Residential and long-term care facility call

October 9, 2024

All LTCF Facilities

COLORADO
Department of Public Health & Environment

Agenda

- **U.S. Antibiotic Awareness Week, Nov. 18-24**
  Lauren Biehle, Antimicrobial Stewardship Pharmacy Lead

- **Antibiotic use and the risk of adverse events in long-term care facility settings**
  Deniece Waruinge, Infection Prevention Educator

- **COVID-19 guidance updates**
  Brynn Berger, COVID-19 Infection Prevention Program Manager

- **Transition of COVID-19 outbreaks to LPHAs**
  Brynn Berger, COVID-19 Infection Prevention Program Manager

U.S. Antibiotic Awareness Week
Nov. 18-24

Lauren Biehle, Antimicrobial Stewardship Pharmacy Lead

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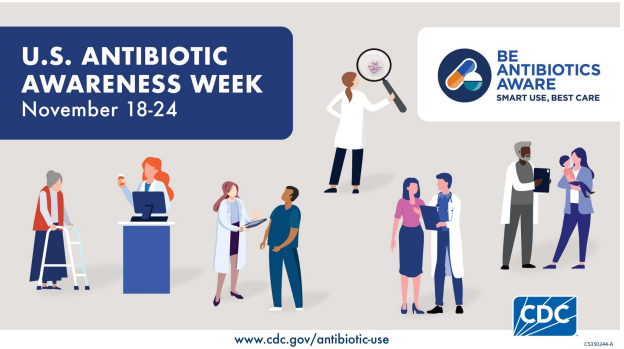
U.S. Antibiotic Awareness Week 2024

- Nov. 18-24, 2024
- National awareness week to recognize the importance of improving antibiotic use, improving health equity, and combating antimicrobial resistance
- Theme: “Fighting Antimicrobial Resistance Takes All of Us”
- CDPHE highlighting the role of nurses and infection preventionists in antimicrobial stewardship



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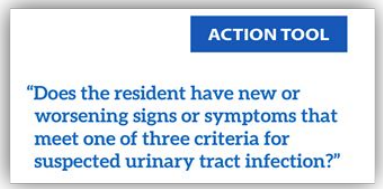
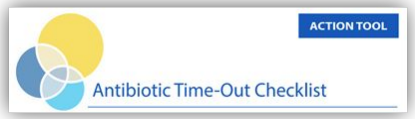
Antibiotic Awareness Week, Nov. 18-24

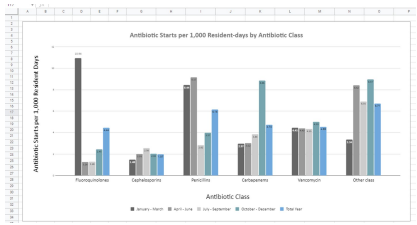
Suspected urinary tract infection action tool — can guide nursing staff in the initial evaluation of possible UTI in residents without a urinary catheter



Antibiotic time-out checklist — can be utilized to take a time-out to reassess appropriateness of an antibiotic within 48-72 hours after the antibiotic start date



Antibiotic surveillance tool — to be used by LTCF interested in tracking antibiotic usage and infection types among residents, to improve their antimicrobial stewardship program



Summary of treatment guidelines of common infections — CDPHE created a summary document of nationally-recognized guidelines for treatment of common infections as a reference for LTCF stewardship teams.

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Antimicrobial stewardship resources for nursing homes

- CDPHE:
  - Antimicrobial Stewardship in Long-Term Care website
  - Antibiotic Awareness Week website
  - Guidelines summary for treatment of common infections in nursing homes
- CDC:
  - Core Elements of Antibiotic Stewardship for Nursing Homes
  - Antibiotic Awareness Week resources (some specific to LTC)
  - Go purple for USAAW!

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Antibiotic Use and The Risk of Adverse Events in Long-Term Care Facility Settings

PROJECT FIRSTLINE
CDC's National Training Collaborative for Healthcare Infection Prevention & Control

CDPHE

Agenda

- Basics of infection control
- Treating the infection
- Adverse effects of antibiotics
- Antimicrobial resistance
- Antimicrobial stewardship
- Key Takeaways

Antimicrobial Use and The Risk of Adverse Events

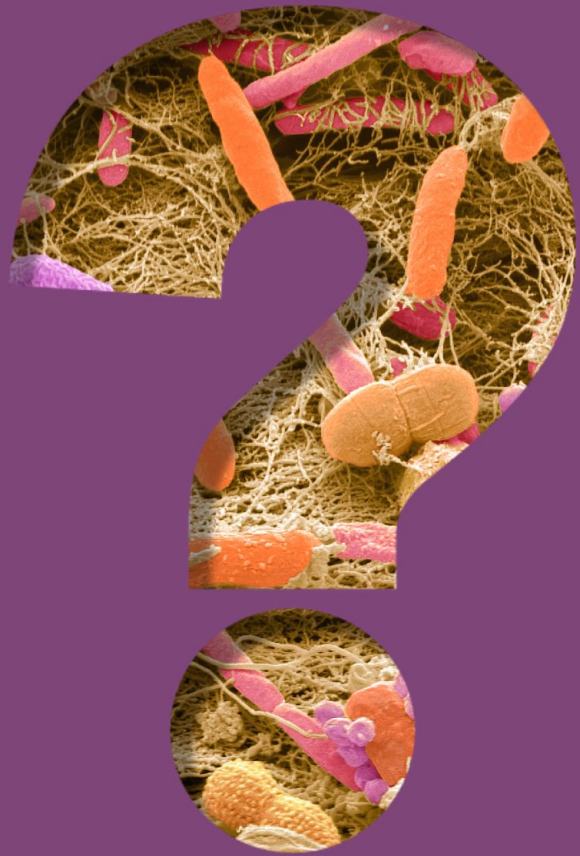
Antimicrobials can help save lives but their use can also cause harm that includes:

- side effects
- allergic reactions
- deadly infections like *C. diff*
- antimicrobial-resistant infections

Source: CDC - Antimicrobial Resistance Statistics

What is infection control?

Infection control prevents or stops the spread of infections through a series of actions taken when a risk is recognized.



PROJECT FIRSTLINE
CDC's National Training Collaborative for Healthcare Infection Prevention & Control

CDPHE

Source: CDC/PFL - Infection Control

Five Elements of How Germs Spread and Cause Infection

How does infection control tie into the use of antimicrobials?

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CDPHE

Meet Mr. H

Mr. H is a 79 y/o male resident who has a history of dementia and urinary retention requiring a catheter. In his three years at the nursing home, he enjoys being outside and helps take care of the facility's garden. His behavior and vital signs are at his baseline and he is excited for his family to visit.

Family Visits Mr. H

Mr. H's family visits and his son is concerned about the color of his urine. He says the urine is darker than usual and has an odor. He is worried that he has a urinary tract infection and asks if you can request antibiotics for him.

Scenario: What is your response?

A) He seems fine. We are trying not to overprescribe antibiotics, so we are not going to treat based on the color of his urine.

B) Your father may be a little dehydrated. You can help with that by encouraging him to drink water. We will check his vital signs every 6 hours and monitor him closely.

C) Antibiotics do not help when there are no UTI symptoms, and we have newer data indicating that taking antibiotics when there is not an infection can be harmful.

D) Yes, let's check what he received last time he had a UTI and start another course of that antibiotic.

E) B and C

Initial Assessment Rationale

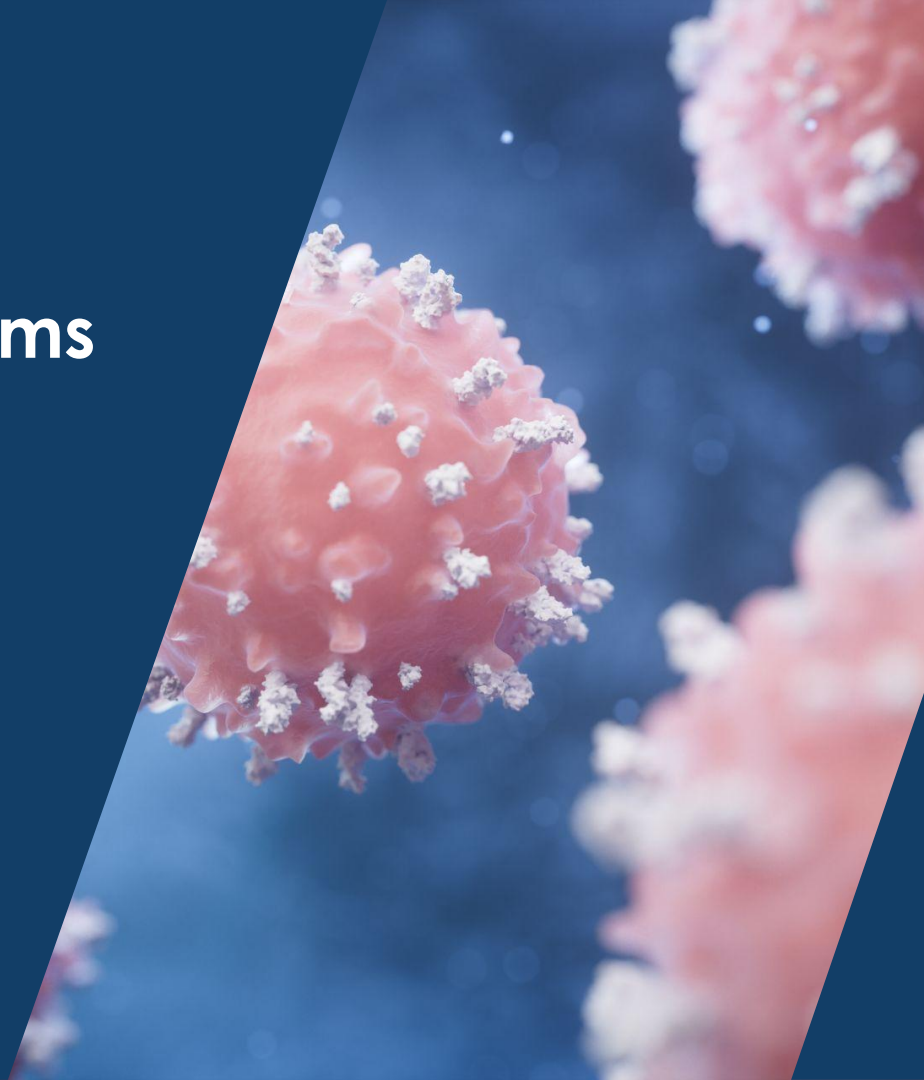
With the information currently available, we understand that we don't need to give antibiotics to Mr. H yet.

When assessing Mr. H, some of the questions to consider include:

- Does he have signs and symptoms of an infection?
- Do we have diagnostic or lab testing results to confirm an infection?
- If Mr. H was exposed to germs which bypassed his body's defenses and are now causing an infection in his body, have we explored symptom management while allowing his body to mount an immune response?

Immune Response to Germs

When germs **bypass the body's defenses**, they cause an immune response which is the body's attempt at fighting off the invasion.



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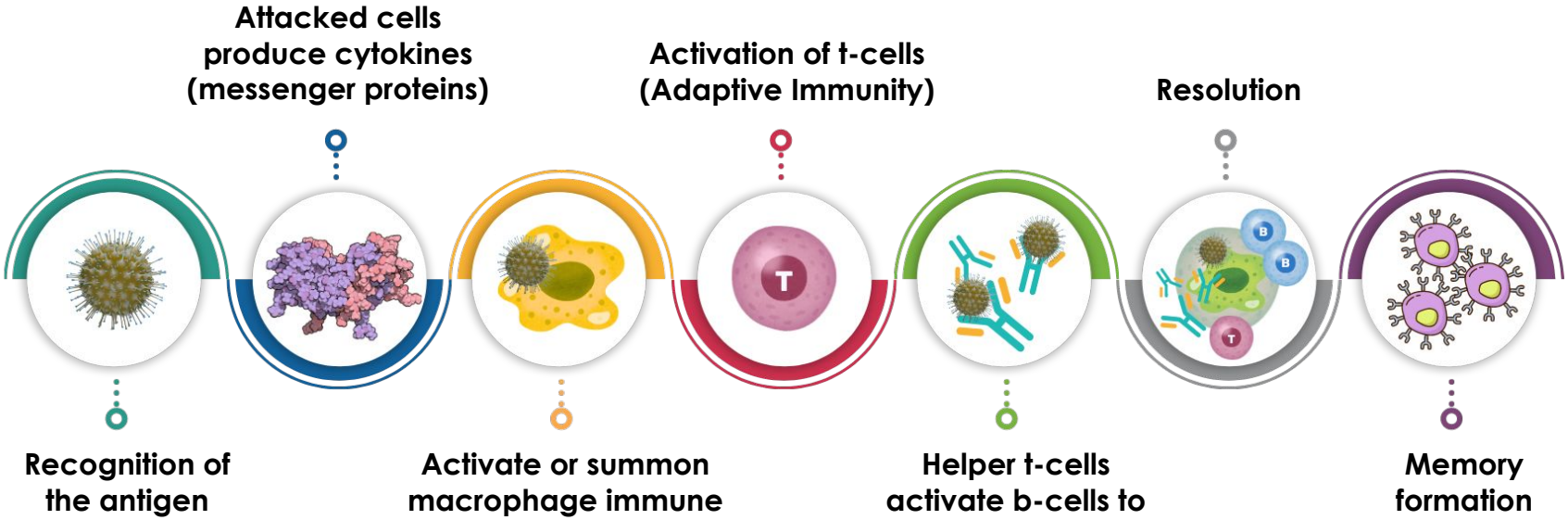
Review of the Immune Response



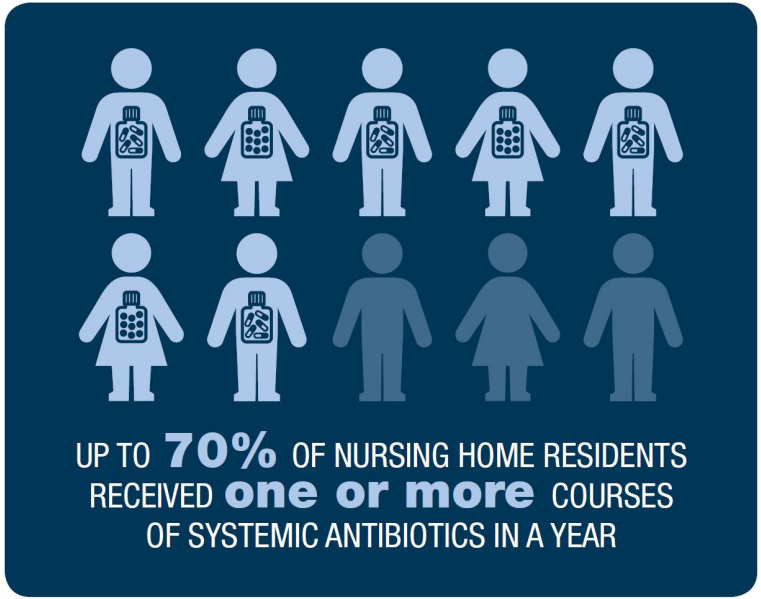
Surviving the Immune Response

Germs can **survive the body's immune response** and cause an infection that may require treatment using antimicrobials.

Treating with Antibiotics

Not all **bacterial infections** require treatment with antibiotics; some infections can be resolved with symptom management.

However, any time antibiotics are used, they can cause side effects, adverse events, and contribute to antimicrobial resistance.



Source: CDC - Core Elements of Antibiotic Stewardship for Nursing Homes

Treating Mr. H:

What are the potential consequences of prescribing Mr. H an antibiotic?

Potential for Harm

When antibiotics are used, they can cause side effects and adverse events which can result in mild to serious health problems.

Common side effects include:

Rash | Dizziness | Nausea | Yeast Infection | Diarrhea

Antibiotics are responsible for almost **1 out of 5** emergency department visits for adverse drug events.[1]

Source: CDC - Side Effects of Antibiotics

Risks of Harm from Inappropriate Antibiotics Use

- Side effects:
  - Nausea, vomiting, diarrhea
  - Allergic reactions and rashes
  - Kidney or other organ damage.
- Drug interactions - a medication could become less effective or cause new side effects.
- Cause other highly contagious and potentially deadly infections like *C.diff*.
- Increase the risk of developing a resistant infection in the future.

Source: AHRQ - Taking Antibiotics When You Don't Need Them

Most Infectious Adverse Event

Clostridioides difficile (*C. diff*) is a bacteria that causes a potentially life-threatening inflammation of the colon.

C. *diff* is not resistant to antibiotics, but it takes advantage of the altered microbiome (gut bacteria) from antibiotic use and misuse.

- C. *diff* causes almost half a million infections annually in the U.S.
- People are 7 to 10 times more likely to get C. *diff* while on antibiotics and during the month after.
- 1 in 6 people will get C. *diff* again in the subsequent 2-8 weeks.
- One in 11 people **over age 65** diagnosed with a healthcare-associated C. *diff* infection die within one month.

Potential for Worsening Infections

The overuse and misuse of antimicrobials has the potential to cause:

- worsening of existing infections, including severe complications.
- damage to the body defenses, allowing for other germs to take advantage of the weakened immune system.

A potential complication of germs overwhelming a weakened immune system is **sepsis.**

- The #1 cause of sepsis is bacterial infections.
- **Adults over the age of 65** are at increased risk of developing sepsis.
- Over 1.7 million people develop sepsis each year and 350,000 die as a result.

Source: CDC - Sepsis

Implications of Treating Asymptomatic Bacteriuria

Asymptomatic bacteriuria (ASB) usually doesn't need treatment.

The risk of developing ASB increases with age:

- At least 15% of men and women aged 65-80.
- Over 40% in LTCF residents over the age of 80.

Using antibiotics to treat ASB:

- does not decrease the risk for developing symptomatic UTIs.
- increases the risk for developing *C. diff* infections.
- increases the risk of germs developing antimicrobial resistance.

Germ Survival Against Antimicrobials

Germs can develop the ability to defeat some of the antimicrobials designed to kill them.

This ability to survive is called **antimicrobial resistance**.

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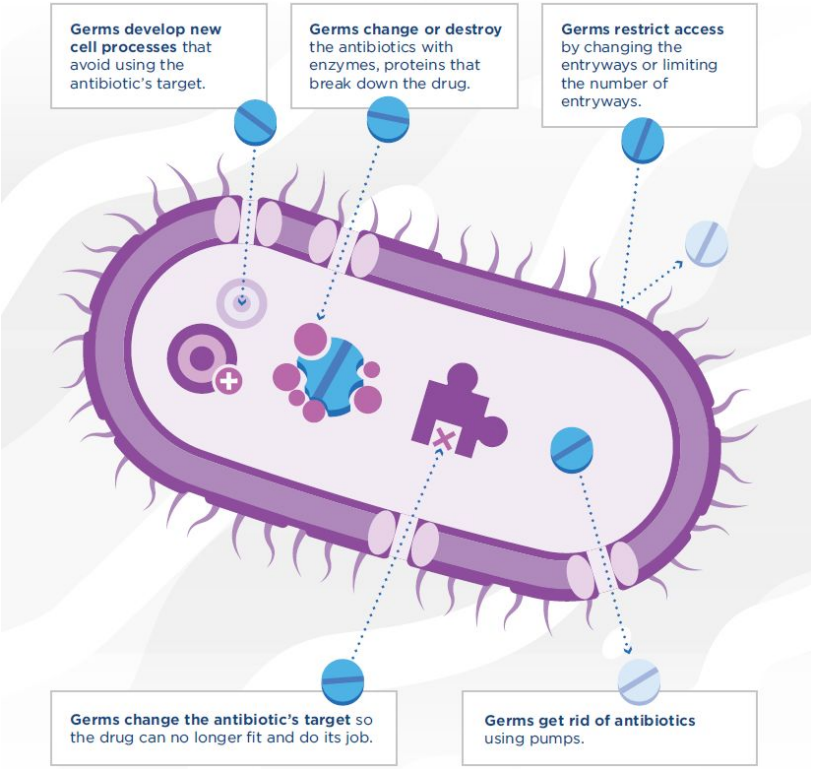
How Germs Fight Back Against Antimicrobials

Antimicrobials fight germs but germs can fight back and find new ways to survive.

Their defense strategies are called resistance mechanisms.

Only germs, not people, become resistant to antimicrobials.

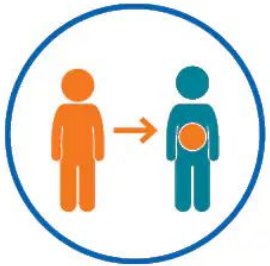


Source: CDC - Antimicrobial Resistance

Why Antimicrobial Resistance Matters

- Antimicrobial-resistant germs can share their resistance mechanisms with other germs.
- Some antimicrobial-resistant infections do not have treatment options.
- Some of the deadliest resistant germs spread within and across healthcare facilities (including LTCF).
  - Seven urgent or serious antimicrobial-resistant threats identified by the CDC can cause HAIs.

More than **2.8 million** antibiotic-resistant infections occur in the United States each year, and more than **35,000 people** die as a result.



Some resistant bacteria can be harder to treat and can spread to other people.

Source: CDC - Antimicrobial Resistance

Antimicrobial Resistant Threats

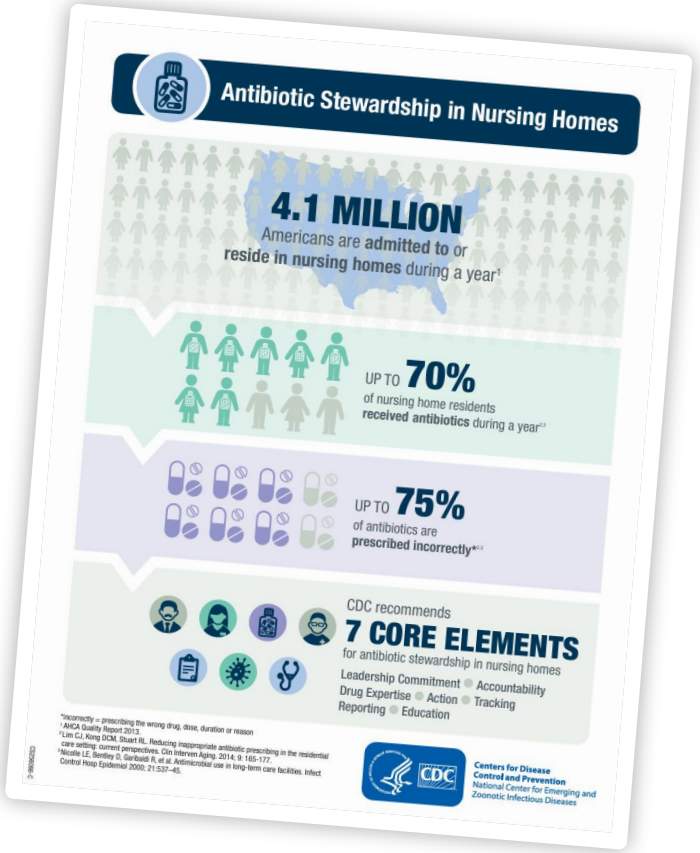
Resistant Germ	Public Health Threat Summary
Carbapenem-resistant *Acinetobacter*	Causes HAIs such as: pneumonia, wound, bloodstream, and urinary tract infections. Can share resistant elements with other bacteria. Some strains are resistant to nearly all antibiotics.
Candida auris	Spreads mostly in long-term care facilities. Some strains are resistant to all three types of antifungals. Antibiotics used to treat bacterial infections increase the risk for *Candida* infections.
Methicillin-resistant *Staphylococcus aureus*	Causes common HAI infections that are preventable. Resistant to many first-line antibiotics.
Erythromycin-resistant Group A *Streptococcus*	Can cause invasive infections (bloodstream infections, flesh-eating infections, and sepsis). The number of invasive resistant infections has tripled in eight years.
Clindamycin-resistant Group B *Streptococcus*	Cause over 40% of infections thus limiting options for people with penicillin allergies.

Source: CDC - 2019 AR Threats Report

Improving Antibiotic Use in Long-Term Care Settings

Antibiotics are the most frequently prescribed medications in nursing homes and can cause significant harm from adverse events.

Antimicrobial stewardship actions that improve resident safety and outcomes by reducing adverse events and the emergence of resistant germs should be implemented.



Source: CDC - Antibiotic Stewardship in Nursing Homes

Antimicrobial Stewardship

Antimicrobial stewardship is a coordinated effort to:

- promote the appropriate use of antimicrobials
- improves patient outcomes
- reduces antimicrobial resistance
- decrease the spread of infections caused by multidrug-resistant organisms.

The CDC's Core Elements of Antibiotic Stewardship provide healthcare facilities with a framework for improving antimicrobial use.

- These elements can be adapted to different types of facilities to optimize effective antibiotic use in all settings.

Source: CDC - Core Elements of Antibiotic Stewardship

Core Elements of Antimicrobial Stewardship

These adaptable core elements should be applied to all healthcare settings where antibiotics are prescribed in order to improve antibiotic-related resident safety and outcomes.

CDC's 7 CORE ELEMENTS

- Leadership commitment
- Accountability
- Drug Expertise
- Action
- Tracking
- Reporting
- Education

Achieving Antimicrobial Stewardship in LTCF

CHALLENGE

Commitment/ Accountability

RECOMMENDATION

- Develop consistent education and guidelines for providers and staff

CHALLENGE

Stewardship Expertise

RECOMMENDATION

- Identify AS champions
- Include AS in QAPI and orientation
- Provide ongoing education to staff

CHALLENGE

Off-site Laboratory

RECOMMENDATION

- Collaborate with laboratory for diagnostic stewardship

CHALLENGE

Resources

RECOMMENDATION

- Establish standard communication procedures that can be transitioned to new staff

CHALLENGE

Commitment/ Accountability

RECOMMENDATION

- Provide materials to educate and counsel family on the risks and benefits of antibiotics

Source: NIH/NLM - A Roadmap to Implementing Antimicrobial Stewardship Principles in Long-term Care Facilities

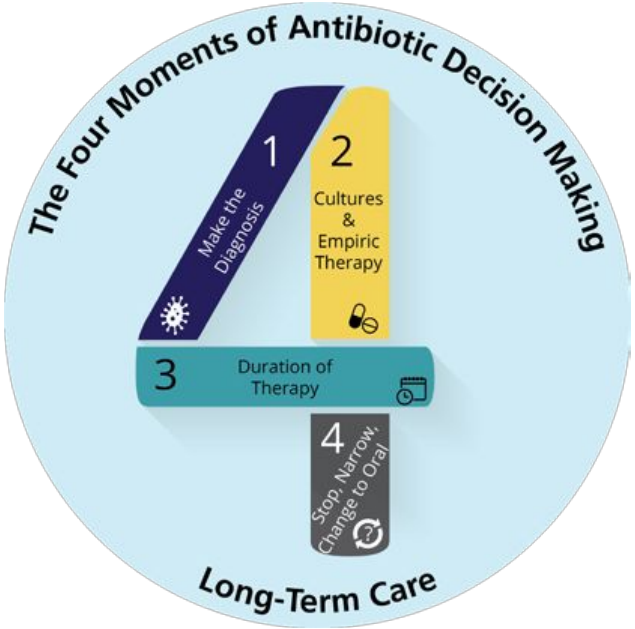
Four Moments of Antibiotic Decision Making in Long-term Care

1. Diagnosis:

- Does the resident have symptoms that suggest an infection?

2. Cultures and treatment:

- What type of infection is it?
- Have we performed appropriate tests before starting antibiotics?
- If needed, what kind of treatment should be provided?



Source: AHRQ - Four Moments of Antibiotic Decision Making

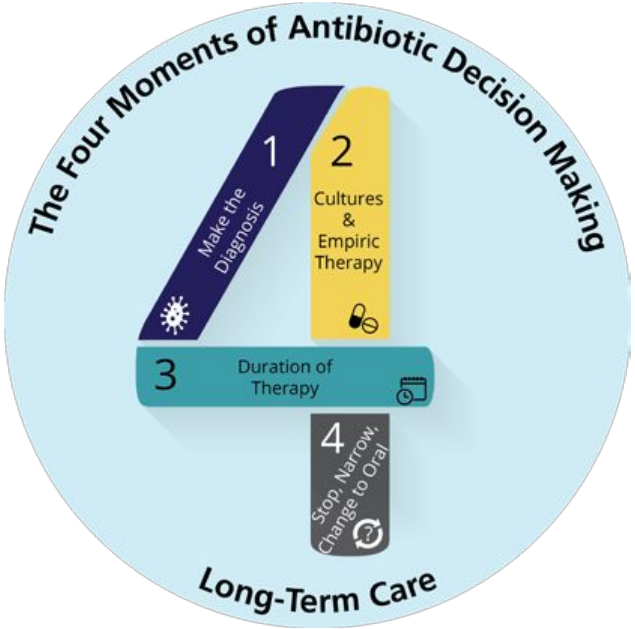
Four Moments of Antibiotic Decision Making in Long-term Care

3. Duration:

- How long do we need to treat with antibiotics?

4. Stop, narrow, or change:

- After 2-3 days of antibiotic use, re-evaluate the resident and review results of diagnostic tests.
- Can we stop or change the antibiotics?



Source: AHRQ - Four Moments of Antibiotic Decision Making

Knowledge is Power

Be Antibiotics Aware is a national campaign aimed at improving antibiotic prescribing and use and fighting against antimicrobial resistance.

This campaign involves collaboration by the CDC, state programs, nonprofit, and for-profit partners to incorporate health equity into stewardship efforts in order to optimize antibiotic use outcomes in all healthcare settings.

Source: CDC - Be Antibiotics Aware Toolkit

Education for Mr. H

Where would you access resources to discuss antibiotics with Mr. H and his family?

Patient Education Resources

CDC - Antibiotic Prescribing and Use: Patient Education Resources

CDC - Virus or Bacteria, Common infections in nursing homes:

- Viruses or Bacteria I English
- Virus o bacterias I Spanish

CDC - Do you need antibiotics:
Information about antibiotics for nursing home residents and their families

CDC - Antibiotics Aren't Always the Answer:

- Factsheet I English
- Factsheet I Spanish

CDC - Urine Culture Stewardship

Viruses or Bacteria What's got you sick?

Common infections in nursing homes

BE ANTIBIOTICS AWARE
SMART USE, BEST CARE

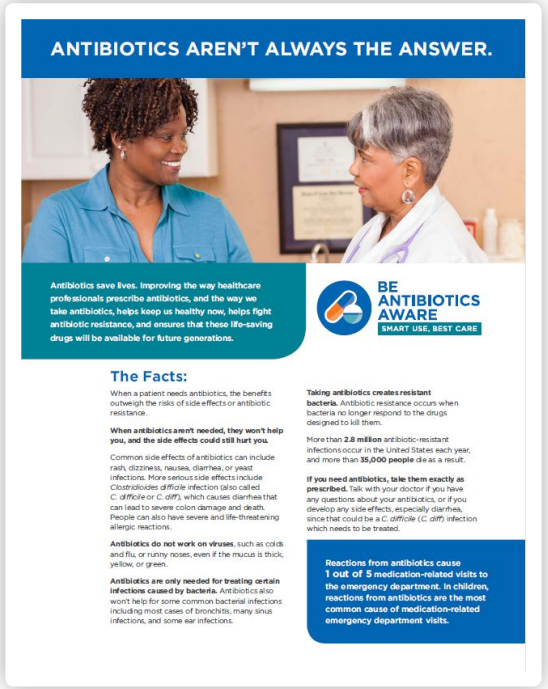
Common Respiratory Infections in Nursing Homes	Common Cause			Are Antibiotics Needed?*
	Virus	Virus or Bacteria	Bacteria	
Common cold/runny nose	✓			No
Sore throat (except strep)	✓			No
COVID-19	✓			No
Flu	✓			No
Acute bronchitis/chest cold		✓		No**
Sinus infection		✓		Maybe
Pneumonia		✓		Yes
Strep throat			✓	Yes

*Antiviral drugs are available for some viral infections, such as COVID-19 or flu.
**Antibiotics are not needed for nursing home residents with acute bronchitis or a chest cold, unless they have chronic obstructive pulmonary disease (COPD) or other chronic lung disease.

CS328403-C

To learn more about antibiotic prescribing and use, visit www.cdc.gov/antibiotic-use.

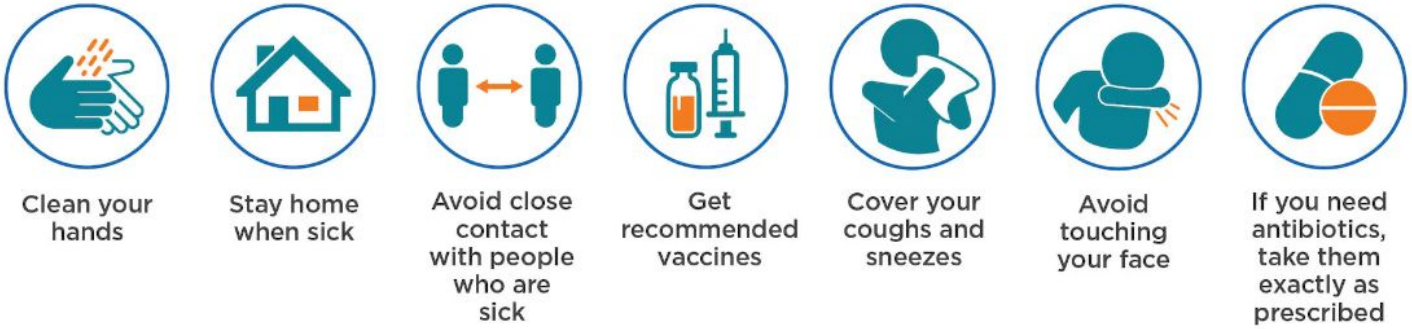
Is Treatment Necessary?



Source: CDC - Antibiotic Use

Infection Control Actions for Patients

In addition to symptom management, healthcare providers should also educate their residents on infection control actions that they can take to fight germs and infections.



These infection control actions have proven effective at reducing the spread of germs and infections.

Source: CDC - Feel Better Without Antibiotics

Key Takeaways

- Antibiotics are valuable tools for treating infections, but any antibiotic use can contribute to adverse events and antimicrobial resistance.
- Talk to residents and their families about possible harms from antibiotics such as allergic reactions, *C. diff* infections, and antimicrobial-resistant infections.
- Infection control actions and antimicrobial stewardship should be implemented to help fight against the many deadly resistant germs that spread within healthcare facilities.
- Incorporating antimicrobial stewardship can improve resident outcomes and reduce the risk of adverse events for LTCF residents.

How to Get Involved and Additional Resources

Project Firstline on CDC:
https://www.cdc.gov/project-firstline/

CDC's Project Firstline on Facebook:
https://www.facebook.com/CDCProjectFirstline

CDC's Project Firstline on X (formerly Twitter):
https://x.com/CDC_Firstline

Project Firstline *Inside Infection Control* on YouTube:
https://www.youtube.com/playlist?list=PLvrp9iOILTQZQGtDnSDGViKDdRtIc13VX

To sign up for Project Firstline e-mails, click here:
https://tools.cdc.gov/campaignproxyservice/subscriptions.aspx?topic_id=USCDC_2104

Resources:
CDPHE Project Firstline:
https://cdphe.colorado.gov/project-firstline

CDC - Antibiotic Prescribing and Use

CDC - Antimicrobial Resistance

Thank you.

The Project Firstline team can be reached at:

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PROJECT FIRSTLINE
CDC's National Training Collaborative for Healthcare Infection Prevention & Control

CDPHE

COVID-19 guidance updates

Brynn Berger, MPH, CIC
COVID-19 Infection Prevention Program Manager

COLORADO
Department of Public Health & Environment

CDPHE COVID-19 guidance updates

- CDPHE updated COVID-19 guidance documents for residential and long-term care facilities on October 1.
  - COVID-19 mitigation and outbreak guidelines for nursing facilities and intermediate care facilities
  - COVID-19 mitigation and outbreak guidelines for assisted living residences and group homes for persons with intellectual and developmental disabilities
- Updates are summarized in the “What’s new” section at the top of each document.

Summary of major changes

- Updated the structure and format to be more similar to CDPHE's guidance documents for influenza and RSV in these settings.
- Added sections that cover foundational information about COVID-19 disease and prevention of viral respiratory infections.
  - About COVID-19
  - COVID-19 and other viral respiratory infections
  - General respiratory virus prevention strategies

Summary of major changes (cont.)

- Added detail about COVID-19 response measures and a new COVID-19 response checklist to help facilities implement the guidance.
- Made a small number of changes to previous COVID-19 response requirements.
- Updated COVID-19 outbreak definitions to more closely align with CDPHE's outbreak definitions for influenza and RSV in these settings.
- Included a copy of the COVID-19 outbreak report form, updated to include the latest outbreak definitions and to remove fields that are no longer required.

Changes to previous requirements — all facilities

- Removed the requirement for facilities to make COVID-19 vaccines available to staff and residents within 60 days of any update to CDC's vaccine recommendations.
    - Facilities should still follow any applicable state and federal requirements regarding vaccination of residents and/or staff.

Changes to previous requirements — ALRs/GHs

- Updated the time frame for **testing people who were exposed** to be the same in outbreaks and non-outbreak situations: Test immediately (but not earlier than 24 hours after the exposure).
  - Previous guidance recommended waiting five full days after the exposure if the facility was not in an outbreak.
- Updated the **duration of resident isolation and staff work exclusion** to a minimum of five days.
  - Previous guidance required a minimum of 10 days for residents and staff with moderate illness, severe illness, or a weakened immune system.
  - Other criteria to end isolation and work exclusion still apply.

Why weren't more changes made to the requirements?

- **For nursing facilities and intermediate care facilities:** CDPHE's COVID-19 guidance is based on CDC's Infection Control Guidance for SARS-CoV-2.
  - When CDC updates guidance for these settings, we will also update ours.
- **For assisted living and group homes:** CDPHE chose to keep most of the previous COVID-19 response requirements for this respiratory virus season due to:
  - A high number of COVID-19 outbreaks in these settings in recent months.
  - Past data showing that COVID-19 transmission tends to increase in the fall/winter months.

Why is the updated guidance longer than before?

- New sections provide basic information and general strategies to prevent COVID-19 and other respiratory illnesses.
- COVID-19 response requirements are about the same length, but we included more detail and a checklist to help with implementation.
- We used a minimum 12-point font to meet accessibility guidelines.

Readers can navigate by clicking on headings in the table of contents.

Outbreak definitions and COVID-19 response

- Facilities should have a plan to investigate and respond to COVID-19 and other respiratory illness in the facility.
- Facilities should investigate and respond even when the outbreak definition is not met.
- **Threshold for additional investigation by the facility:** If met, the facility should initiate COVID-19 response.
- **Suspected outbreak** or **confirmed outbreak:** If met, the facility should initiate COVID-19 response (if not already started) **and** report the outbreak to public health.

Definitions — threshold for investigation

- **Threshold for additional investigation* by the facility:**
  - At least one **resident or staff** with a positive COVID-19 test result
    or
  - Two or more **residents** with onset of undiagnosed respiratory illness occurring within a three-day period

*Terminology is from the Council for Outbreak Response: Healthcare-Associated Infections and Antimicrobial-Resistant Pathogens (CORHA)

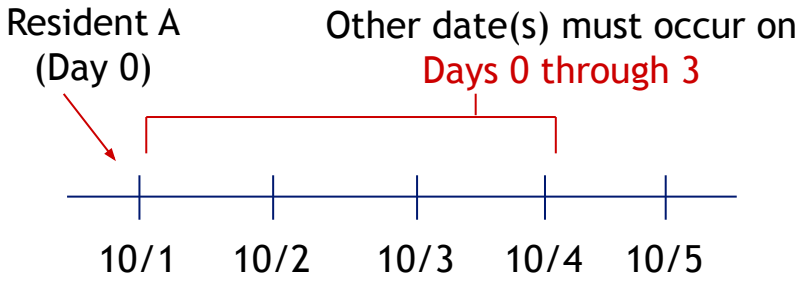
Definitions — suspected and confirmed outbreaks

- **Suspected COVID-19 outbreak (must be reported to public health):**
  - At least one **resident** with a positive COVID-19 test result and at least one **resident** with onset of undiagnosed respiratory illness occurring within a seven-day period
    or
  - Three or more **residents** with onset of undiagnosed respiratory illness occurring within a three-day period
- **Confirmed COVID-19 outbreak (must be reported to public health):**
  - Two or more **residents** with a positive COVID-19 test result occurring within a seven-day period

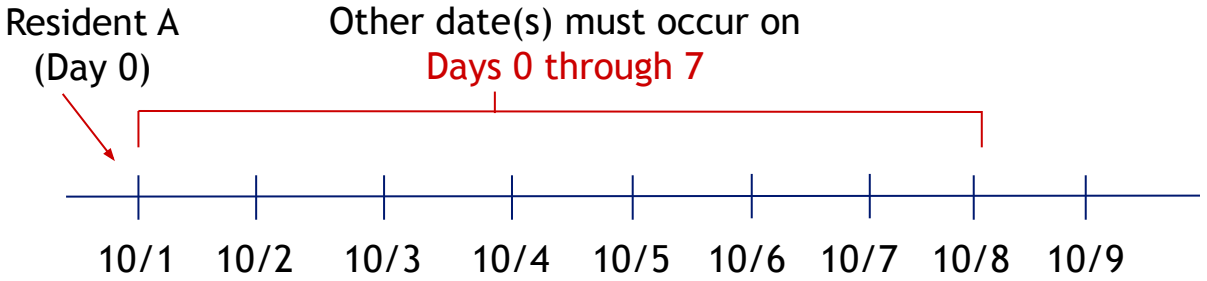
Definitions — applying time periods

- The first date (onset or test date, depending on the definition) is Day 0

Within a three-day time period:



Within a seven-day time period:



Definitions — suspected and confirmed outbreaks

- Staff are not included when determining if the outbreak definition is met.
- Staff who test positive or have undiagnosed respiratory illness should be investigated and treated as part of the outbreak.
- Staff are included when applying the criteria to close an outbreak:
    - Recommended testing is continued on the affected area(s) or facility-wide until there are **no new cases** for 14 days.
- If an outbreak began under the previous definitions (before Oct. 1), it will remain open until meeting the closure criteria.

Outbreak definitions and COVID-19 response

- Why is the COVID-19 response guidance the same for facilities that are in an outbreak and facilities that are not in an outbreak?
    - Facilities should investigate and respond to COVID-19 and undiagnosed respiratory illness to protect residents and staff and prevent disease transmission.

Reporting reminders

- **Reporting an outbreak**
  - Facilities must report known or suspected outbreaks immediately (within four hours of detection) to the local public health agency or to CDPHE by completing the online outbreak report form, calling 303-692-2700, or emailing cdphe_covid_infection_prevention@state.co.us.
- **Reporting individual positive COVID-19 test results**
  - Positive COVID-19 test results are required to be reported in four working days. See CDPHE's COVID-19 reporting requirements webpage.

Transition of COVID-19 outbreak investigations to LPHAs

Brynn Berger, MPH, CIC
COVID-19 Infection Prevention Program Manager

COLORADO
Department of Public Health & Environment

Transition of COVID-19 outbreaks to LPHAs

- CDPHE is currently the lead public health agency for COVID-19 outbreak investigations in residential and long-term care facilities.
- All RLTCF COVID-19 outbreak investigations will transition to local public health agencies **by the end of May 2025.**
- Some LPHAs are opting in to this transition before the May 2025 deadline.
    - We are beginning to onboard these LPHAs.

LPHAs that have opted in

- Arapahoe County
- Northeast Colorado Health Dept. (Morgan, Logan, Phillips, Sedgwick, Washington, and Yuma counties)
- Douglas County
- Adams County
- Boulder County
- Jefferson County
- Lincoln County
- Alamosa County
- Pueblo County
- Denver County (after Jan. 1, 2025)

Find your local public health agency

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Transition plans

- CDPHE will be the main point of contact for COVID-19 mitigation and outbreak response until your LPHA's transition occurs.
- Once the LPHA is ready to take on their outbreaks:
  - CDPHE or the LPHA will notify facilities.
  - If CDPHE is working with a facility on an existing outbreak, CDPHE will complete that investigation.
  - CDPHE will hand off **new** outbreaks to the LPHA.

What does this mean for facilities?

- Once your facility's LPHA takes over these outbreaks from CDPHE:
  - Continue to report positive test results and outbreaks as required.
  - If you report an outbreak to CDPHE, we will notify the LPHA.
  - The LPHA will be your main point of contact for COVID-19 mitigation.
- CDPHE will train and support LPHAs.
- CDPHE will maintain guidance documents and other resources.

Thank you!

Additional questions?

Email cdphe_covid_infection_prevention@state.co.us

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