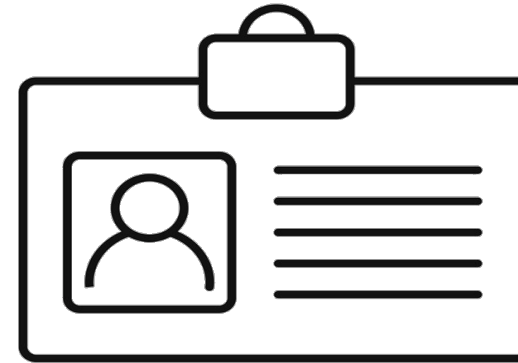




Georgia Department of Public Health:  
Strike & Support Team Office Hours Kick-Off for Skilled Nursing Care  
Centers, Hospice, ICF's, and Medical Directors  
July 15, 2022

# Meet the Team



## Presenters:

**Swati Gaur, MD, MBA, CMD, AGSF**

Medical Director, Alliant Health Solutions

**Raybun Spelts, PharmD, MPH, BCIDP**

Pharmacist, Department of Public Health

**Regina Howard, BSN, RN, CIC**

Infection Preventionist, Department of Public Health

## Panelists:

**Melody Brown, MSM**

Patient Safety Manager, Alliant Health Solutions

**Teresa Fox, M.Ed., CIC**

Infection Preventionist, Department of Public Health

**Renee Miller**

Infection Preventionist, Department of Public Health

# Thank You to Our Partners

- Georgia Department of Public Health
- University of Georgia



# Purpose

- These sessions consist of a regularly scheduled monthly webinar for skilled nursing facilities (SNFs) and SNF medical directors. Office hours are your opportunity to come and learn, share, vent and more!
- Each month, we will provide updates on infection prevention, clinical protocols and ideas for new tools and resources. This is your chance to access subject matter experts on infection control and clinical practice in long-term care.
- Come prepared to ask questions to subject matter experts and learn from your peers about their best practices and barriers.

# Trainings

There will be two training sessions per year focused on relevant infection prevention topics, updates and best practices shared.

- **August Office Hours: Cleaning and Disinfection of Shared Medical Equipment**
- **Training 2: October/Dates TBD**



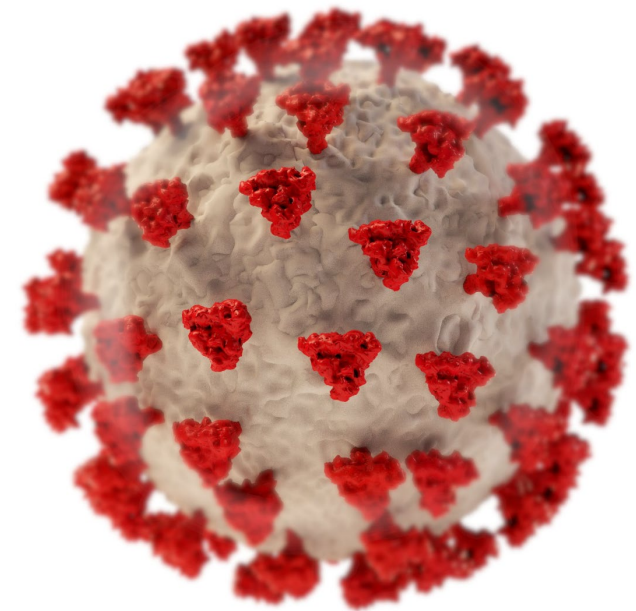


# Your Opinion Matters

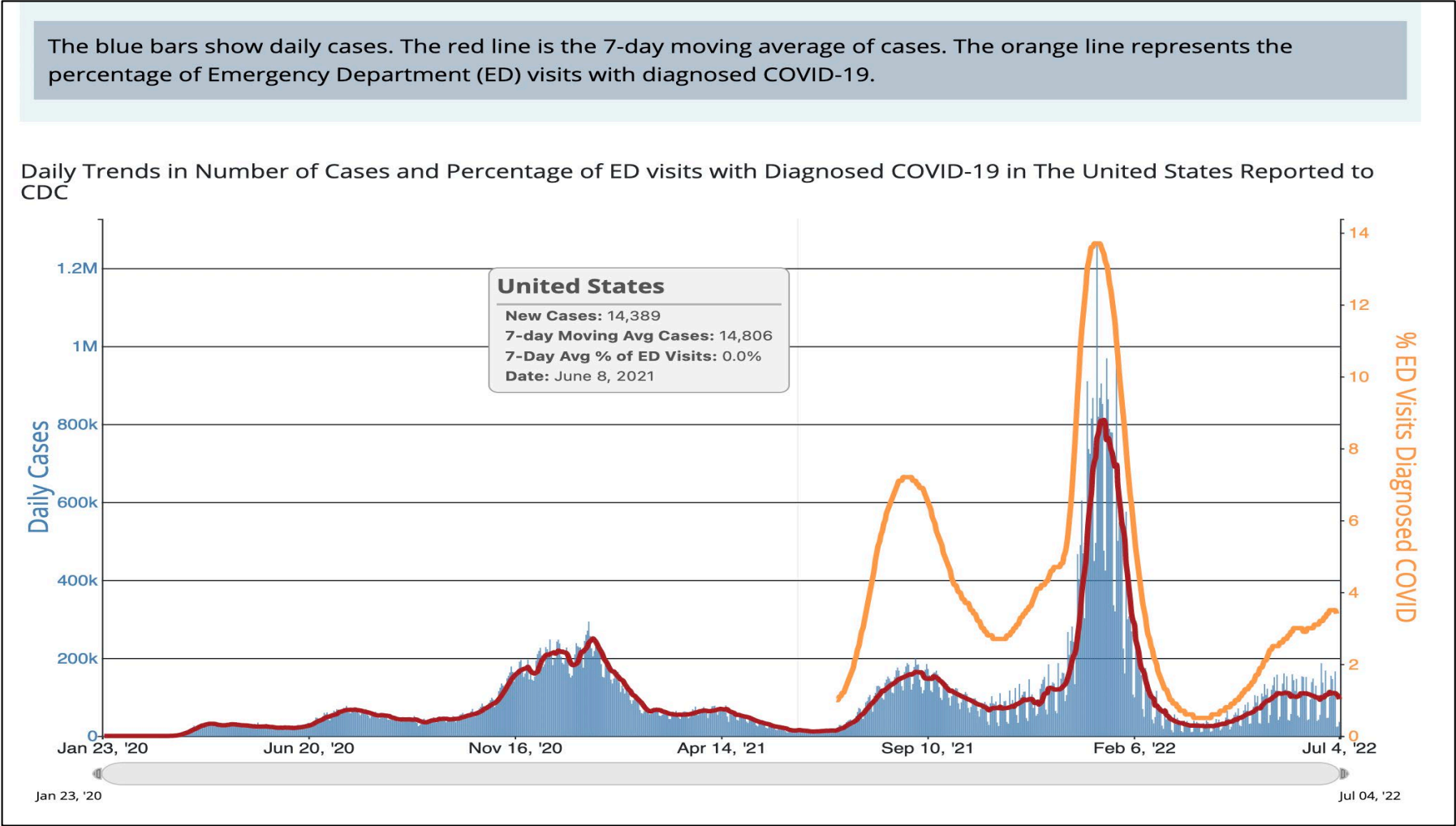
- Share in CHAT what is keeping you up at night related to infection prevention.
- We want to provide you with information relevant to what you are doing every day.

# Hot off the Press

- COVID cases—where are we now?

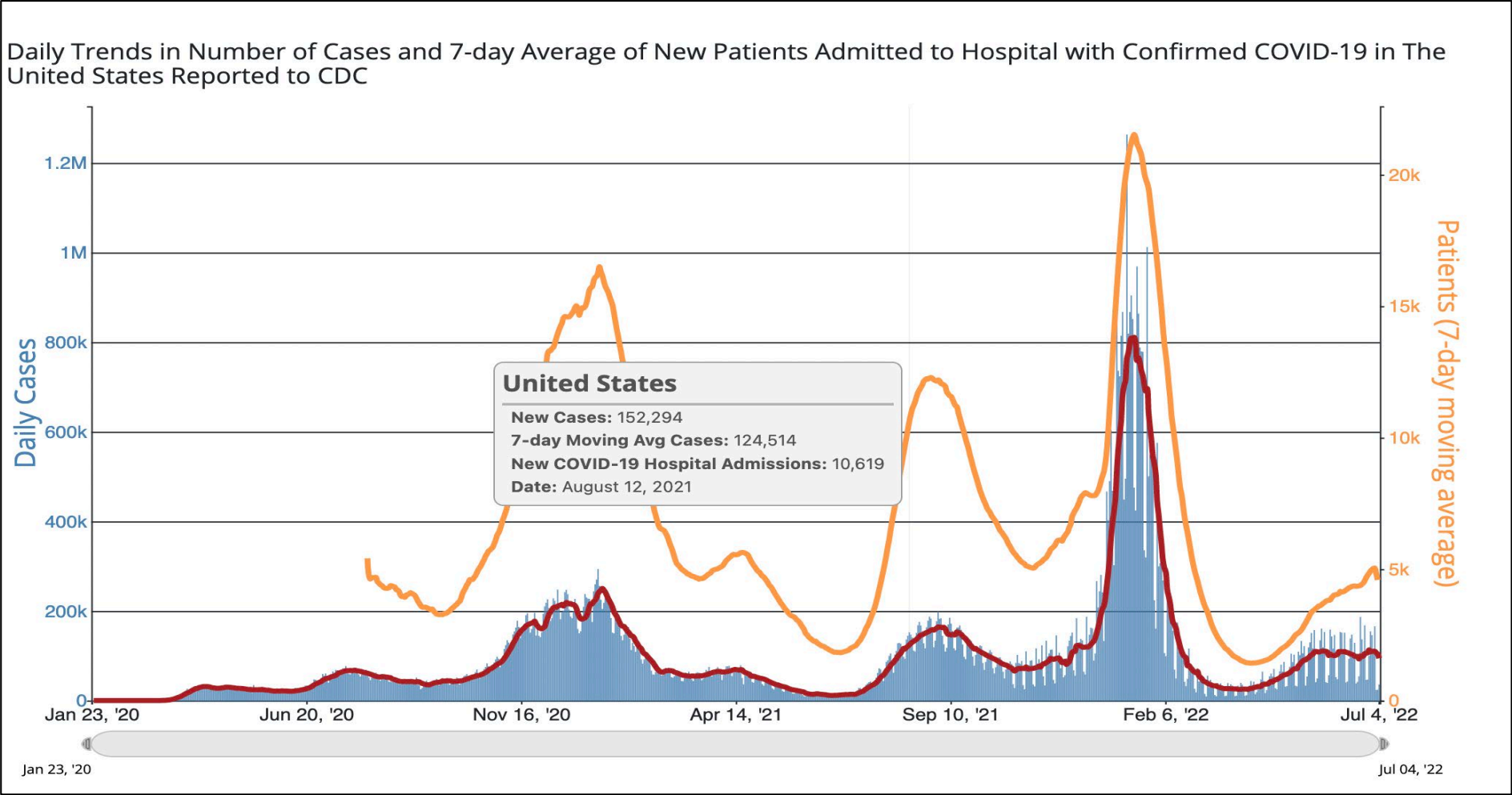


# Current State: COVID-19

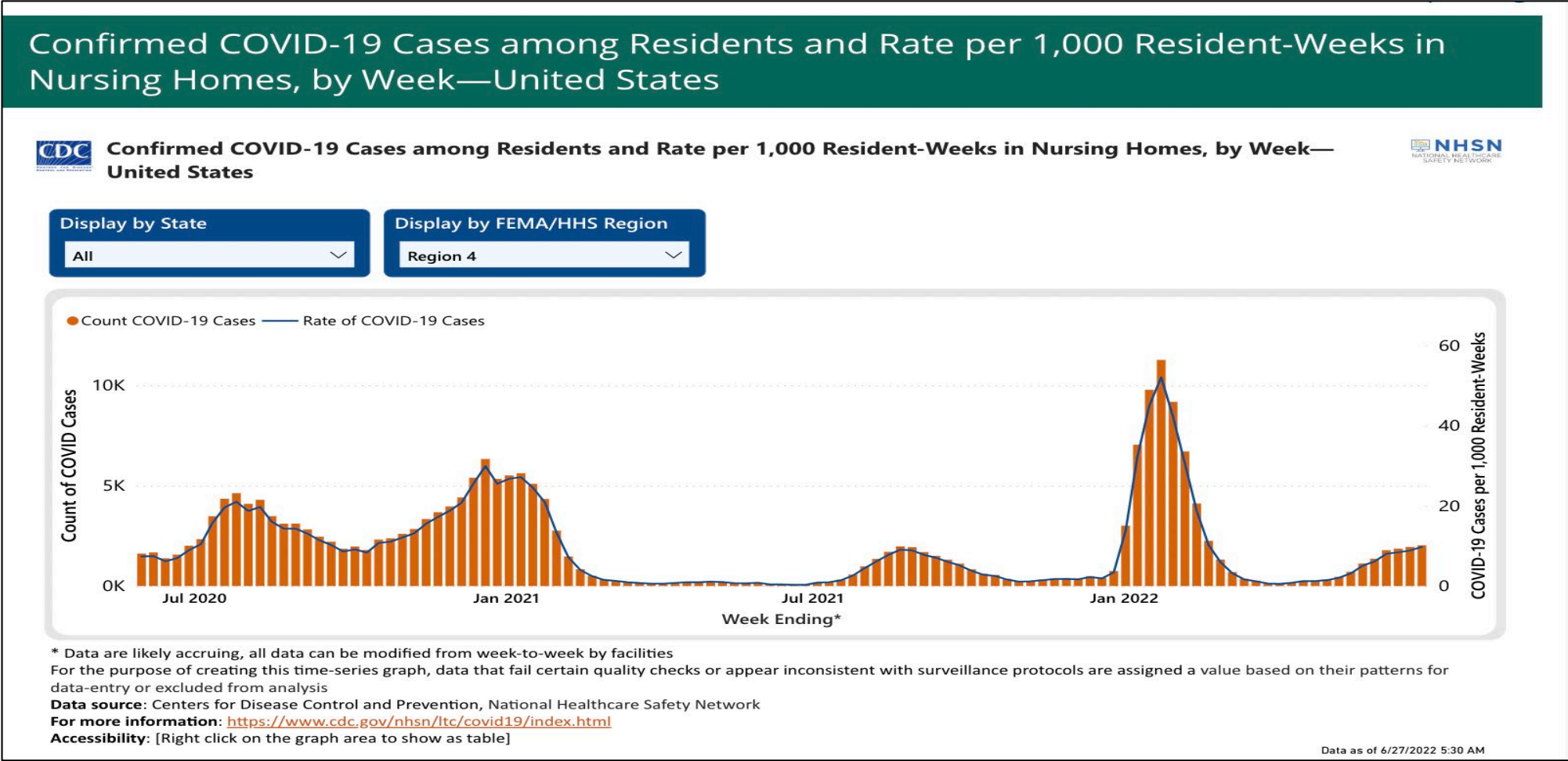




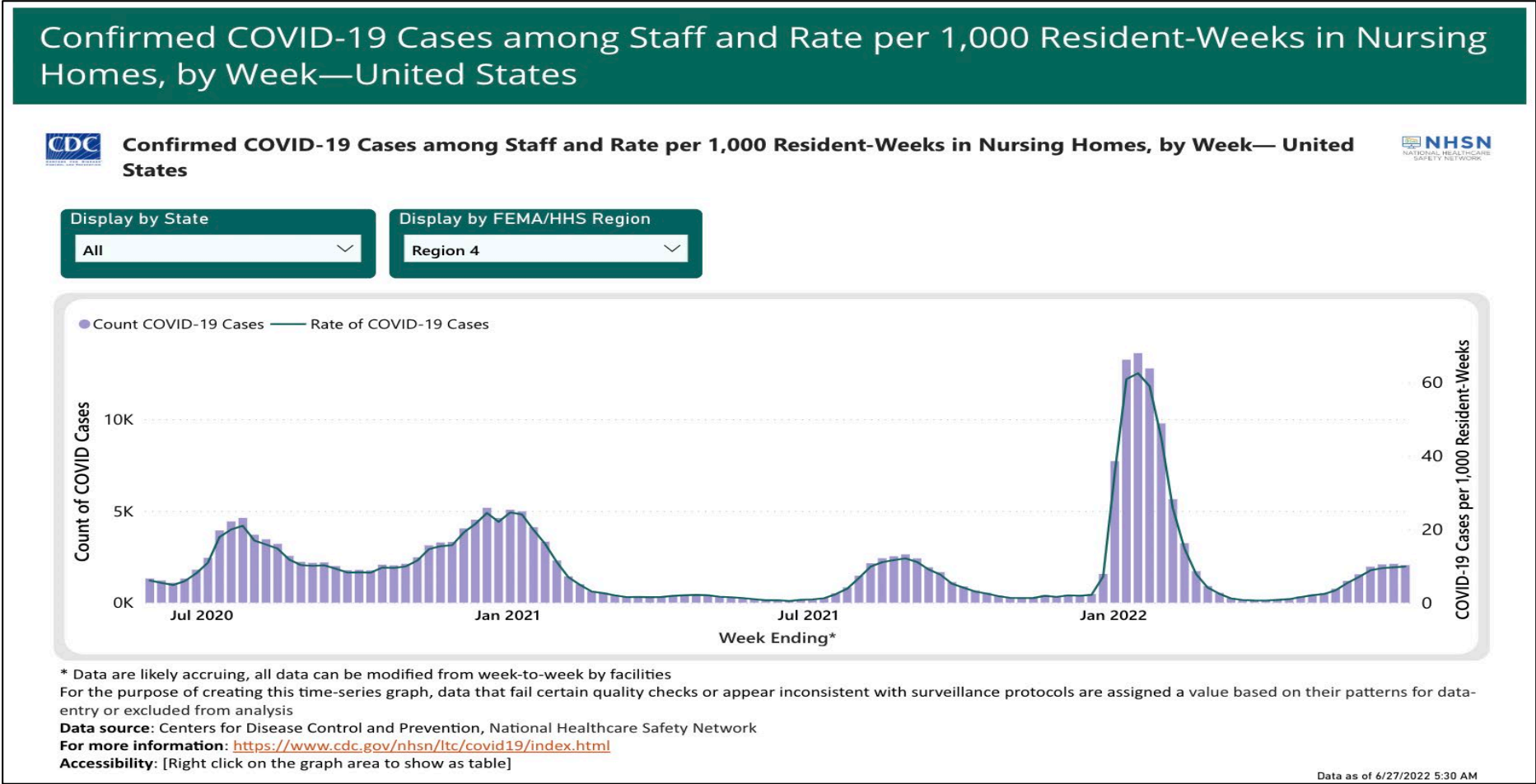
# Current State: COVID-19



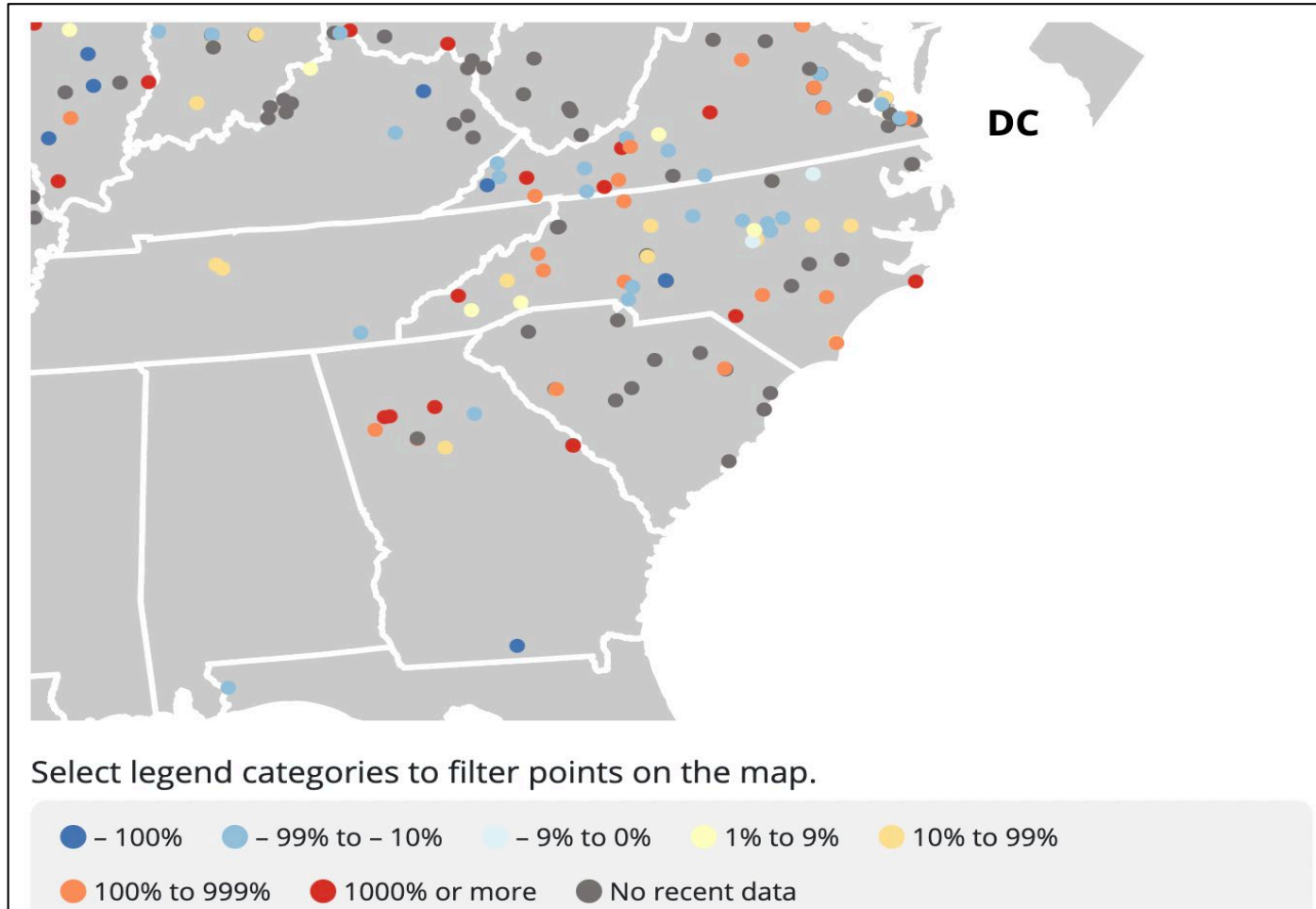
# Resident Cases of COVID-19



# Staff Cases of COVID-19



# Wastewater Surveillance

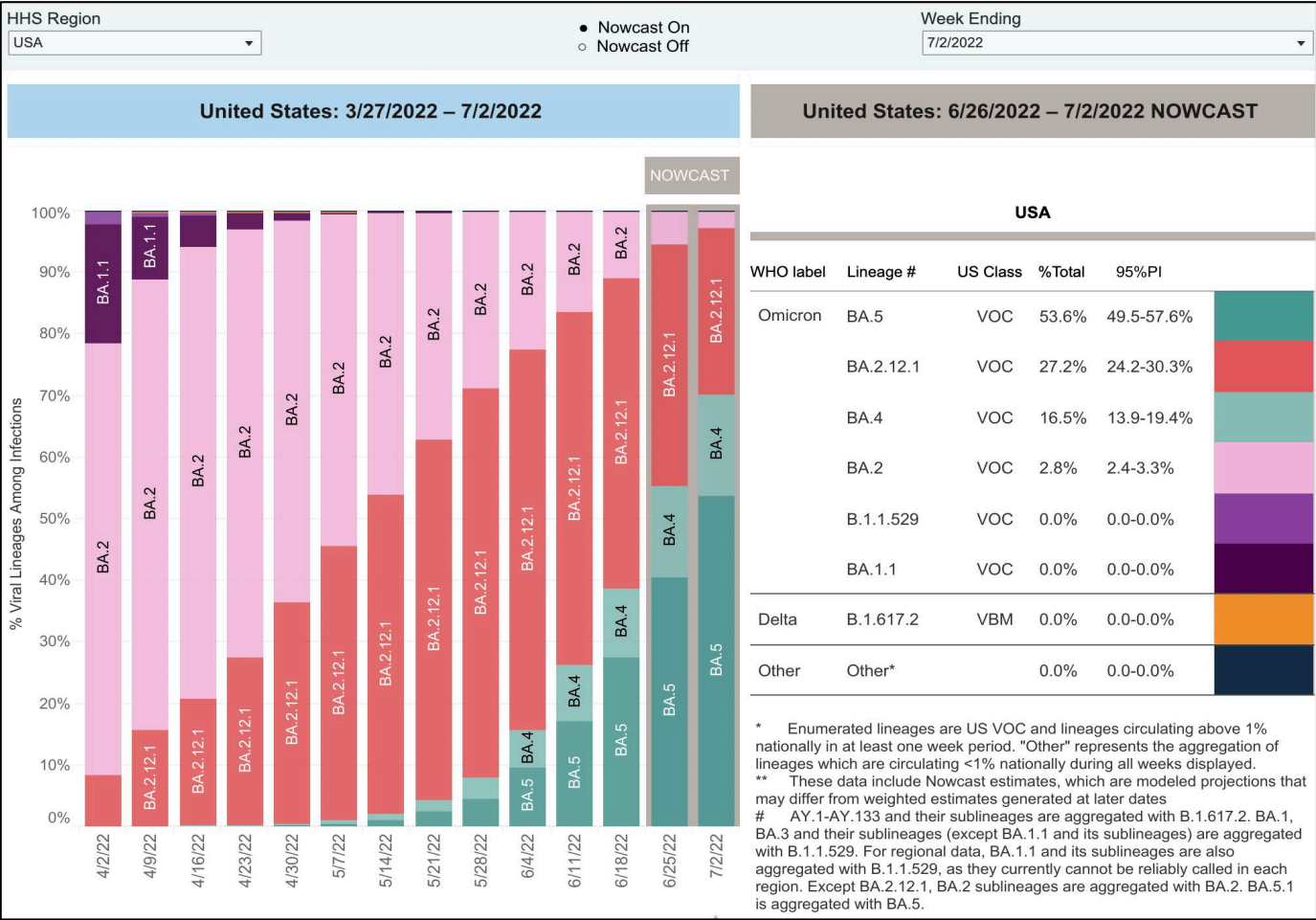


# Wastewater Surveillance 15-Day Change

Percent change of SARS-CoV-2 in the last 15 days by site, United States

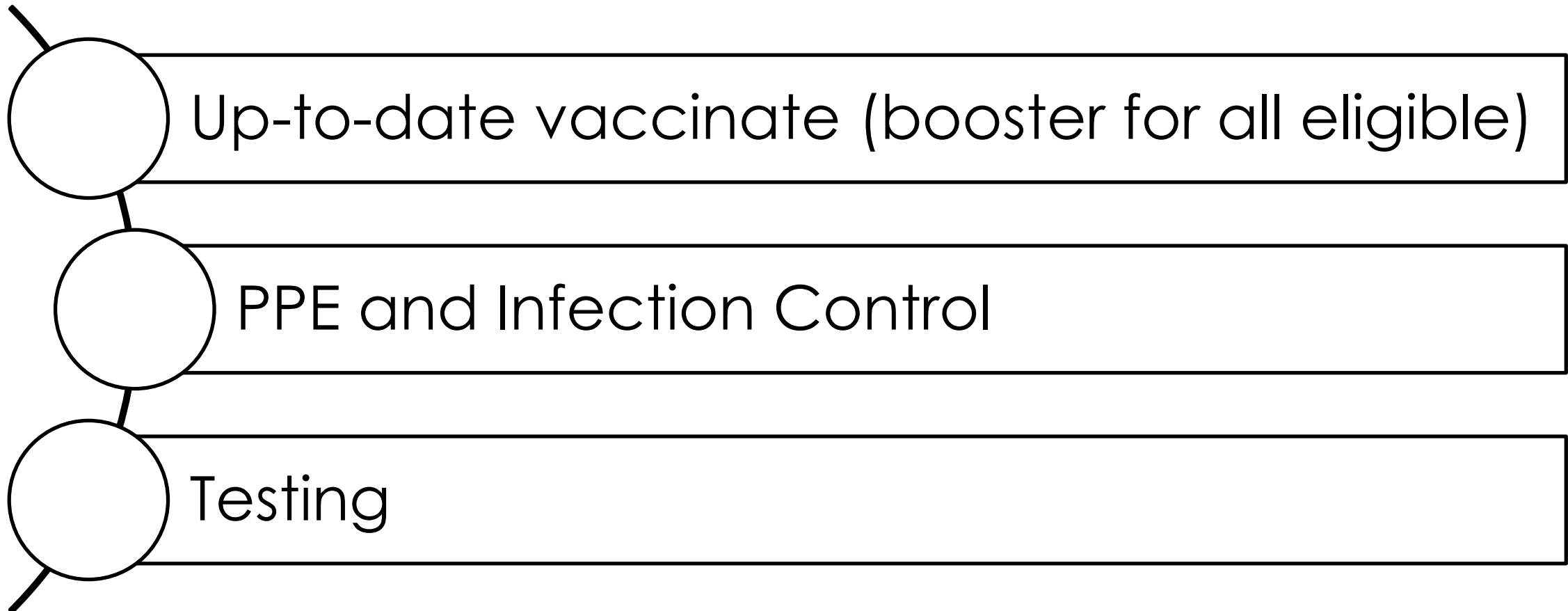
15-day % change category	Num. sites	% sites	Category change in last 7 days
– 100%	36	6	177%
– 99% to – 10%	206	35	– 24%
– 9% to 0%	30	5	– 36%
1% to 9%	19	3	– 47%
10% to 99%	99	17	– 42%
100% to 999%	106	18	– 41%
1000% or more	91	16	42%

# Current COVID-19 Variant





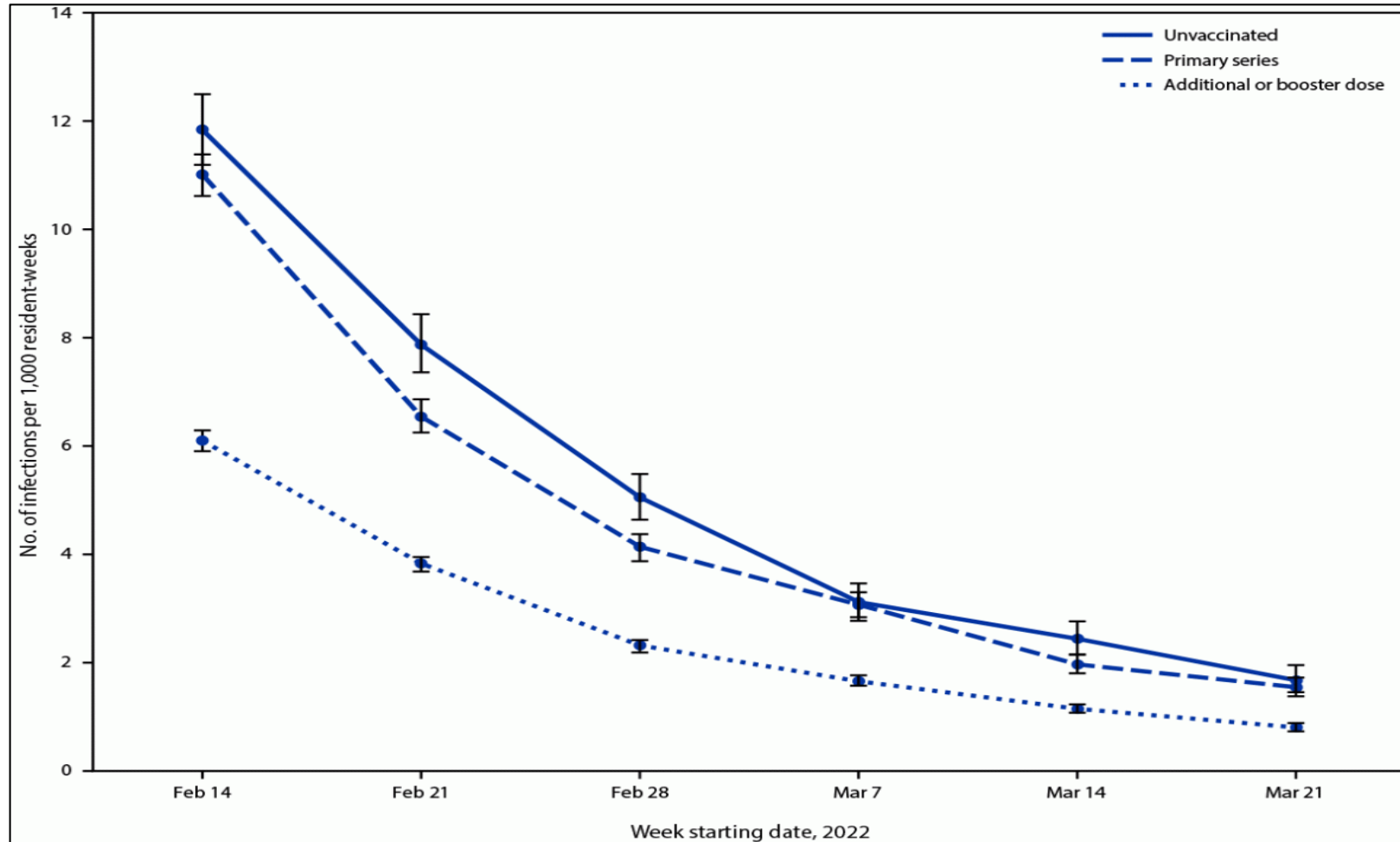
# The Three Pillars



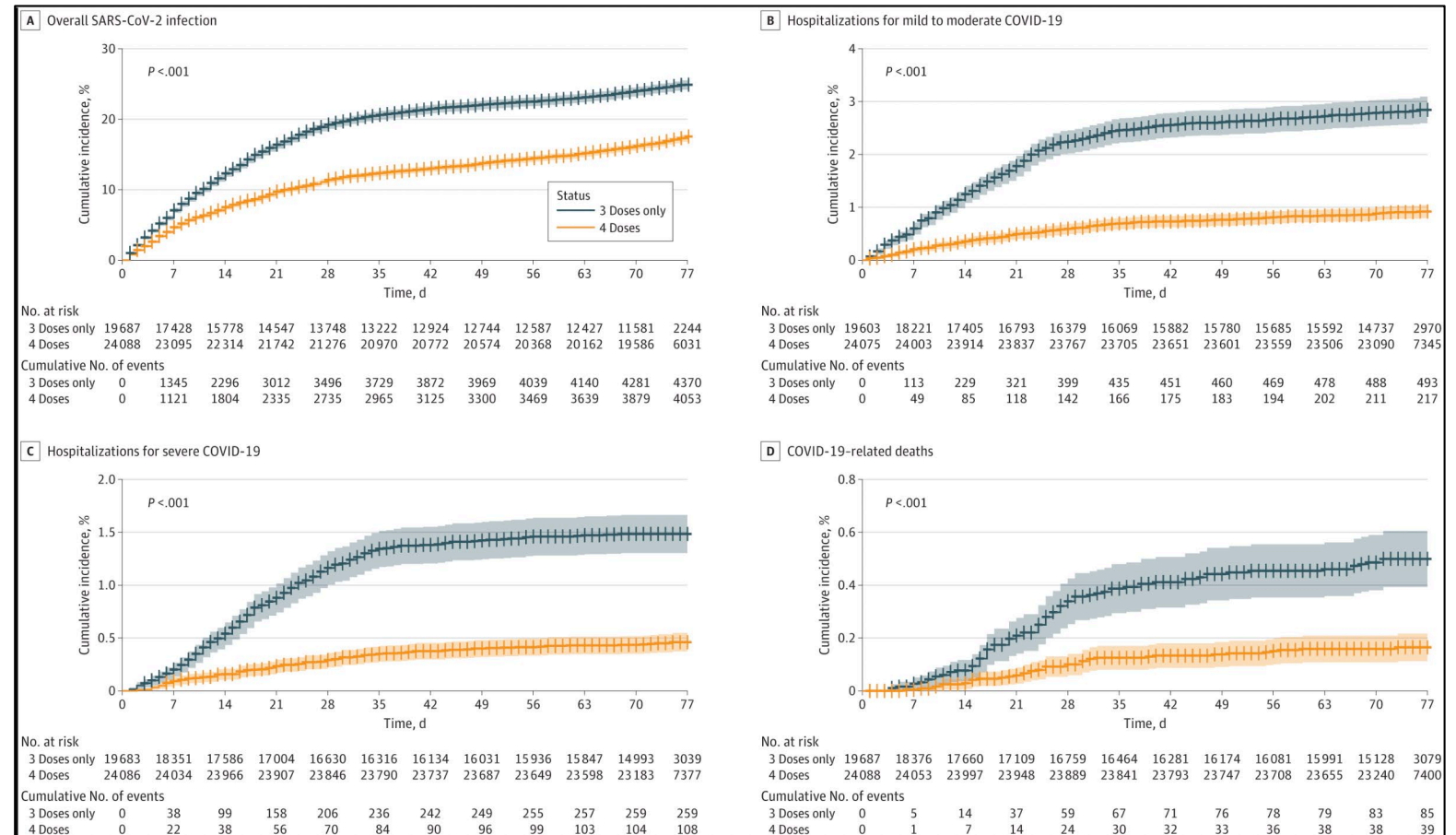
# Vaccine Effectiveness

SARS-CoV-2 infection	3 doses mRNA	69%
Hospitalizations	3 doses mRNA	90%---> 84% for Omicron
ED visits	3 doses mRNA	83%
Mechanical ventilation or death	3 doses mRNA	94%

# Vaccine Effectiveness in LTC



# Effect of 3rd vs 4th Dose Against Omicron (6.23)

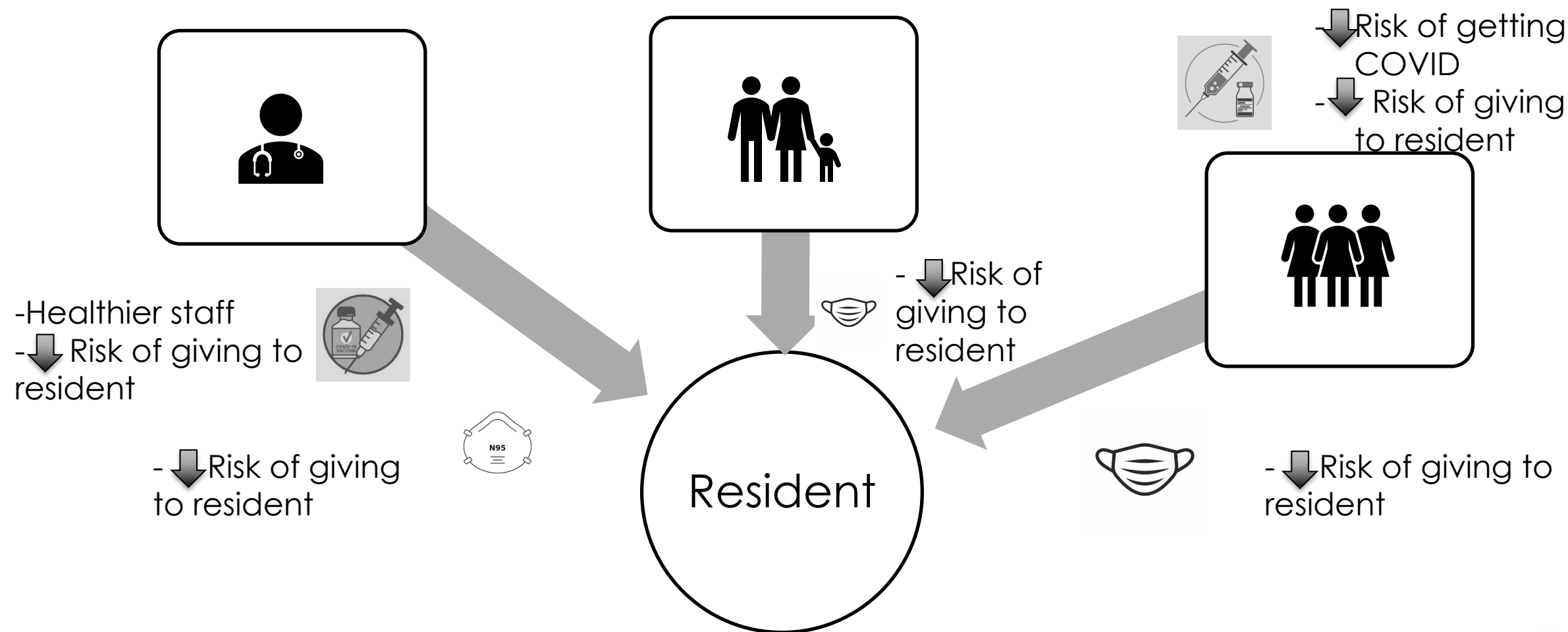


<https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2793699>

# Checklist

- Up-to-date vaccine
  - Residents
  - Staff
- PPE and infection control
  - Staff
  - Residents
  - Visitors
- Test early
  - Cohort

# Preventing Spread





# Therapeutic Considerations

## PATIENT DISPOSITION

Does Not Require  
Hospitalization or  
Supplemental Oxygen

## PANEL'S RECOMMENDATIONS

All patients should be offered symptomatic management **(AIII)**.

For patients who are at high risk of progressing to severe COVID-19,<sup>a</sup> use 1 of the following treatment options:

### Preferred Therapies

*Listed in order of preference:*

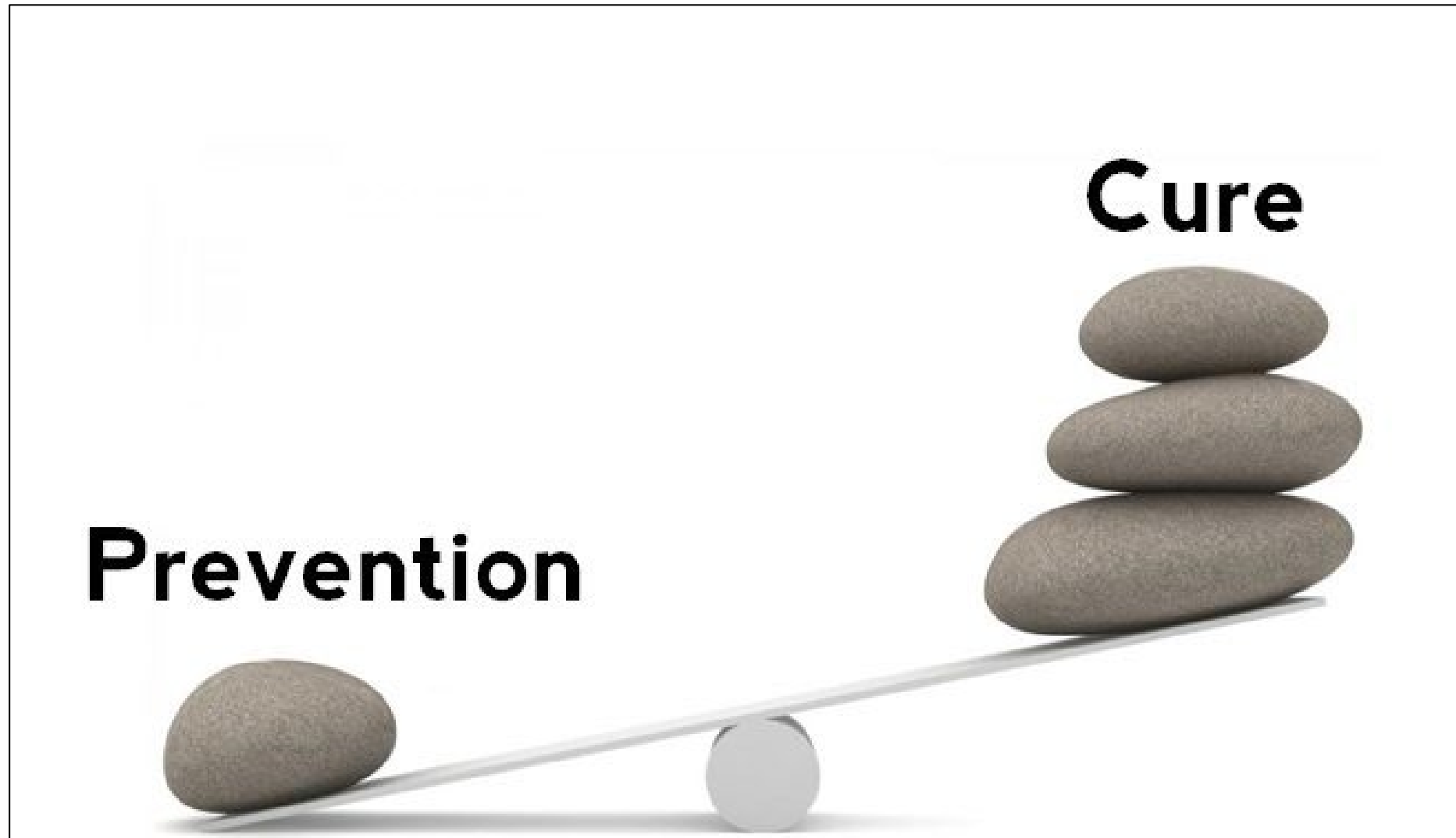
- Ritonavir-boosted nirmatrelvir (Paxlovid)<sup>b,c</sup> **(AIIa)**
- Remdesivir<sup>c,d</sup> **(BIIa)**

### Alternative Therapies

*For use ONLY when neither of the preferred therapies are available, feasible to use, or clinically appropriate. Listed in alphabetical order:*

- Bebtelovimab<sup>e</sup> **(CIII)**
- Molnupiravir<sup>c,f</sup> **(CIIa)**

The Panel **recommends against** the use of **dexamethasone<sup>g</sup>** or **other systemic corticosteroids** in the absence of another indication **(AIII)**.



# *Clostridium/Clostridioides difficile Infection (CDI)*

Raybun Spelts, PharmD, MPH, BCIDP

Regina Howard, BSN, RN, CIC



# Objectives

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- Identify initial emergence of *Clostridium difficile*
- Discuss management of residents with CDI
- Identify proper specimens for CD testing
- Discuss environmental cleaning and disinfection of CD rooms
- Update *C. diff* treatment protocols
- Discuss *C. diff* prevention and control basic practices
- Discuss “Core Elements of Antibiotic Stewardship”

# Abbreviations and Definitions

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CDI=*Clostridium/ Clostridioides difficile* infection

CD=*Clostridium/Clostridioides difficile*

PCR=polymerase chain reaction identifies DNA or RNA of a pathogen in a specimen or abnormal cells in a sample.

Antigen-any substance capable of producing an immune response.

Toxin-a chemical substance that damages an organism

*C. diff* produces two exotoxins: toxin A and toxin B

# Epidemiology

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- Causes almost a half-million infections in the United States per year
- More than 80% of *C. diff* deaths occur in people ages 65 and older.
- Risk factors for infection:
  - Recent antibiotic use
  - Age
  - Recent hospitalization or nursing home stay
  - Weakened immune system
  - Previous infection

<https://www.cdc.gov/cdiff/what-is.html>

<https://www.cdc.gov/cdiff/pdf/Cdiff-Factsheet-P.pdf>

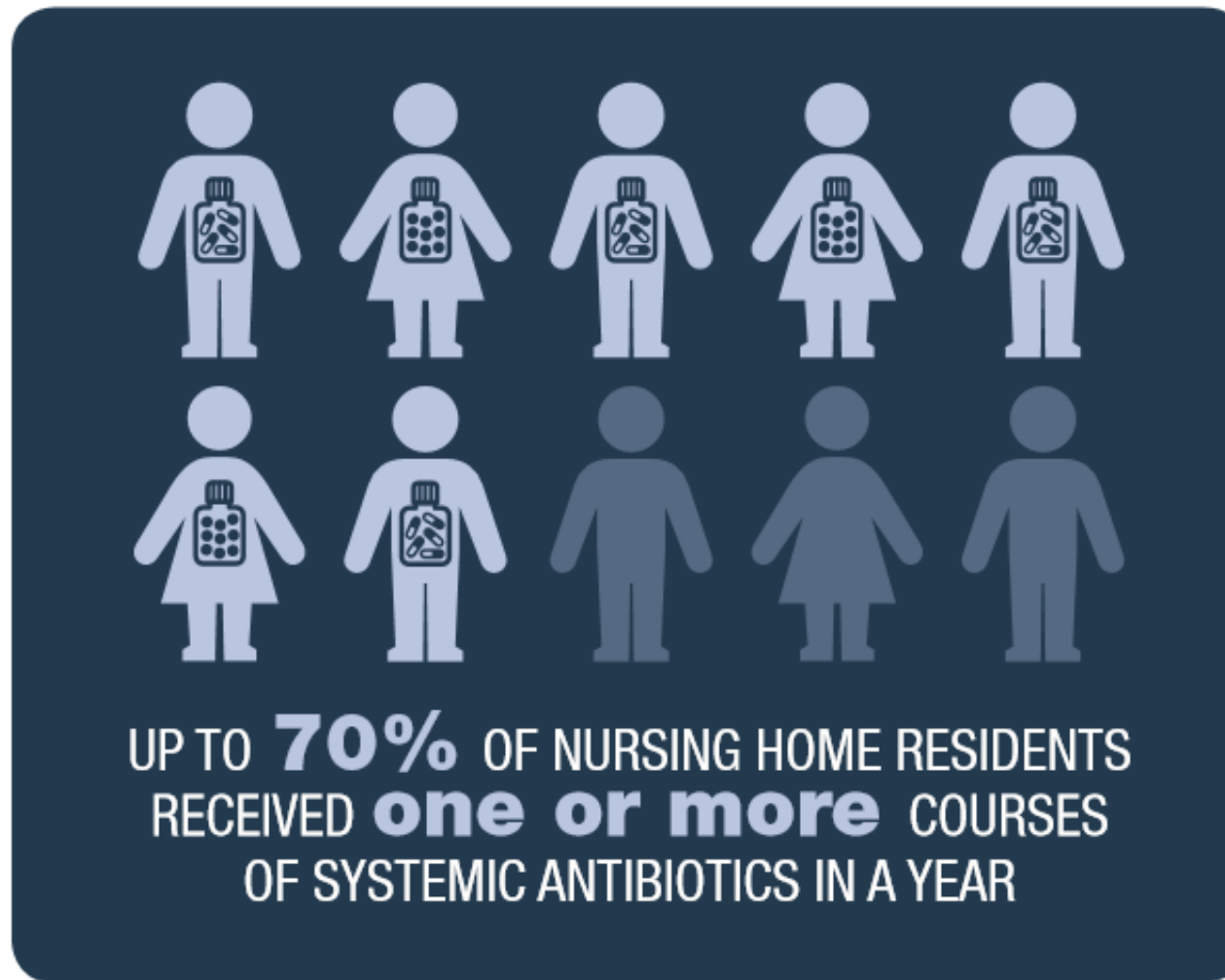


# Residents at High Risk of Colonization

**Table 1. Patients at High Risk of *Clostridium difficile* Colonization<sup>a</sup>**

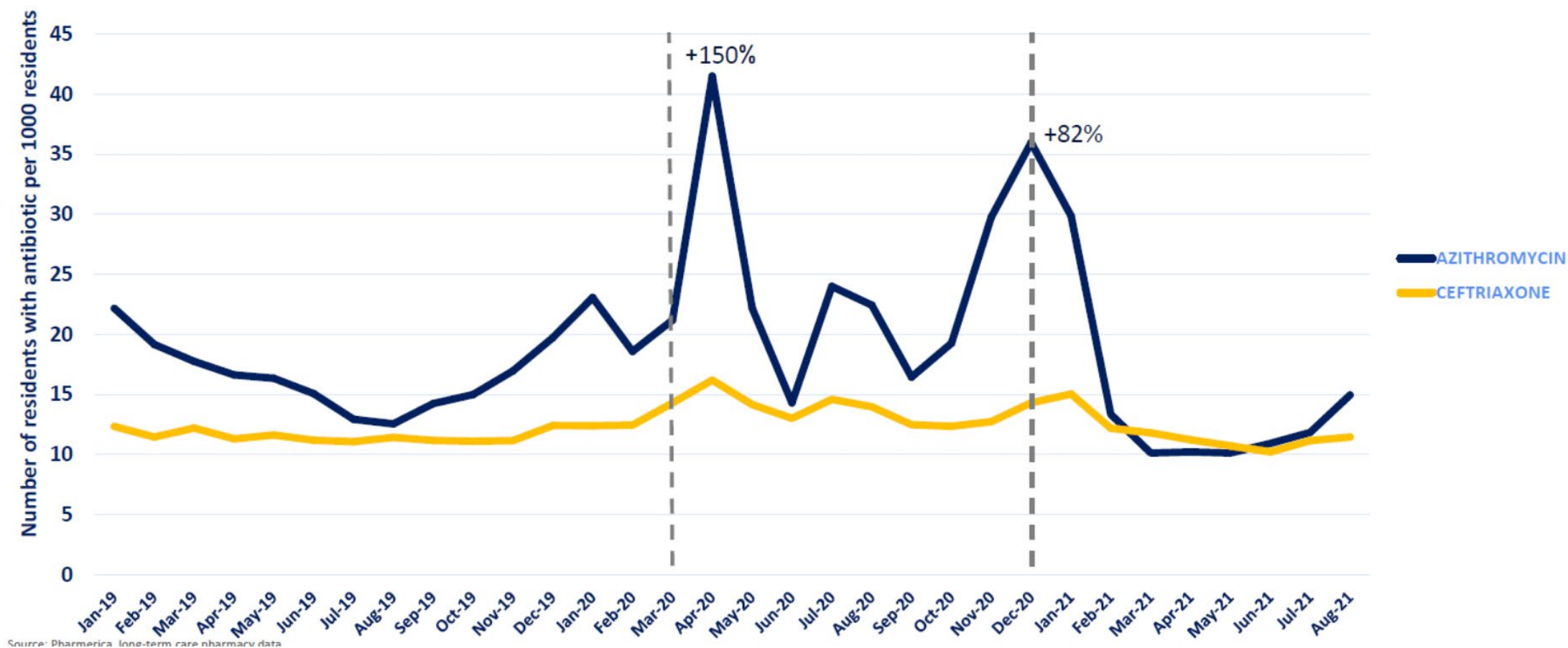
Risk Factors	Other Factors With Increased Risk of Colonization
Antibiotic use in the previous 3 mo	Multiple antibiotic use
History of previous <i>Clostridium difficile</i> infection	Duration of antibiotic therapy
Fecal incontinence	Renal insufficiency
	Patients receiving chemotherapy
	Recent hospitalization
	H2 blocker use

Chopra, T., & Goldstein, E. J. (2015). *Clostridium difficile* infection in long-term care facilities: a call to action for antimicrobial stewardship. *Clinical Infectious Diseases*, 60(suppl\_2), S72-S76.



<https://www.cdc.gov/antibiotic-use/core-elements/pdfs/core-elements-antibiotic-stewardship-H.pdf>

# Increases in Antibiotic Use During COVID Pandemic

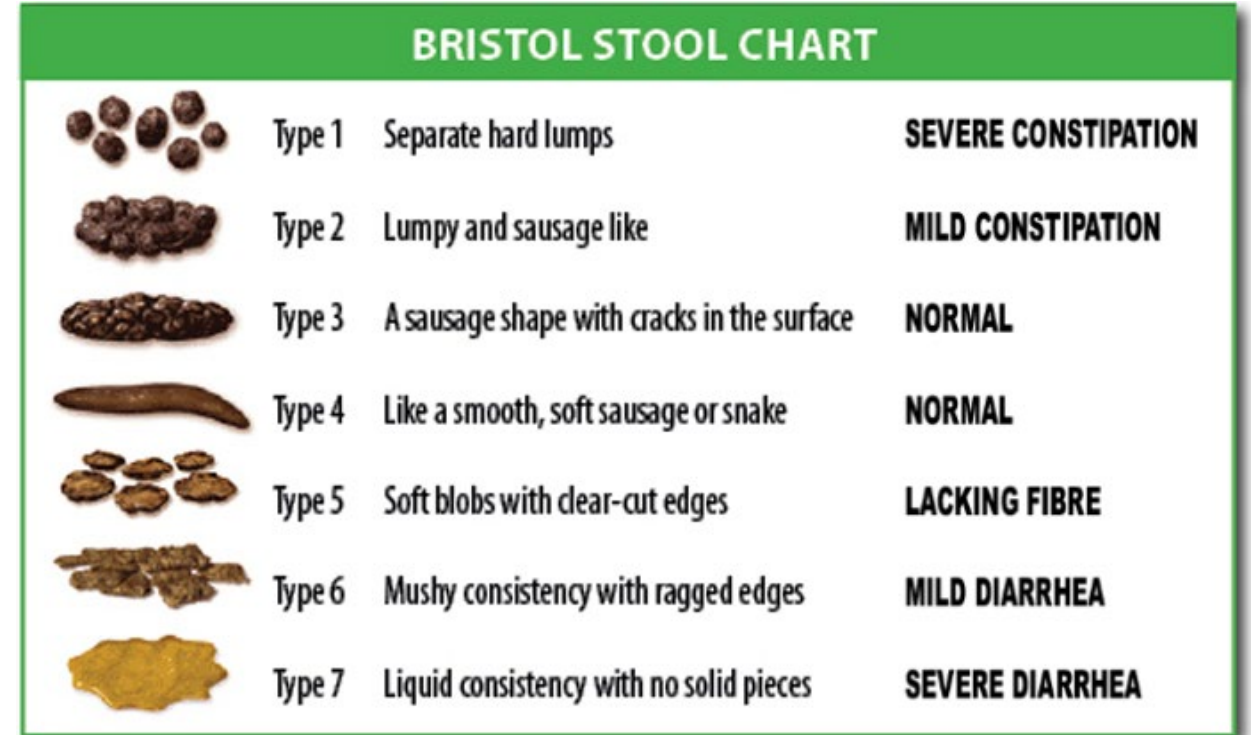


[https://emergency.cdc.gov/coca/calls/2021/callinfo\\_111821.asp](https://emergency.cdc.gov/coca/calls/2021/callinfo_111821.asp)

# Diagnosis

# Who Should Be Tested?

- Resident with at least three unformed stools in 24 hours
- Is the resident on laxatives?
- Could any antibiotics be discontinued?
- Are there other possible causes of diarrhea?
- If the test is negative, do not re-test within seven days.
- Consider nursing standing order for testing.



<https://upload.wikimedia.org/wikipedia/commons/9/9e/BristolStoolChart.png>

<https://www.cdc.gov/hai/prevent/tap/cdiff.htm>

# Stool Toxin Test With Multi-Step Algorithm

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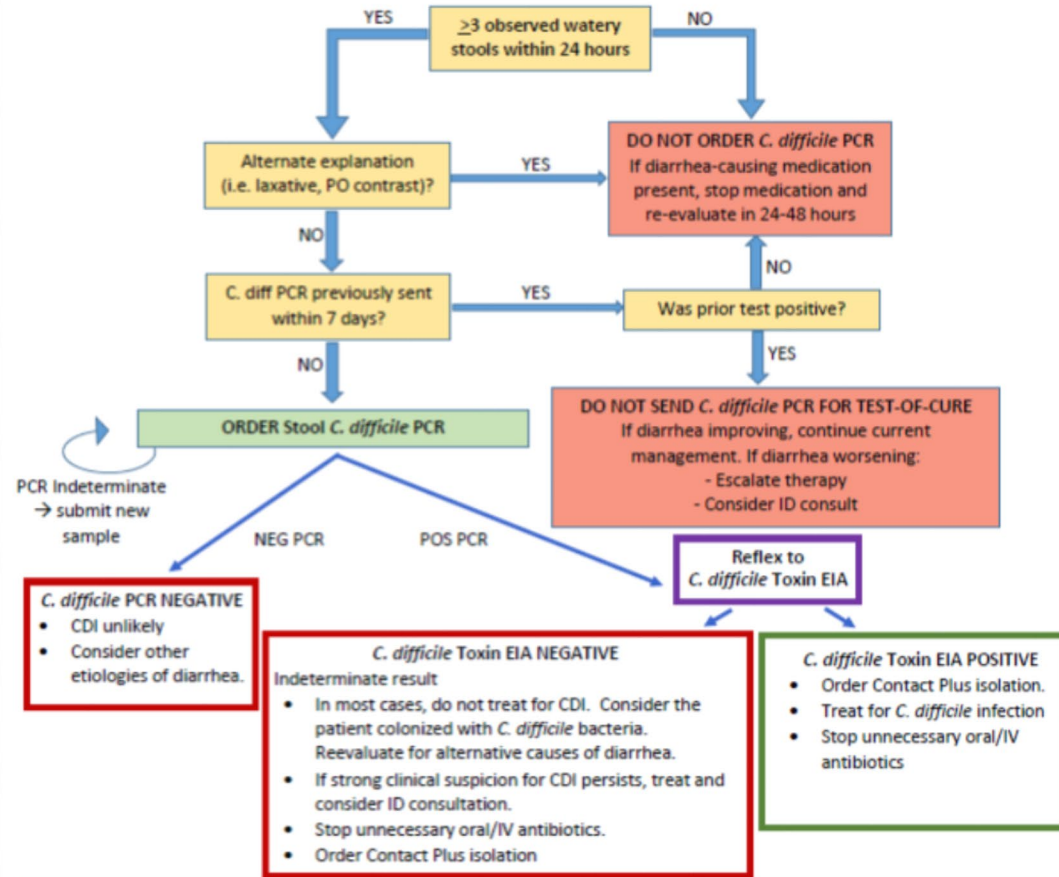
Results	Implication	Action
Antigen –, Toxin –	C.diff ruled out	Treatment & isolation precautions NOT necessary
Antigen +, Toxin +	C.diff infection	Treatment & isolation precautions
Antigen –, Toxin +	Discrepant result	Perform reflex PCR
Antigen +, Toxin –	Discordant result	Perform reflex PCR
PCR –	Non-toxigenic C.diff that does not cause colitis	Treatment & isolation precautions NOT necessary
PCR +	May be asymptomatic C.diff colonization or active C.diff	Isolation advised; treatment on clinical judgment

Antigen=Glutamate Dehydrogenase

McDonald, et al. *Clinical Infectious Diseases*, Volume 66, Issue 7, 1 April 2018, Pages e1–e48,  
<https://doi.org/10.1093/cid/cix1085>



***C. difficile* Infection (CDI) Testing Algorithm: PCR/Reflex Toxin EIA (5/14/2021)**



**Key Points:**

- Identify new onset of unexplained large-volume, frequent, liquid diarrhea and consider a broad differential diagnosis. This process of medical decision-making is unchanged.
- If testing is appropriate, order stool *C. diff* PCR. (In summer 2021, we will be announcing that this order name will change to *C. diff* PCR/reflex toxin EIA.)
- Avoid unnecessary testing. The first test, the *C. difficile* PCR, is a very sensitive test. *C. diff* PCR+ means the sample carries *C. difficile* organisms with the genetic material capable of producing toxin. A positive PCR test could mean CDI or could mean *C. difficile* colonization. The latter does not need CDI treatment.
- Reflex testing for *C. difficile* toxin EIA differentiates between CDI, which warrants treatment, and colonization, which does not.
- CDI is a toxin-mediated disease, so diarrhea in patients with *C. diff* PCR+/toxin EIA+ confirms the diagnosis of CDI. On the other hand, diarrhea in most patients with *C. diff* PCR+/toxin (-) do not have CDI and do not warrant CDI treatment. If strong clinical suspicion of CDI remains for a patient with a *C. Diff* PCR+/toxin (-) result, however, treat

CDC *C. diff* Algorithm

[https://asp.nm.org/uploads/9/0/7/8/90789983/c\\_difficile\\_diagnostic\\_testing\\_algorithm.5.14.2021.pdf](https://asp.nm.org/uploads/9/0/7/8/90789983/c_difficile_diagnostic_testing_algorithm.5.14.2021.pdf)

# Treatment

# Basics

---

- Do not use anti-diarrheal medications.
- Do not perform the test of cure.
- Is this the first episode or has the resident had CDI before?
- If previously infected, what treatment did the resident receive then?
- IDSA/SHEA 2017: oral metronidazole no longer recommended
- IDSA/SHEA 2021: Fidaxomicin, if available, recommended over vancomycin

DOI: 10.1093/cid/cix1085

DOI: 10.1093/cid/ciab549

# Initial Episode

---

- Preferred: Fidaxomicin 200 mg po BID x 10 days
- Alternative: Vancomycin 125 mg po QID x 10 days
- Alternative (for non-severe only if other agents unavailable):  
Metronidazole 500 mg po TID x 10-14 days

# Recurrence

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## Recurrent *C. diff* Infections



About **1 IN 6** patients who get *C. diff* infection will get it again in the subsequent 2–8 weeks.



# First Recurrence

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- Preferred: Fidaxomicin 200 mg po BID x 10 days OR Fidaxomicin 200 mg po BID x 5 days, followed by once every other day x 20 days
- Alternative: Vancomycin tapered/pulse regimen
  - 125 mg QID x 10-14 days
  - 125 mg BID x 7 days
  - 125 mg daily x 7 days
  - 125 mg every 2-3 days x 2-8 weeks
- Alternative: Vancomycin 125 mg po QID x 10 days
- Adjunctive: Bezlotoxumab 10 mg/kg IV once over 1 hour

# Second or Subsequent Recurrence

---

- Several options:
  - Fidaxomixin 200 mg po BID x 10 days
  - Fidaxomixin 200 mg po BID x 5 days, followed by once every other day x 20 days
  - Vancomycin taper/pulse
  - Vancomycin 125 mg po QID x 10 days, followed by rifaximin 400 mg po TID x 20 days
  - Fecal microbiota transplant
- Adjunctive: Bezlotoxumab 10 mg/kg IV once

# Role of Bezlotoxumab

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- Monoclonal antibody targeting toxin B
- Lasts about three months
- Recommended for residents with recurrence within the last six months
- Could also use in primary CDI in residents at high risk of recurrence
  - Age > 65 plus at least one of the following: healthcare-associated CDI, hospitalization in the last three months, concomitant antibiotics, PPIs (and prior CDI)
- Use in combination with standard treatment
- Data is limited when bezlotoxumab is combined with fidaxomicin
- Warning: CHF



# Fulminant CDI

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- Hypotension or shock, ileus, megacolon
- Vancomycin **500 mg** po QID PLUS **metronidazole IV** 500 mg q8 hours
- If ileus, use rectal vancomycin enema.

# Vancomycin

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- Commercially available dosage forms: capsule, oral solution
- Compounding recipe for solution in Lexicomp
- Administration: oral or rectal (off-label as retention enema)
- Side effects:
  - Signs of low potassium, such as muscle pain or weakness, cramps or irregular heartbeat
  - Gas, abdominal pain, nausea, diarrhea
  - Headache

Vancomycin. Hudson, OH: Lexicomp, 7/2/22. <http://online.lexi.com/>.

# Fidaxomixin

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- Dosage form: tablet and oral suspension
- Side effects: N/V/D, constipation, abdominal pain
- Precaution: macrolide allergy

Fidaxomicin. Hudson, OH: Lexicomp, 6/30/22. <http://online.lexi.com/>.

# Infection Prevention and Control

Regina Howard



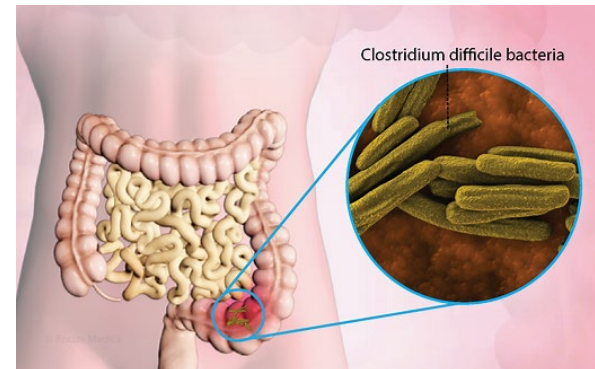
# Colonization and Infection

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What are the differences between colonization and infection?

- Colonization with *C. diff* is more common than infection
  - Colonized residents do not have a disease caused by *C. diff* and often exhibit NO clinical symptoms (asymptomatic) of infection (e.g., diarrhea)
  - Colonized residents may test positive for the *C. diff* organism or its toxin
- Residents with infection exhibit clinical symptoms and test positive for the *C. diff* organism and its toxin

<https://www.bing.com/search?q=image+of+C.+diff&src=IE-SearchBox&FORM=IESR4A>



# C. *diff* Prevention Efforts

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Efforts include:

- Vulnerability of resident population to *C. diff* infection
  - Conduct surveillance, including calculation of facility-wide *C. diff* rates
  - Tracking *C. diff* available through LTCF NHSN Module
- Reduce possible exposure
  - Infection prevention and control practices
    - Residents are a major source of transmission
    - Focus on reducing the risk of transmission from symptomatic residents using infection prevention basic measures
  - Environmental cleaning and

# Pillars of *C. diff* Prevention and Control

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Hand Hygiene



Contact  
Enteric  
Precautions



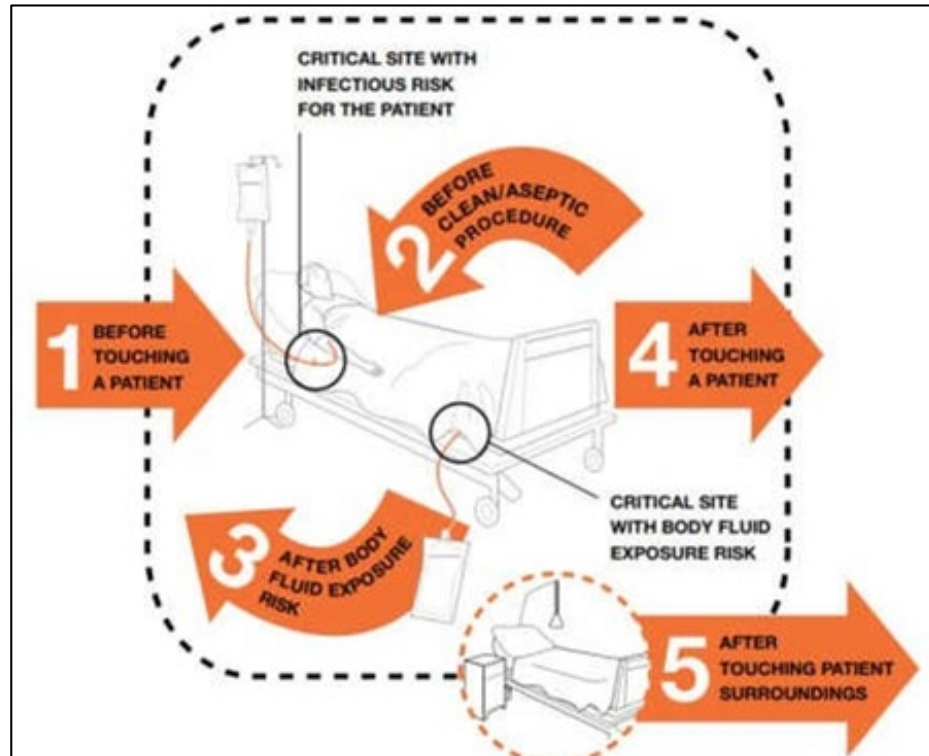
Environmental  
Cleaning and  
Disinfection



Antimicrobial  
Stewardship



# Hand Hygiene



- Perform hand hygiene
  - before contact with the resident
  - after removing gloves
  - after contact with the environment
- For enhanced measures, do not use alcohol hand rubs with the CDI resident – **use soap and water**
  - Washing away the spores may be the optimal way to perform hand hygiene when transmission of *C. difficile* is occurring
- Audit adherence to hand hygiene



# Standard and Enteric Contact Precautions

- Create nurse-driven protocols to facilitate rapid identification and isolation of residents with suspected or confirmed CDI
- Place symptomatic residents on enteric contact precautions and limit the transport of resident
- Place resident in a single-resident room with a dedicated toilet. If single-resident rooms are not available, room residents with confirmed CDI together
- Isolate and initiate Enteric Contact Precautions for suspected or confirmed CDI
  - Perform hand hygiene using soap and water when leaving the room
  - Maintain adequate supplies outside the room, gowns, gloves and cleaning wipes
  - Keep cubicle curtain drawn to limit movement between cubicles and as a reminder of precautions if not in a private room
  - Preferentially use dedicated or disposable equipment, if not used, shared equipment must be thoroughly cleaned before leaving the resident's room
- May discontinue precautions when diarrhea ceases (may consider 48 hours without a loose stool)
- **DO NOT** test "for cure" once diarrhea has stopped (Lab should not accept stool for toxin if the stool is formed)
- Should not use rectal thermometers– have been associated with transmission of enteric pathogens



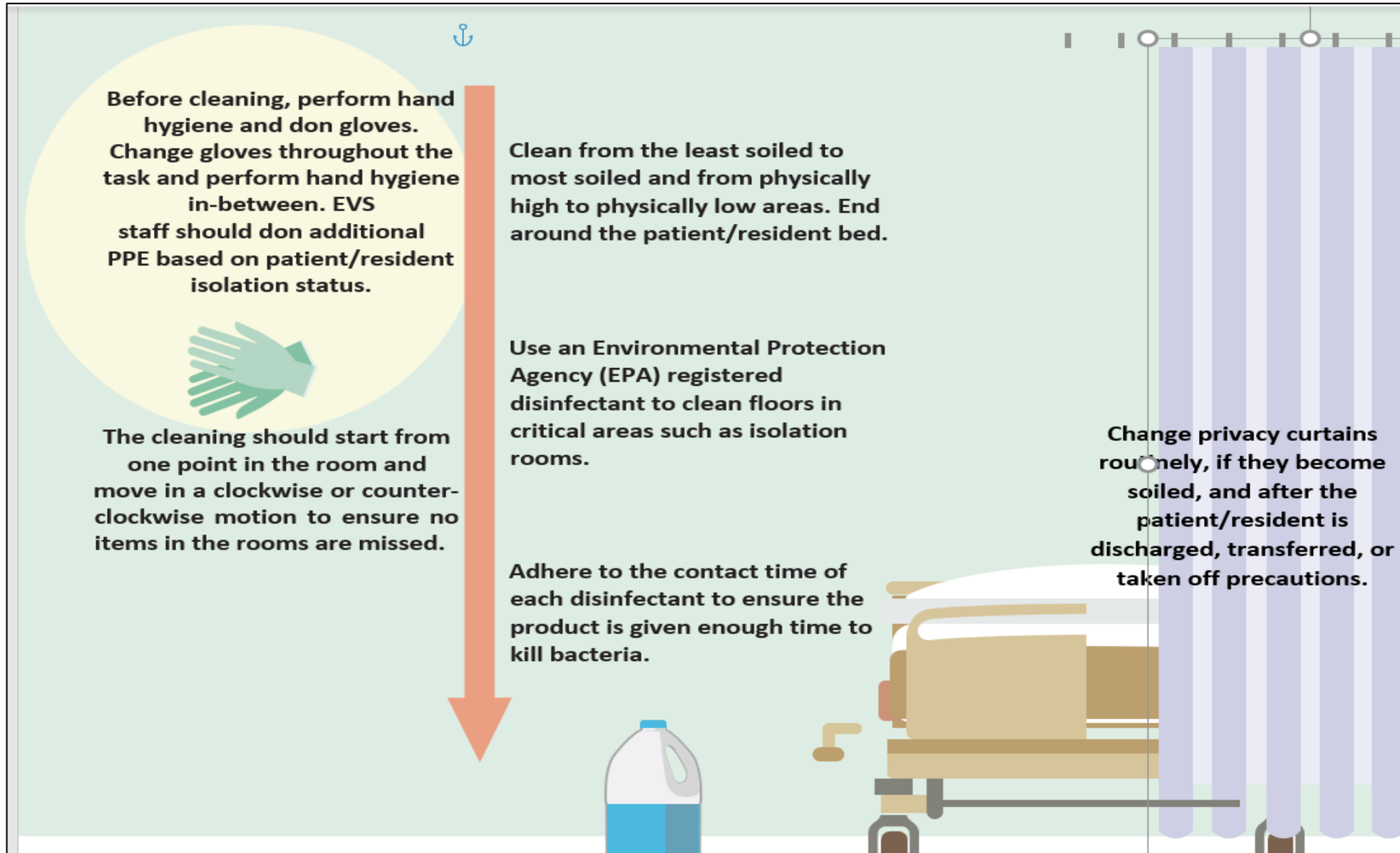
Isolation Precautions Signage: Contact Enteric (e.g., *Clostridioides difficile*)  
<https://washington-state-hospital-association.myshopify.com/collections/isolation-precautions/products/isolation-precautions-signage-contact-enteric>

# Environmental Cleaning and Disinfection

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- Create policies and procedures to ensure a systematic approach
- Increase the frequency of cleaning and disinfecting, particularly for high-touch surfaces (e.g., bed rails, over-bed tables)
- Audit adherence of cleaning and disinfecting to the facility's environmental cleaning/disinfection policies
- Use single-use disposable noncritical equipment or dedicate equipment to one resident.
- Use List K: EPA's Registered Antimicrobial Products Effective against *Clostridium difficile* Spores  
<https://www.epa.gov/pesticide-registration/list-k-epas-registered-antimicrobial-products-effective-against-clostridium>
  - Quaternary cleaners and daily disinfectants are not effective against *C. diff*.
  - During outbreaks, consider the use of a sporicidal agent for all routine disinfection
- Follow manufacturer instructions for use
- Re-educate housekeeping staff on cleaning and disinfecting specific for *C. diff*.
  - Consider designating specific housekeeping staff to the affected resident care unit

# Environmental Services (EVS) Education



# Inter-Facility Infection Control Transfer Form

- When transferring residents, notify receiving wards or facilities about the resident's CDI status so precautions are maintained at the resident's new location

Inter-facility Infection Control Transfer Form			
This form must be filled out for transfer to accepting facility with information communicated prior to or with transfer. Please attach copies of latest culture reports with susceptibilities if available.			
Sending Healthcare Facility:			
Patient/Resident Last Name	First Name	Date of Birth	Medical Record Number
Name/Address of Sending Facility		Sending Unit	Sending Facility Phone
Sending Facility Contacts	Contact Name	Phone	E-mail
Transferring RN/Unit			
Transferring physician			
Case Manager/Admin/SW			
Infection Preventionist			
Does the person* currently have an infection, colonization OR a history of positive culture of a multidrug-resistant organism (MDRO) or other potentially transmissible infectious organism?		Colonization or history (Check if YES)	Active infection on Treatment (Check if YES)

<https://www.cdc.gov/hai/pdfs/toolkits/Interfacility-IC-Transfer-Form-508.pdf>

# Antibiotic Stewardship

Raybun Spelts

# Antibiotic Stewardship

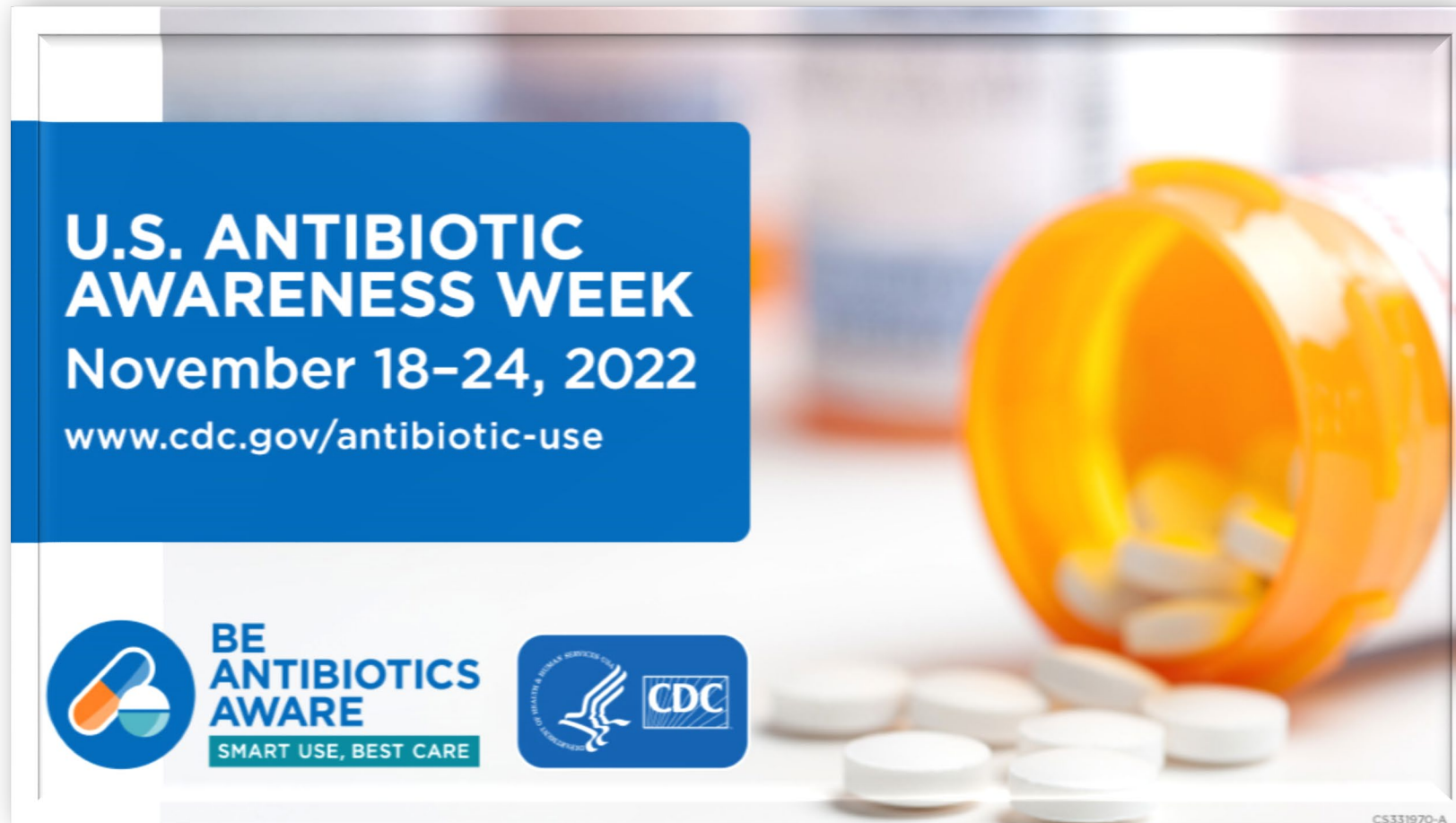
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- Avoid high-risk antibiotics.
  - Fluoroquinolones
  - Carbapenems
  - 3<sup>rd</sup> and 4<sup>th</sup> generation cephalosporins
- Use the shortest duration of therapy.
- Always document indication.
- Develop facility-specific empiric antibiotic guidelines.
- Develop facility antibiogram.

<https://www.cdc.gov/cdiff/clinicians/cdi-prevention-strategies.html#engage>

# Use Antibiotics Wisely

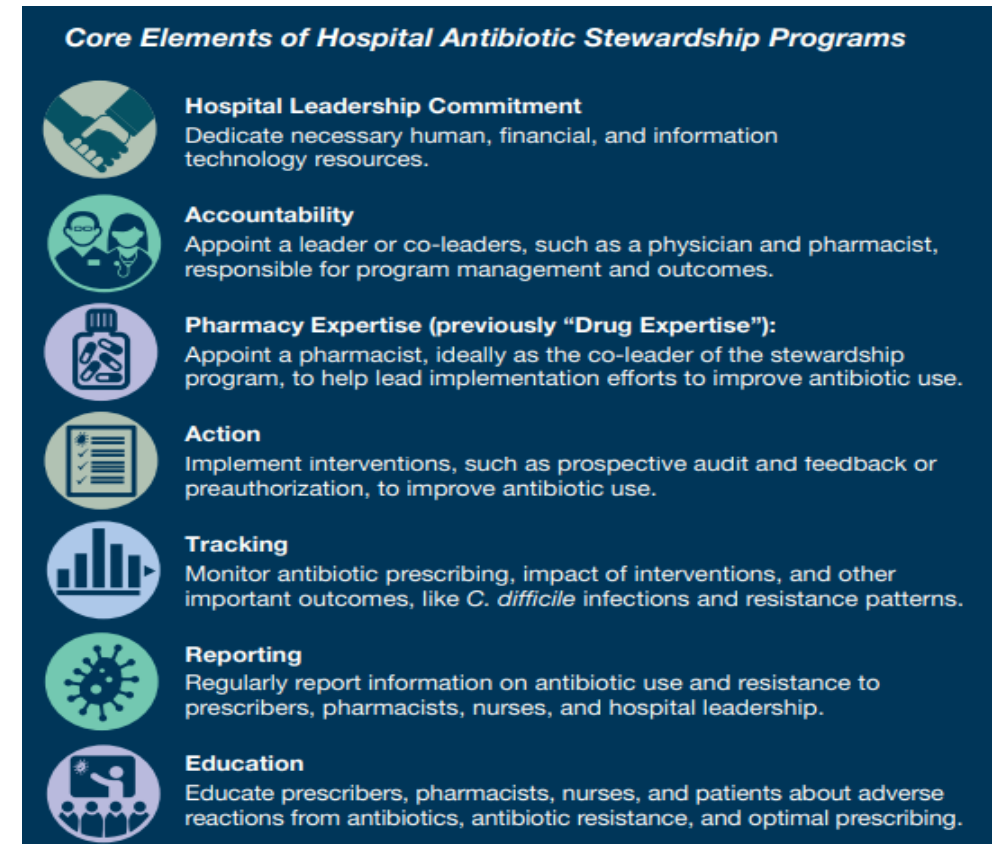
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<https://www.cdc.gov/antibiotic-use/week/images/auweek/USAAW-2022.jpg>

# Core Elements of Antibiotic Stewardship

1. Leadership commitment
2. Accountability
3. Drug expertise
4. Action
5. Tracking
6. Reporting
7. Education



<https://www.cdc.gov/antibiotic-use/core-elements/pdfs/core-elements-antibiotic-stewardship-H.pdf>



# Core Elements: Leadership Commitment

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- Facility written statements of support
- Antibiotic stewardship duties in job descriptions
- Stewardship policies

# Core Elements: Accountability

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- Best practices are expected by leadership.
- Involves:
  - Medical director
  - Director of nursing
  - Consultant pharmacist
  - Infection preventionist
  - Laboratory
  - State and local health departments

# Core Elements: Drug Expertise

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- Consult experts in antibiotic stewardship
  - Consultant pharmacist
  - Local hospitals
  - Infectious disease providers

# Core Elements: Action

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- Develop and promote policies
- Target interventions
  - Antibiotic time outs
  - Appropriate indication
  - Review cultures

# Core Elements: Tracking

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- Track interventions
- Measure antibiotic use in DOT or antibiotic starts
- Track adverse outcomes
  - CDI
  - Antibiotic resistant bacteria
- NHSN <https://www.cdc.gov/nhsn/ltc/index.html>

# Core Elements: Reporting

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- Discuss findings in antibiotic stewardship meetings
- Present reports at medical staff meetings

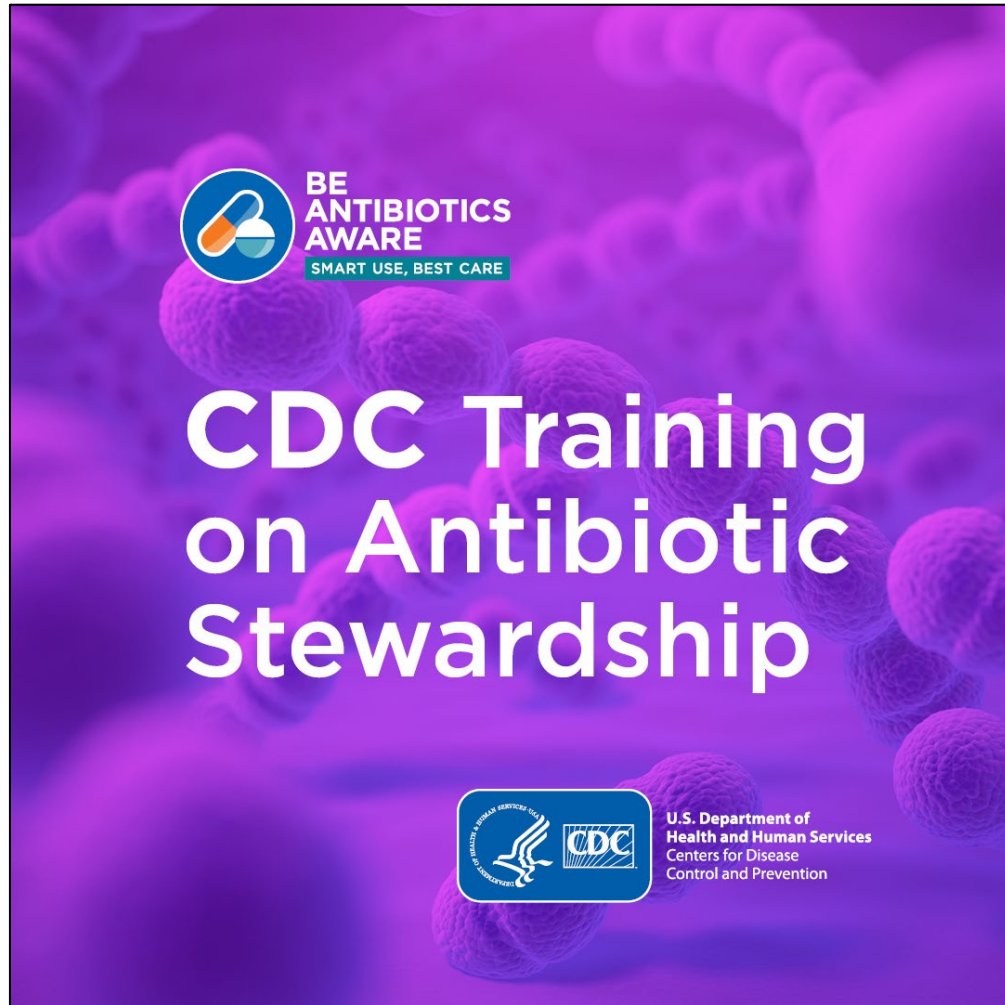
# Core Elements: Education

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- All employees
- Residents and families

# Continuing Education

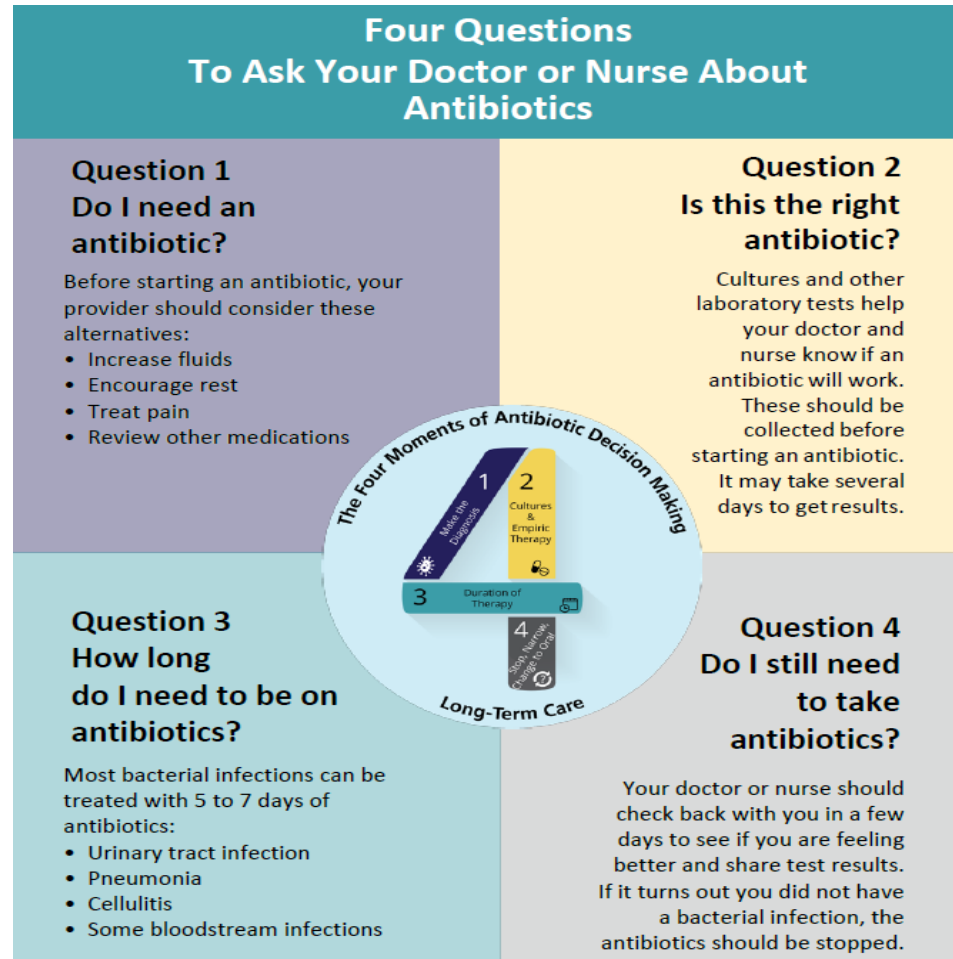
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<https://www.cdc.gov/antibiotic-use/training/continuing-education.html>



# Resident and Family Education



[The Four Moments of Antibiotic Decision Making Posters | Agency for Healthcare Research and Quality \(ahrq.gov\)](https://www.ahrq.gov/antibiotic-decision-making-posters/)

# Probiotics?

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## IDSA/SHEA 2017

- Insufficient evidence to recommend

## AGA

- Prevention of CDI while taking antibiotics
- Treatment of pouchitis

# PPIs?

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- Discontinue PPIs (proton-pump inhibitors) with no indication.

McDonald, et al. *Clinical Infectious Diseases*, Volume 66, Issue 7, 1 April 2018, Pages e1–e48,  
<https://doi.org/10.1093/cid/cix1085>

# Georgia Department of Public Health HAI Team Contacts

State Region/Districts	Contact Information
North (Rome, Dalton, Gainesville, Athens) Districts 1-1, 1-2, 2, 10	<a href="mailto:Sue.bunnell@dph.ga.gov">Sue.bunnell@dph.ga.gov</a> (404-967-0582) <a href="mailto:Mary.Whitaker@dph.ga.gov">Mary.Whitaker@dph.ga.gov</a> (404-967-0578)
Atlanta Metro (Cobb-Douglas, Fulton, Clayton, Lawrenceville, DeKalb, LaGrange) Districts 3-1, 3-2, 3-3, 3-4, 3-5, 4	<a href="mailto:Teresa.Fox@dph.ga.gov">Teresa.Fox@dph.ga.gov</a> (404-596-1910) <a href="mailto:Renee.Miller@dph.ga.gov">Renee.Miller@dph.ga.gov</a> (678-357-4797)
Central (Dublin, Macon, Augusta) Districts 5-1, 5-2, 6, 7	<a href="mailto:Theresa.Metro-Lewis@dph.ga.gov">Theresa.Metro-Lewis@dph.ga.gov</a> (404-967-0589) <a href="mailto:Karen.Williams13@dph.ga.gov">Karen.Williams13@dph.ga.gov</a> (404-596-1732)
Southeast (Columbia, Albany) Districts 8-1, 8-2	<a href="mailto:Connie.Stanfill1@dph.ga.gov">Connie.Stanfill1@dph.ga.gov</a> (404-596-1940)
Southwest (Valdosta, Savannah, Waycross) Districts 9-1, 9-2	<a href="mailto:Regina.Howard@dph.ga.gov">Regina.Howard@dph.ga.gov</a> (404 967-0574)
Backup/Nights/Weekends	<a href="mailto:Jeanne.Negley@dph.ga.gov">Jeanne.Negley@dph.ga.gov</a> (404-657-2593) <a href="mailto:Joanna.Wagner@dph.ga.gov">Joanna.Wagner@dph.ga.gov</a> (404-430-6316)

# Questions?



# Save the Date

## **Next Office Hours:**

August 19, 2022

11 a.m.

# Thanks Again...

- Georgia Department of Public Health
- University of Georgia



# Making Health Care Better



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