C. difficile Infection Reduction in Long-Term Care
Session 4: Surveillance, Data Tracking and Reporting

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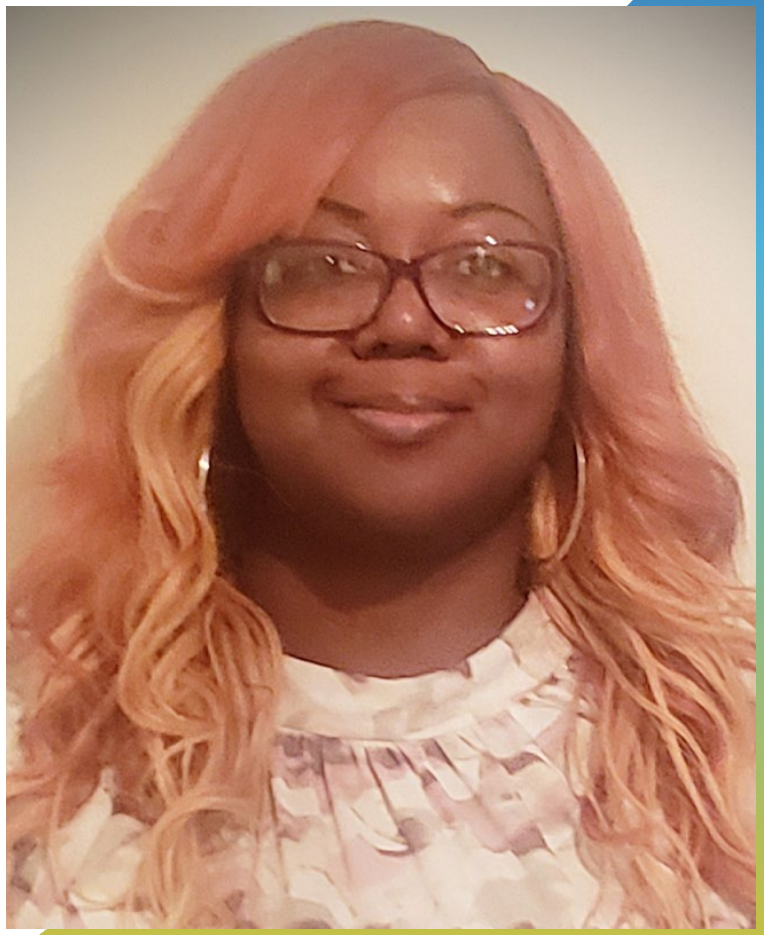
Paula is a doctoral student with a diverse background in public health, infection control, epidemiology and microbiology. She enjoys public health and identifying ways to improve health outcomes, specifically those related to healthcare-associated infections. She has 10 years of health care experience.

Paula enjoys spending time with her friends and family. In her spare time, she loves watching a good horror or thriller movie.



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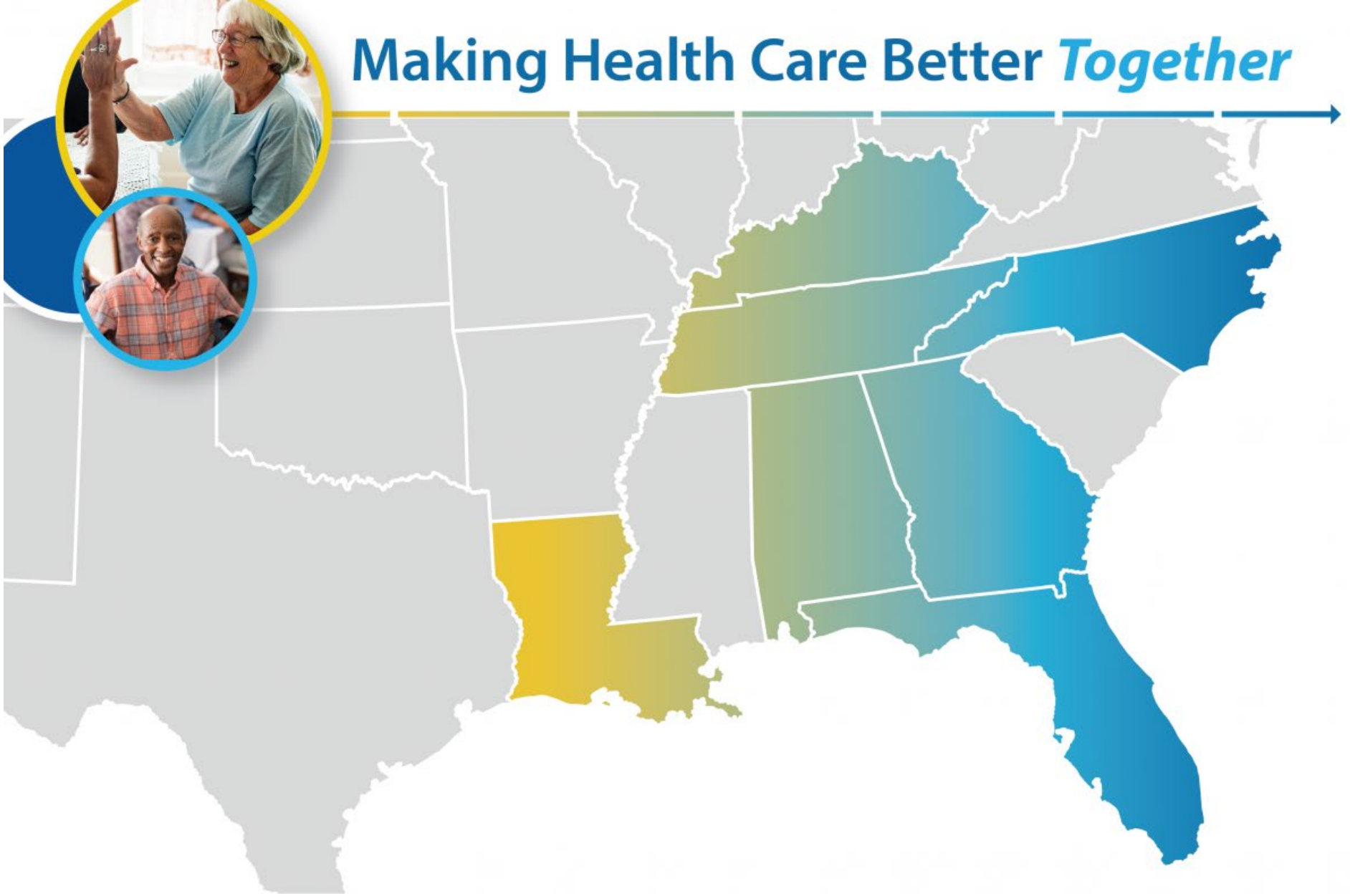

About Alliant Health Solutions

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Hello, My Name Is…

Type into chat:

- Name
- Role
- Facility
- State
- What are you excited to learn today?

Learning Objectives

By the end of the session, the learner will:

1. Understand *C. difficile* surveillance definitions and the importance of definition standardization

2. Describe essential data collection strategies used to effectively monitor process and outcome measures for *C. difficile* reduction

3. Utilize a *C. difficile* tracking tool

4. Understand best practices for CDI reporting

What Is CDI?

Clostridioides difficile infection (CDI) is an emerging cause of infectious diarrhea in nursing homes; outbreaks have been and continue to be reported. It's estimated that 8% to 33% of nursing home residents treated with antibiotics acquire CDI (CDC, 2021).

CDC Case Definitions

C. *difficile* infection incident case:
A case of CDI is defined as a positive C. *difficile* toxin assay or a positive C. *difficile* molecular assay (e.g., PCR) of a stool specimen from a resident of the surveillance catchment area who is at least one year old. Cases with a C. *difficile*-positive stool specimen greater than eight weeks after the last positive specimen are considered new cases with an incident stool specimen. Therefore, an individual may be classified and captured as a new incident case for surveillance purposes if eight consecutive weeks have elapsed since their last C. *difficile*-positive test.

Recurrent episodes:
CDI cases with a positive C. *difficile* stool specimen between two to eight weeks of the last positive specimen are considered recurrent episodes.

Duplicate episodes:
CDI cases with a positive C. *difficile* stool specimen less than two weeks after the last positive specimen are considered duplicate episodes.

Standardized Definitions

- Health Care Facility-Onset (HCFO) - If the positive stool specimen was collected greater than three calendar days after hospital admission or in a resident of a long-term care facility.

- Community-Onset Health Care Facility-Associated (CO-HCFA) - If the positive stool specimen was collected in an outpatient setting or within three days after hospital admission in a person with a documented overnight stay in a health care facility (i.e., hospitalization or long-term care facility stay) in the 12 weeks before stool specimen collection.

- Community–Associated (CA) – If a positive stool specimen was collected in an outpatient setting or within three calendar days after hospital admission in a person with no documented overnight stay in a health care facility during the 12 weeks before the specimen was collected.

C. *Diff* Data Definitions

- Prior to collecting C. *difficile* infection data, standardized data definitions to effectively monitor rates over time should be determined.

- Since many C. *difficile* infections are community-associated, it is important for facilities to identify both HCFO and CO-HFCA.

Importance of Definition Standardization

- The use of standardized surveillance definitions to monitor CDIs within a health care facility enables a complete understanding of how these organisms manifest and are transmitted.
- Analysis of these data elements provides proxy infection measures of *C. difficile* health care acquisition, exposure burden and infection burden that will be useful in implementing recommended infection prevention and control strategies.

C. *Diff* Infection Reduction Goals and Proposed Methods to Achieve Sample

Reduce *C. difficile* infections by XX% within six months in the facility	• Monitor *C. difficile* rates over time • Hold educational in-services for support staff and frontline clinicians about *C. difficile* reduction strategies • Implement the *C. difficile* prevention bundle
Achieve 100% compliance with all components of the *C. difficile* prevention bundle within six months in the facility	• Develop, pilot test, and implement a *C. difficile* prevention bundle monitoring tool to ensure compliance with practices
Achieve 95% compliance with adhering to an environmental protocol for daily and terminal cleaning	• With support staff supervisors, develop a process for monitoring daily and terminal cleaning practices of rooms with *C. difficile*-infected patients • Develop and convene in-services to educate support staff about health care facility cleaning protocols and using a hypochlorite-based solution for cleaning

Environmental Cleaning Data Tool Sample

ENVIRONMENTAL CLEANING DATA TOOL

SAMPLE ENVIRONMENTAL CHECKLIST - SUMMARY FORM

FOR DAILY AND TERMINAL CLEANING ROOM OBSERVATIONS

<<Modify instructions as needed to comply with data collection protocol or internal policies.>>

Observe eight daily cleanings per month (try to observe about two per week) and one terminal cleaning per month. Report your results in the highlighted cells.

Your hospital	
Reporting period	
Enter number of ***routine*** cleanings	
Enter number of ***terminal*** cleanings	
TOTAL CLEANINGS	

Instruction	Component	# Times Task Performed	# Times Task NOT Performed	# Times Not Applicable	Enviro-Score
At start, perform hand hygiene				Applicable to ALL	
Put on PPE					
Needed supplies/equipment					
High-touch surfaces: Disinfect w/hypochlorite-based disinfectant	Door knobs				
	Door surface				
	Light switches				
	Window sills				
	Spot clean walls with disinfectant cloth				
	Medical equipment (e.g., IV controls)				
	Bed rails				
	Call button				
	Phone				
	Over bed table & drawer				
	Countertop				
	Furniture				
	Arms of patient chair				
	Seat of patient chair				
	All other misc. horizontal surfaces				
Damp Dust:	Overhead light (if the bed is empty)				
	TV & stand				
Clean:	Lights				
Bathroom: Disinfect w/hypochlorite-based disinfectant	Bathroom door knob				
	Mirror				
	Tub/shower				
	Faucets (at sink)				
	Bathroom handrails				
	Sink				
	Toilet lever/flush				
	Toilet horizontal surface/seat				
Clean Floor:	Dust mop tile				
	Wet mop tile				
For TERMINAL CLEANING, damp dust:	Bed frame				
	Mattress covers				
	Pillows				
	Blood pressure cuffs, as per hospital policy				
	Remove unused linen and other such items				
EXIT ROOM AFTER CLEANING IS COMPLETE:					
Remove trash, mops, soiled curtains, discard wipes/cloths, etc.					
Dispose of gloves, gown, wash hands					
RE-STOCK ROOM with SUPPLIES and EQUIPMENT as needed:					
After Daily Cleaning (Replace as needed) RE-ENTER with PPE - GOWN & GLOVES	Hand sanitizer				
	Paper towels				
	Replace curtains as needed				
	Replace trash liner				
After TERMINAL CLEANING, gowns/gloves not needed; It's a clean room	Remake bed with clean linen				
	Replace as needed: Pillows, mattresses, pillow covers, mattress covers				
	Replace curtains as needed				
Other:					
Change mop heads after each room				Applicable to ALL	
Remove PPE before walking in hallway					
Perform hand hygiene					
					Overall Enviro-Score

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Components of a *C. difficile* Infection Prevention Bundle Sample

Institute immediate contact precautions for patients with diarrhea	Nurse-initiated actions, including: •Assessing patient •Informing physician that patient has diarrhea •Putting a patient on contact precautions •Notifying Admitting and IP department that patient is on contact precautions Physician-initiated actions, including: •Assessing patient •Evaluating for possible *C. difficile* infection •Ordering laboratory tests •Contact precautions
Perform appropriate hand hygiene	•Use soap and water to prevent the spread of *C. difficile* spores •Adhere to the facility's hand hygiene policy •Observe hand hygiene practices
Have personal protective equipment (PPE) readily available, and use it	• Have PPE readily available on the unit • Secure PPE for appropriate clinical and support staff
If used, have dedicated rectal thermometers	• Enforce facility-wide policy to not share rectal thermometers • Consider other options for thermometers (e.g., temporal)
Patient Placement: • Private room, cohorting *C. difficile*, or shared rooms • Bathroom: dedicated versus shared, or use of commode	• First and preferred option: Place the patient in a private room • Second option: If no private room is available, identify if the patient can be cohorted with another patient with CDI or another MDRO

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C. *Diff* Tracking Tool

C. *DIFFICILE* INFECTION TRACKING TOOL

EXAMPLE *CLOSTRIDIUM DIFFICILE* COLLECTION DATA FORM

<< Insert custom instructions to users here >>

Hospital Name	Total Discharges	Total Patient Days	Reporting Period

Total *C. difficile* Cases Indicator	Facility Associated						Possible Facility Associated						Non-Facility Associated				Recurrent		
Current Reporting Period																			
Total																			

Patient-Level Data

Case #	Medical Record Number	Last Name	First Name	Reporting Period	Age	Gender	Admission Date	Admission from Another Health care Facility	Name of Transferring Facility	Symptom Onset Date	Used Contact Precautions	Date of Contact Precautions	Date *C.difficile* Test was Obtained	Discharged Patient	Discharge Date	*C. difficile* Case Status	Diagnosis made on Specimen #	Colectomy	Patient Status at Dischage	Open Date Field	Open Alpha-Numeric Field	Open Alpha-Numeric Field	Fields automatically calculate: Time Till Symptom Onset (Days)	Time Till Contact Precautions Initiated (Days)	Time Till Positive *C. difficile* Test (Days)	Length of Stay
1																										
2																										
3																										
4																										
5																										
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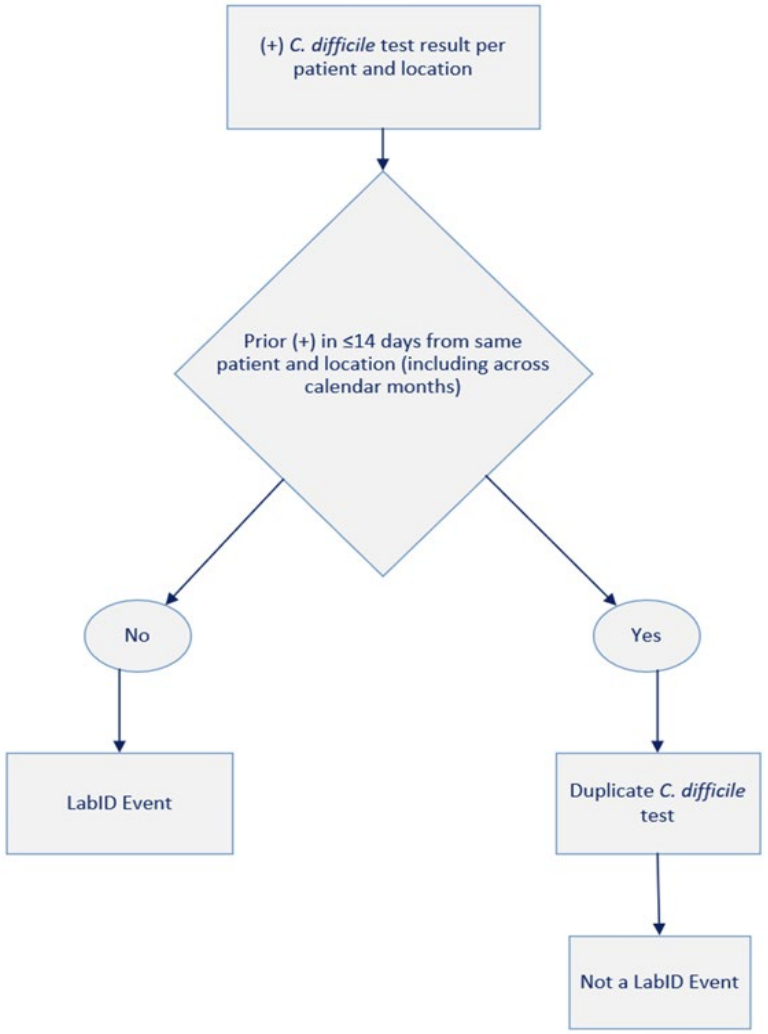
CDI Reporting Best Practices

- The use of standardized surveillance definitions to monitor *C. difficile* infection (CDI) within a health care facility enables a more complete understanding of the burden and transmission of this spore-forming, Gram-positive anaerobic bacterium.

- The LabID Event Module within the NHSN LTCF Component is a less labor-intensive surveillance method in which laboratory testing data combined with limited admission, discharge and transfer information are used without the clinical evaluation of the resident for signs and symptoms. This method provides proxy measures of CDI and health care exposure that can be useful in the implementation of recommended CDI prevention and control strategies.

CDI Reporting Best Practices

Figure 3. *C. difficile* Test Result Algorithm for Laboratory Identified (LabID) Events



* There should be 14 days with no C. *difficile* toxin-positive laboratory result for the patient and specific location before another C. *difficile* LabID Event is entered into NHSN for the patient and location.

Let's Review!

1) Which of the following is the correct definition for health care facility-onset (HCFO) *C. difficile?*

a) A positive stool specimen collected greater than two calendar days after hospital admission or in a resident of a long-term care facility.

b) A positive stool specimen collected in an outpatient setting or within three days after hospital admission in a person with documented overnight stay in a health care facility (i.e., hospitalization or long-term care facility stay) in the 12 weeks before stool specimen collection.

c) A positive stool specimen collected greater than three calendar days after hospital admission or in a resident of a long-term care facility.

d) A positive stool specimen collected in an outpatient setting or within three calendar days after hospital admission in a person with no documented overnight stay in a health care facility during the 12 weeks before the specimen was collected.

1) Which of the following is the correct definition for health care facility-onset (HCFO) *C. difficile*?

A) A positive stool specimen collected greater than two calendar days after hospital admission or in a resident of a long-term care facility.

B) A positive stool specimen collected in an outpatient setting or within three days after hospital admission in a person with documented overnight stay in a health care facility (i.e., hospitalization or long-term care facility stay) in the 12 weeks before stool specimen collection.

C) A positive stool specimen collected greater than three calendar days after hospital admission or in a resident of a long-term care facility.

D) A positive stool specimen collected in an outpatient setting or within three calendar days after hospital admission in a person with no documented overnight stay in a health care facility during the 12 weeks before the specimen was collected.

2) Which of the following is the correct definition of a recurrent CDI episode?

A) A positive *C. difficile* stool specimen less than two weeks since the last positive specimen.

B) A positive *C. difficile* stool specimen between two to eight weeks of the last positive specimen.

C) A positive *C. difficile* stool specimen less than four weeks since the last positive specimen.

D) A positive *C. difficile* stool specimen between eight to 12 weeks of the last positive specimen.

2) Which of the following is the correct definition of a recurrent CDI episode?

A) A positive C. *difficile* stool specimen less than two weeks since the last positive specimen.

B) A positive C. *difficile* stool specimen between two to eight weeks of the last positive specimen.

C) A positive C. *difficile* stool specimen less than four weeks since the last positive specimen.

D) A positive C. *difficile* stool specimen between eight to 12 weeks of the last positive specimen.

Don’t Forget Hand Washing!

Washing with soap and water is the best way to prevent the spread from person to person. *C. diff* spores are resistant to alcohol; therefore, hand washing with soap and water remains important.

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Summary

Identification of clusters or outbreaks of CDIs should be studied using a systematic epidemiologic investigation to determine whether there are common people, places or times. The findings can then guide interventions and evaluation of the effectiveness of the interventions. The first step to properly evaluate the effectiveness of any process implemented to reduce CDI or any other HAI is to develop a standardized case definition.

Standardized case definitions are critical if the information is going to be used to compare one unit or facility with another (benchmarking), to monitor trends over time, or to evaluate the effectiveness of interventions to reduce infections.

References

APIC Text. (2018). Chapter 73. Clostridium difficile Infection and Pseudomembranous Colitis.

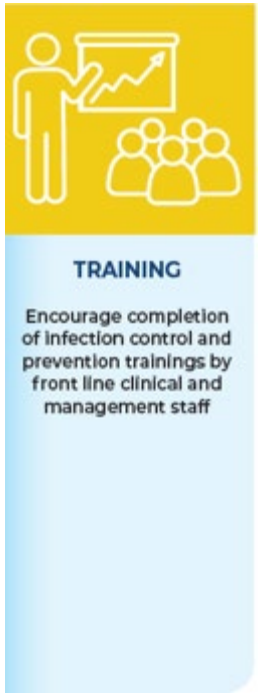
CDC. (2021). *Laboratory-identified Event Surveillance for Multidrug Resistant Organisms (MDROs) and Clostridioides difficile Infection (CDI) Events in Long-term Care Facilities (LTCFs)*. Centers for Disease Control and Prevention. https://www.cdc.gov/nhsn/pdfs/ltc/ltcf-labid-event-protocol_current.pdf

Questions?

Scan the QR code or Click the Link to Complete the Assessment!

CMS requested Alliant Health Solutions, your QIN-QIO, to work with select nursing homes to understand emerging healthcare needs in nursing homes. Alliant Health Solutions is engaging nursing home leadership on each of these key areas to ensure plans are in place to achieve and maintain health quality and equity!

Please scan the QR code below and complete the assessment.



Nursing Home Infection Prevention (NHIP) Initiative Training Assessment

https://bit.ly/NHIPAssessment

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Nursing Home and Partnership for Community Health:
CMS 12th SOW GOALS

OPIOID UTILIZATION AND MISUSE

Promote opioid best practices

•

Reduce opioid adverse drug events in all settings

PATIENT SAFETY

Reduce hospitalizations due to c. diff

•

Reduce adverse drug events

•

Reduce facility acquired infections

CHRONIC DISEASE SELF-MANAGEMENT

Increase instances of adequately diagnosed and controlled hypertension

•

Increase use of cardiac rehabilitation programs

•

Reduce instances of uncontrolled diabetes

•

Identify patients at high-risk for kidney disease and improve outcomes

CARE COORDINATION

Convene community coalitions

•

Reduce avoidable readmissions, admissions to hospitals and preventable emergency department visits

•

Identify and promote optimal care for super utilizers

COVID-19

Support nursing homes by establishing a safe visitor policy and cohort plan

•

Provide virtual events to support infection control and prevention

•

Support nursing homes and community coalitions with emergency preparedness plans

IMMUNIZATION

Increase influenza, pneumococcal, and COVID-19 vaccination rates

TRAINING

Encourage completion of infection control and prevention trainings by front line clinical and management staff

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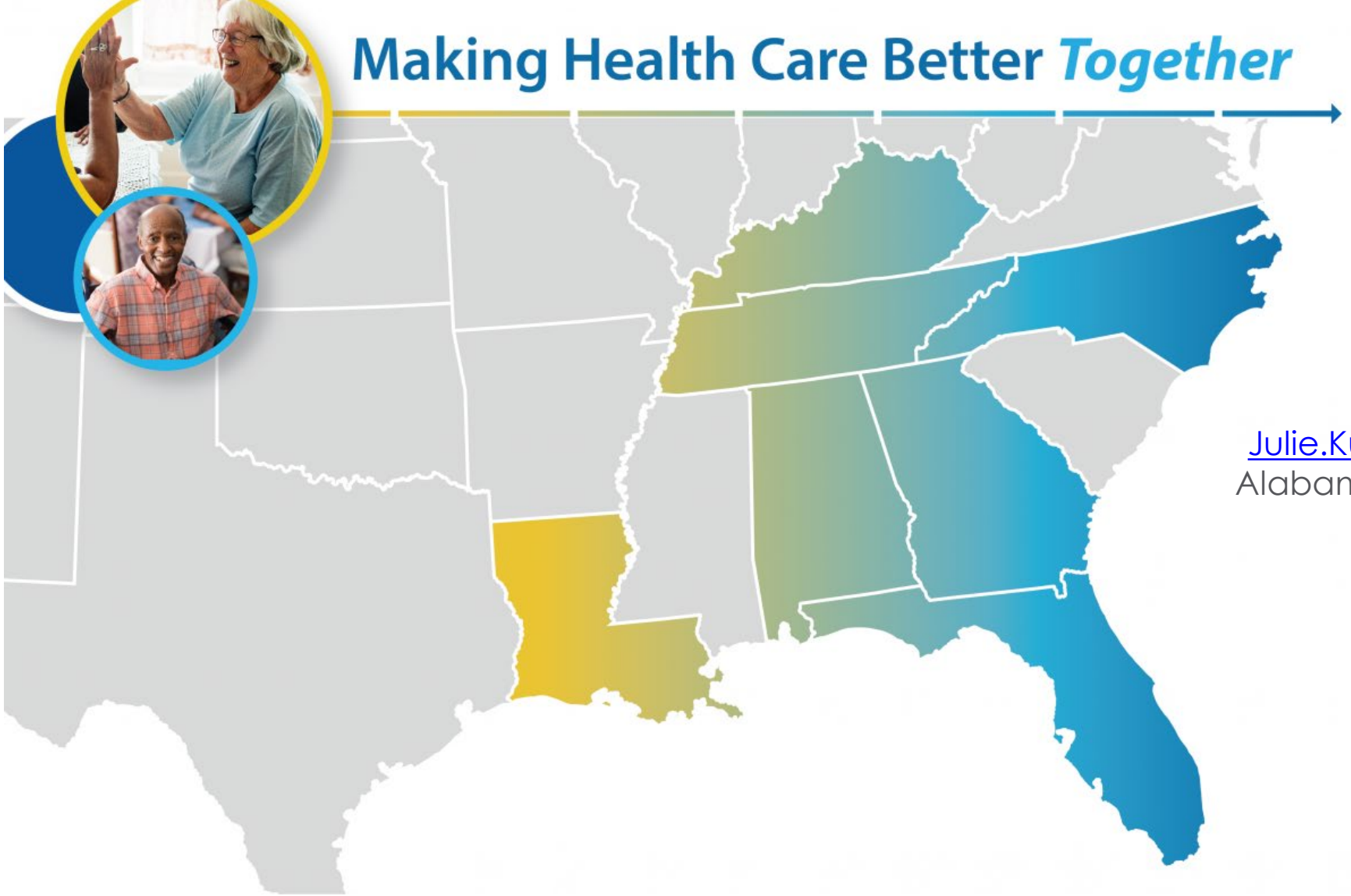

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