- Not routinely updated
- Explains rationales behind surveillance
- Infection definitions
  - → Urinary tract
  - → Respiratory tract
  - → Skin, soft tissue and mucosal
  - $\rightarrow$  GI tract

#### CDC NHSN

- Periodically updated
- Training available online
- Potential for national benchmarking
- Limited infection definitions
  - → C. difficile & MRSA (LabID)
  - → Urinary Tract
- Other measures
  - → Prevention: HH, glove & gown use
  - $\rightarrow$  HCP exposures
  - → HCP influenza vaccination



INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY OCTOBER 2012, VOL. 33, NO. 10

#### SHEA/CDC POSITION PAPER

#### Surveillance Definitions of Infections in Long-Term Care Facilities: Revisiting the McGeer Criteria

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## MCGEER CRITERIA 2012

https://www.jstor.org/stable/10.1086/667743?seq=1



## **MCGEER CRITERIA**

#### **Appendix**

#### 3 important conditions that should be MET when applying surveillance definitions

- All symptoms must be NEW or acutely WORSE
- · Alternative noninfectious causes of signs and symptoms (e.g., dehydration, medications) should be evaluated
- . Identification of infection should NOT be based on one single piece of evidence but should always consider both clinical and microbiologic/radiologic findings
  - Microbiologic and radiologic findings should NOT be the sole criteria
  - → Diagnosis by a physician alone is NOT sufficient for a surveillance definition of infection and must include compatible signs and symptoms

Definitions for Constitutional Criteria in Residents of Long-Term Care Facilities (LTCFs)*										
Fever	Leukocytosis	Acute change in mental status from baseline	Acute functional decline							
<ul> <li>Single oral temperature &gt;37.8°C (&gt;100°F) OR</li> <li>Repeated oral temperatures &gt;37.2°C (99°F) or rectal temperatures &gt;37.5°C (99.5°F) OR</li> <li>Single temperature &gt;1.1°C (2°F) over baseline from any site (oral, tympanic, axillary)</li> </ul>	<ul> <li>Neutrophilia (&gt;14,000 leukocytes/mm³) OR</li> <li>Left shift (&gt;6% bands or ≥1,500 bands/mm³)</li> </ul>	ALL criteria must be present (See Table 1 below)  Acute onset Fluctuating course Inattention AND Either disorganized thinking or altered level of consciousness	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							

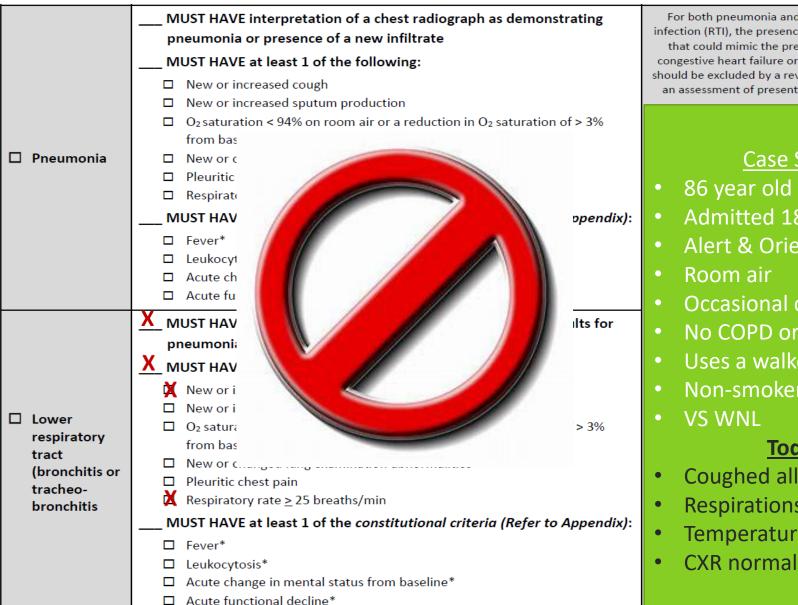
#### Table 1

Acute Onset	Evidence of acute change in resident's mental status from baseline
Fluctuating	Behavior fluctuating (e.g., 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	Resident's level of consciousness is described as different from baseline (e.g., hyperalert, sleepy, drowsy, difficult to arouse,
consciousness	nonresponsive)

## **APPLYING RESPIRATORY MCGEER CRITERIA (#1)**

	<ul> <li>MUST HAVE interpretation of a chest radiograph as demonstrating pneumonia or presence of a new infiltrate</li> <li>MUST HAVE at least 1 of the following:</li> <li>New or increased cough</li> <li>New or increased sputum production</li> </ul>	For both pneumonia and lower respiratory tract infection (RTI), the presence of underlying condition that could mimic the presentation of a RTI (e.g., congestive heart failure or interstitial lung diseases) should be excluded by a review of clinical records an an assessment of presenting symptoms and signs.			
☐ Pneumonia	<ul> <li>O₂ saturation &lt; 94% on room air or a reduction in O₂ saturation of &gt; 3% from baseline</li> <li>New or changed lung examination abnormalities</li> <li>Pleuritic chest pain</li> <li>Respiratory rate ≥ 25 breaths/min</li> </ul>	Case Study  • 86 year old male			
	<ul> <li>MUST HAVE at least 1 of the constitutional criteria (Refer to Appendix):</li> <li>Fever*</li> <li>Leukocytosis*</li> <li>Acute change in mental status from baseline*</li> <li>Acute functional decline*</li> </ul>	<ul> <li>Admitted 18 months ago</li> <li>Alert &amp; Oriented</li> <li>Room air</li> <li>Occasional cough</li> </ul>			
☐ Lower respiratory tract (bronchitis or tracheo- bronchitis	<ul> <li>MUST HAVE chest radiograph not performed OR negative results for pneumonia or new infiltrate</li> <li>MUST HAVE at least 2 of the following:         <ul> <li>New or increased cough</li> <li>New or increased sputum production</li> <li>O₂ saturation &lt; 94% on room air or a reduction in O₂ saturation of &gt; 3% from baseline</li> <li>New or changed lung examination abnormalities</li> <li>Pleuritic chest pain</li> <li>Respiratory rate ≥ 25 breaths/min</li> </ul> </li> <li>MUST HAVE at least 1 of the constitutional criteria (Refer to Appendix):         <ul> <li>Fever*</li> <li>Leukocytosis*</li> <li>Acute change in mental status from baseline*</li> </ul> </li> </ul>	<ul> <li>No COPD or CHF</li> <li>Uses a walker</li> <li>Non-smoker</li> <li>VS WNL</li></ul>			
	☐ Acute functional decline*				

## **ANSWER #1**



For both pneumonia and lower respiratory tract infection (RTI), the presence of underlying conditions that could mimic the presentation of a RTI (e.g., congestive heart failure or interstitial lung diseases) should be excluded by a review of clinical records and an assessment of presenting symptoms and signs.

#### Case Study

- 86 year old male
- Admitted 18 months ago
- Alert & Oriented
- Occasional cough
- No COPD or CHF
- Uses a walker
- Non-smoker

#### Today

- Coughed all night
- Respirations 30 per/min
- Temperature: 100°F

Centers for Disease Control and Prevention (CDC)-National Healthcare Safety Network (NSHN)

Tracking Infections in Long-term Care Facilities

## **CDC NHSN**

http://www.cdc.gov/nhsn/ltc/index.html



# APPLYING UTI NSHN CRITERIA CASE STUDY (#2)

#### 63 year old female

- Admitted 1 week ago for rehab after bilateral hip replacement
- Alert with mild confusion at times
- Uses a walker
- Independent to the bathroom/no catheter
- Poor nutrition

#### Past 48 hours

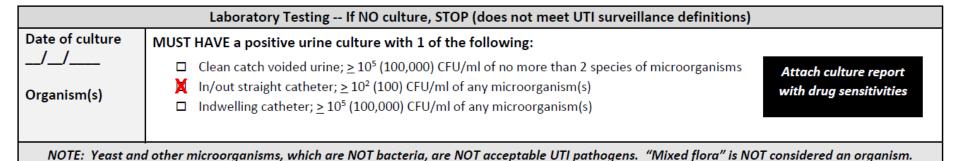
- Fell when ambulating
- MD ordered lab work
  - ✓ CBC
  - ✓ UA/Culture if positive
  - ✓ VS Q12 hours
- Temp WNL
- White count = 16,000
- Urine culture obtained via I/O catheter
  - ✓ Urine color dark yellow/strong odor
  - √ >50,000 E. coli



## **APPLYING UTI NSHN CRITERIA (#2)**



# Do you have a urine culture report?



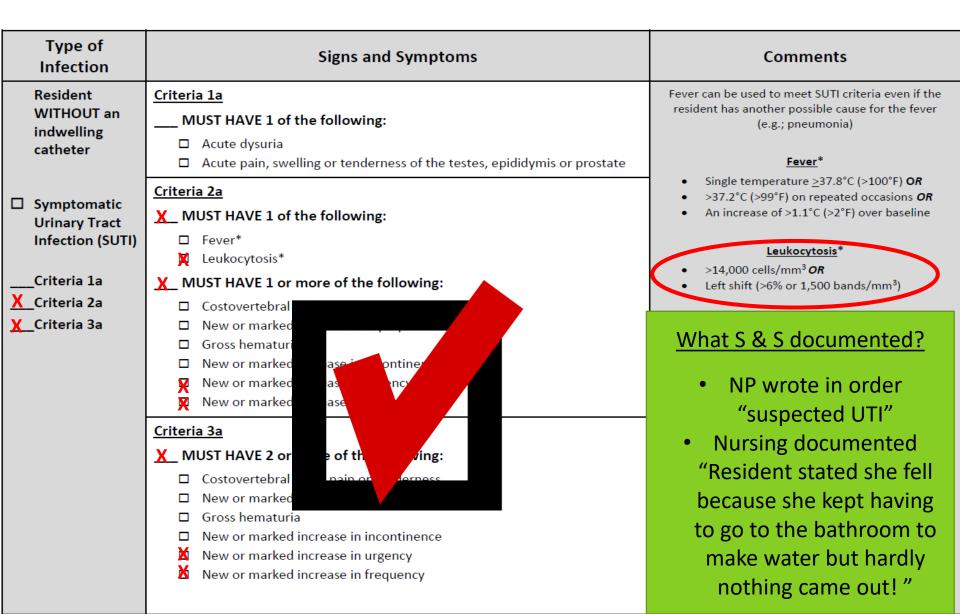
**YES** *Grew >50,000 E. coli* 



## **APPLYING UTI NSHN CRITERIA (#2)**

2 2		
Type of Infection	Signs and Symptoms	Comments
Resident WITHOUT an indwelling catheter	Criteria 1a  MUST HAVE 1 of the following:  Acute dysuria  Acute pain, swelling or tenderness of the testes, epididymis or prostate	Fever can be used to meet SUTI criteria even if the resident has another possible cause for the fever (e.g.; pneumonia)  Fever*  Single temperature ≥37.8°C (>100°F) OR
☐ Symptomatic Urinary Tract Infection (SUTI) Criteria 1aCriteria 2a	Criteria 2a  MUST HAVE 1 of the following:  Fever*  Leukocytosis*  MUST HAVE 1 or more of the following:  Costovertebral angle pain or tenderness	<ul> <li>&gt;37.2°C (&gt;99°F) on repeated occasions OR</li> <li>An increase of &gt;1.1°C (&gt;2°F) over baseline</li> <li>Leukocytosis*</li> <li>&gt;14,000 cells/mm³ OR</li> <li>Left shift (&gt;6% or 1,500 bands/mm³)</li> </ul>
Criteria 3a	<ul> <li>New or marked increase in suprapubic tenderness</li> <li>Gross hematuria</li> <li>New or marked increase in incontinence</li> <li>New or marked increase in urgency</li> <li>New or marked increase in frequency</li> </ul>	<ul><li>What S&amp;S documented?</li><li>NP wrote in order "suspected UTI"</li></ul>
	Criteria 3a MUST HAVE 2 or more of the following:  Costovertebral angle pain or tenderness  New or marked increase in suprapubic tenderness Gross hematuria New or marked increase in incontinence New or marked increase in urgency New or marked increase in frequency	<ul> <li>Nursing documented         "Resident stated she fell         because she kept having         to go to the bathroom to         make water but hardly         nothing came out!"</li> </ul>

## **APPLYING UTI NSHN CRITERIA (#2)**







## WHY AUDIT?

## A method/tool to validate compliance of...

- Process
- Procedure
- Standard

Gaps in practice or trends can be measured, analyzed for actions







## **AUDIT TIPS**



- Team effort (leadership, champions, etc.)
- Includes all shifts
- Purposeful
- Monitor the audited process entirely
- Different from competencies
  - ✓ Anonymous data not directly tied to an individual "secret shopping"

- Crucial element for program evaluation & resident safety
- Frequency is based off of prioritized risks
  - ✓ Monthly, quarterly, twice a year, annually (point prevalence)
- Determine a compliance percentage
- Staff need to know to impact change/compliance

**Process measure** 





## AUDITS ITEMS TO CONSIDER

- □ Resident Vaccines
- ☐ Hand hygiene
- □PPE use
- □ Isolation
- □Glucometers/POC
- □Safe injections

- **□**Wound care
- □Urinary catheters
- □Central lines
- □ Environmental cleanliness
- □ Environmental Rounds



## **SAMPLE AUDIT**

#### Point of Care (POC) Audit Tool

(Glucometers, PT/INR, etc.)

Date	Hand Hygiene performed				Hygiene New gloves		*Single-use		resting meter		Dedicated Testing meter based on meter type		Gloves removed		Hand Hygiene performed		Total Compliance (All Yes = compliant)		
	Yes	No	Yes	No	Yes	No	Cleaned & disinfected after use	No	Cleaned & disinfected per policy	No	Yes	No	Yes	No	Yes	No			
Sample 1	1		1		1		1				1		1		1				
Sample 2		1	1		1				1		1		1			1			
Sample 3	1		1		1		1		1		1		1		1				
<b>Total Counts</b>	2	1	3	0	3	0	2	0	2	0	3	0	3	0	2	1			
Single Element Compliance		7%	10	00%	10	0%	100%		100%	Ś	10	0%	10	0%		67%			

% Compliance =

Notes: \*Lancet holder devices are not suitable for multi-patient use.

# of yes compliant /total # of audits

\*\*If the manufacturer does not provide instructions for cleaning & disinfection, then the testing meter should not be used for more than 1 patient.

NC SPICE; 9-2018



Adapted from the CDC long-term care ICAR tool



## DATA SHARING/COMMUNICATION





## **FEEDBACK TIPS**

- Share analyzed data with frontline staff and leadership
- "Just in time" is a form of feedback but does explain the overall story & trends
- Find a forum
  - ✓ Staff meeting, bulletin boards, etc.
  - ✓ Visual, verbal, etc.
- Sharing engages staff to take ownership, develop solutions and celebrate successes



## TIPS FOR PRESENTING AT QUALITY MEETING

- IP must be part of the team
- Present monthly or quarterly
- IP discusses trends and makes recommendations
- May include raw numbers, calculated rates, tables, graphs, etc.



Opportunity to majorly impact resident safety!



## **COMMUNICATION TOPICS TO CONSIDER**

- Surveillance HAI data
- Audit data (HH, POC, etc.)
  - ✓ Includes IC data collected by other departments
- Antibiotic stewardship
  - ✓ Shared duty
- Policy review/revisions and approval
- Performance Improvement
   (PI) projects

- Adverse/near miss events
  - ✓ Outbreaks, safe injection practices, etc.
- Annual program requirements
  - ✓ (Risk assessments, goals, etc.)
- Employee health issues
  - ✓ Influenza vaccine compliance, TST compliance
- Construction/renovation





## **SAMPLE DATA TOOLS**



#### **HEALTHCARE ASSOCIATED INFECTION DATA**

HA-Infections	July Overall			July by Hall # Infections		
	Resident Days	# Infections	Rate*	100 Hall	200 Hall	300 Hall
UTI	134	6	44.8	5	1	0
Respiratory	134	3	22.4	0	1	2
Skin	134	2	14.9	1	0	1
C. difficile	134	0	0.0	0	0	0



<sup>\*</sup>Rate = (# Infections/# Resident days) x 1000

2017	#	#	Percentage
	observations	compliant	recentuge
Jan	40	14	35
Feb	40	18	45
Mar	30	14	47
1st			
Quarter	110	46	42
Apr	30	15	50
May	30	14	47
Jun	20	11	53
2nd			
Quarter	80	40	50
Jul	30	18	60
Aug	30	21	70
Sep	20	16	80
3rd			
Quarter	80	55	69
Oct	30	22	75
Nov	30	27	90
Dec	20	17	85
4th			
Quarter	80	66	83
Year End Total	350	207	59

## STOPLIGHT TABLE HAND HYGIENE

Goal = 90%

Greater than or equal to 90 = Green

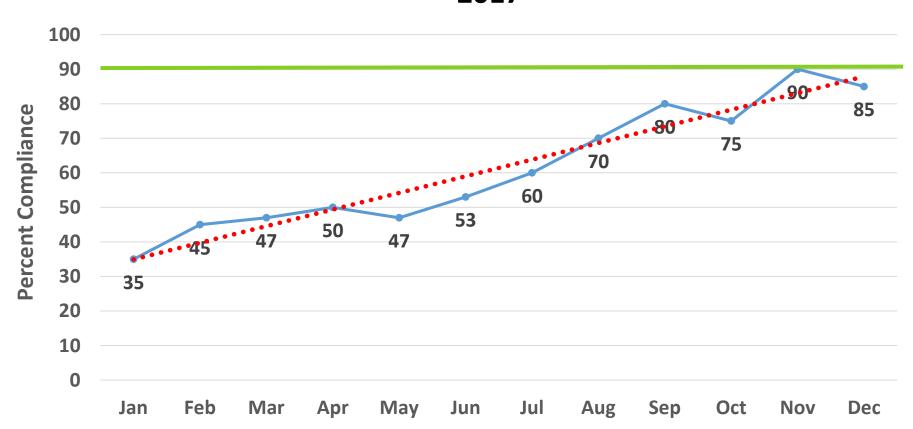
Between 60 - 89 = Yellow

59 or below = Red



#### **RUN CHART WITH TREND LINE**

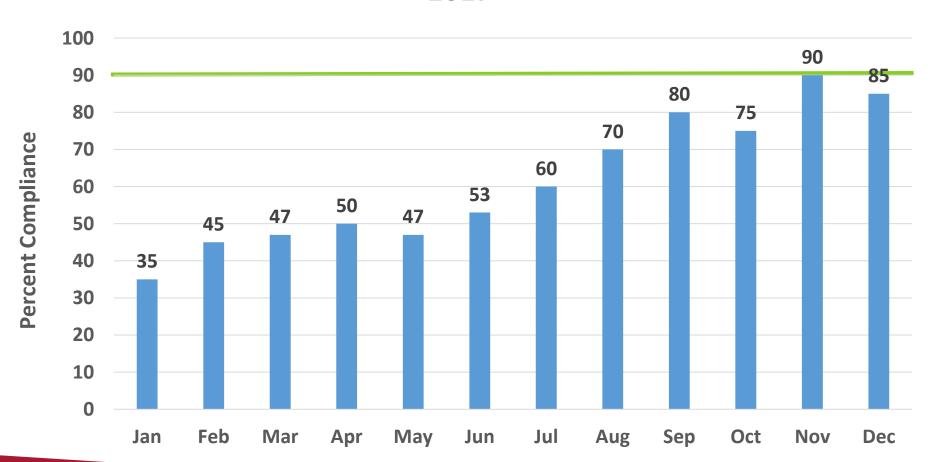
## Hand Hygiene Percent Compliance 2017





#### **BAR GRAPH**

## Hand Hygiene Percent Compliance 2017





#### **POLICY SUMMARY FOR APPROVAL**

	Date	
Name of Policy	Reviewed	Changes/Revisions
Transmission Based Precautions	8/15/2018	Added new category of Contact Enteric Precautions requiring soap/water for hand hygiene when leaving room. Room and equipment cleaning/disinfecting to be performed with 1:10 bleach wipes.
Standard Precautions	8/21/2018	Grammar only; no content changes
Outbreaks	9/7/2018	New policy. Details on how to recognize, respond and address outbreaks in facility. Specific examples include influenza, gastroenteritis & scabies.
Hand Hygiene	9/7/2018	Added statement: Alcohol based hand rub is the preferred method for cleaning hands unless visibly soiled or caring for a resident on Contact Enteric Precautions.





### (AKA...FINDING TIME)



Develop, Implement & Evaluate



#### **HOW MUCH TIME?**

#### **NC ICAR findings**

Average of 10.1 hours/week

#### **CMS** requirements

Part time at facility Participates in QAPI





#### **ORGANIZING YOUR TIME**

Analyze infection

data

Analyze

audits/rounds

Provide staff

audit/rounds

Policy review

(per schedule)

(staff/residents)

feedback

Education

Present data &

analysis to QAPI

**Environmental** 

rounds

**Annually** 

Review all

plans/risk

assessments

**Summarize** 

(Goals)

rounds

surveillance data

**HCP** education

**Environmental** 

**Annual skills** 

competencies

Daily	Weekly	Monthly	Quarterly
Isolation rounds	Audits	Audits	Audits

Surveillance

Staff feedback

(Trends)

Surveillance

Lab review

**Antibiotic orders** 

Daily stand up

1 on 1 feedback



- Email
- Private space
- Phone
  - ✓ Availability & notifications
- Education
  - ✓ SPICE training/notebook/certificate
  - ✓ Current CMS regulations
  - ✓ CDC guidelines
  - ✓ Surveillance definitions/map
  - ✓ Policies



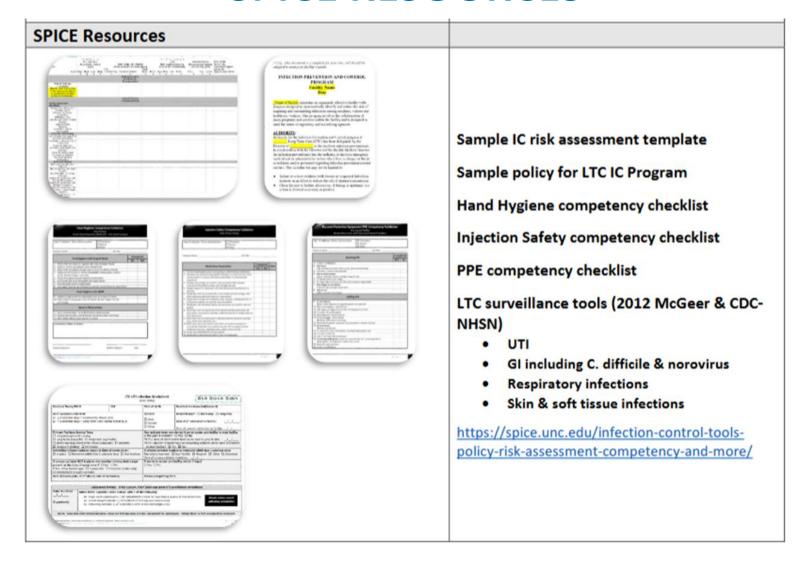




#### **RESOURCES & REFERENCES**



#### **SPICE RESOURCES**





#### REFERENCES

Statewide Program for Infection Control & Epidemiology (SPICE)

https://spice.unc.edu/

Centers for Disease Control & Prevention (CDC)

https://www.cdc.gov/longtermcare

Association for Professionals in Infection Control and Epidemiology

https://apic.org/

Grota P., et. al. (eds). (2014). APIC text (4<sup>th</sup> Edition).

Centers for Medicare & Medicaid Services (CMS)

https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/GuidanceforLawsAndRegulations/Nursing-Homes.html





#### **Questions?**

- ✓ Un-mute your line
- ✓ Type in the chat box



# THANK YOU FOR YOUR ICAR PARTICIPATION AND SUPPORTING RESIDENT SAFETY!





