Be Antibiotic Aware: Tracking Illness and Antimicrobial Use

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Participants will be able to …

- Describe the critical role long-term care plays in the fight against antimicrobial resistance.
- Explain how to implement use of a computer-based tool to track resident infection and antimicrobial use.
- Demonstrate how data are entered into monthly tracking sheets.
- Describe a process for reviewing and utilizing auto-populated data in tables and bar graphs to drive stewardship interventions.

Long-term Care is Critical in the Fight

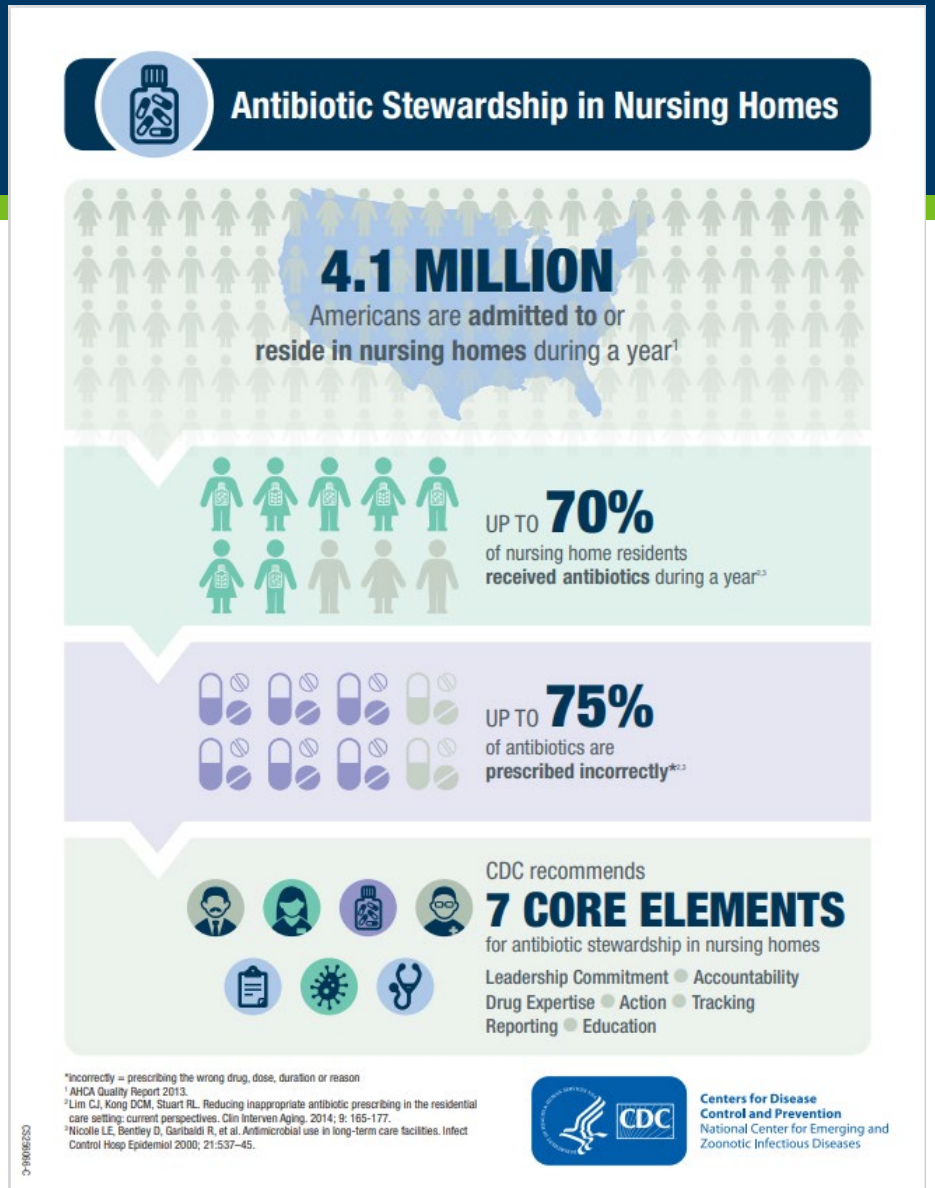
- Increased Vulnerability
- Frequent Antibiotic Use
- Close Proximity and Shared Spaces
- Chronic Illness Management
- Transitions of Care
- Antibiotic Stewardship

Addressing antimicrobial resistance in LTC settings requires a multifaceted approach, including infection prevention, antibiotic stewardship, and collaboration across sectors.

Antibiotic Stewardship

- Set of commitments and actions designed to **optimize the treatment of infections while reducing the adverse events** associated with antibiotic use
  - CDC recommends all nursing homes take steps to improve antibiotic prescribing practices and reduce inappropriate use
  - CDC recommends all acute care hospitals implement an antibiotic stewardship program
- According to the CDC, 40-75% of antibiotic prescribed in nursing homes may be unnecessary or inappropriate

Antibiotic Use in LTC Facilities



CDC: Antibiotic Stewardship in Nursing Homes (www.cdc.gov/antibiotic-use/core-elements/pdfs/Infographic-Antibiotic-Stewardship-Nursing-Homes-508.pdf)

- Antibiotics can cause harm to residents
  - High risk of side effects and adverse events
  - Major risk factor for Clostridium difficile infection
  - Driver of antibiotic resistance

CDC's Core Elements of Antibiotic Stewardship for Nursing Homes

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

CDC: Core Elements of Antibiotic Stewardship for Nursing Homes (www.cdc.gov/antibiotic-use/core-elements/nursing-homes.html)

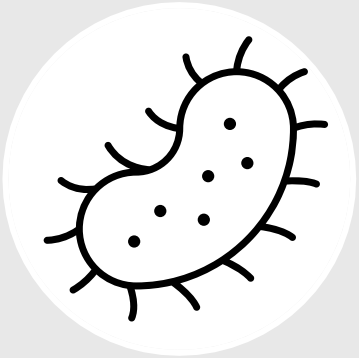
Fighting Back Against Antibiotic Resistance

- Infection prevention and control
- Tracking and data
- Antibiotic use and access
- Vaccines, therapeutics, and diagnostics
- Environment and sanitation

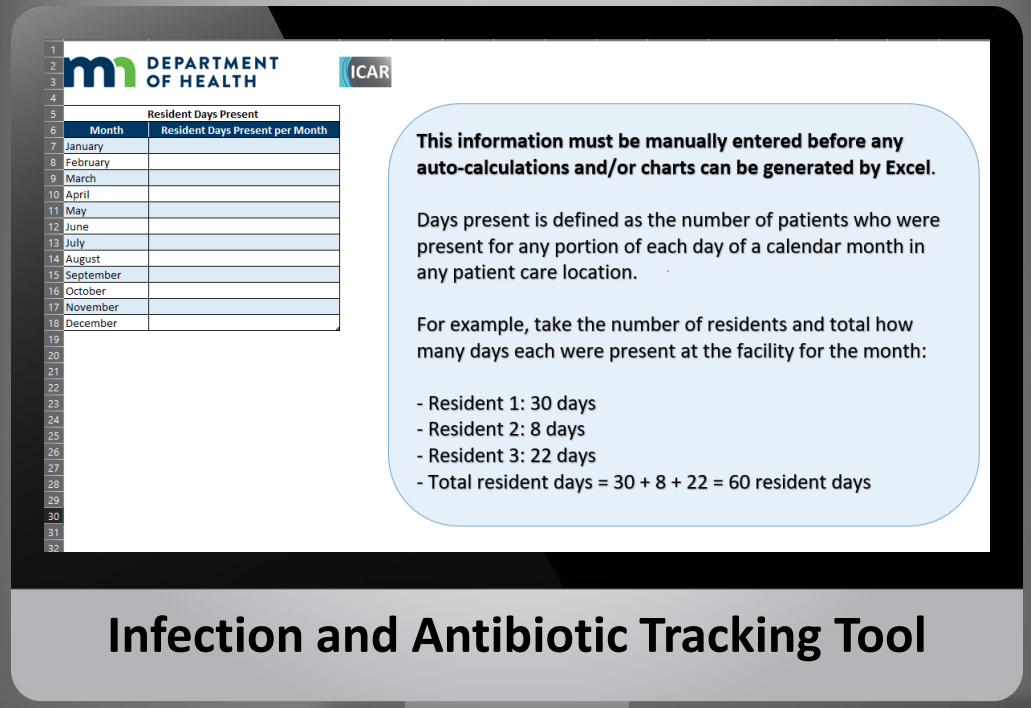
CDC: Antibiotic Resistance Threats in the United States, 2019 (www.cdc.gov/drugresistance/pdf/threats-report/2019-ar-threats-report-508.pdf)

CDC’s Core Elements For Antibiotic Stewardship in Nursing Homes

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



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



Infection and Antibiotic Tracking Tool

Infection and Antibiotic Tracking Tool

- **Resident Days Present**
  - Resident days per month must be manually entered before any auto-calculations can be generated by Excel.
- **Summary**
  - All data on this sheet automatically populates as data is entered on each monthly tracking sheet.
- **Monthly Tracking Sheets (January – December)**
  - Resident information
  - Classification
  - History
  - Diagnostics (Microbiology, Other labs, Radiology)
  - Antimicrobial starts
  - Other information

Infection and Antibiotic Tracking Tool

Essential Data Elements

Antibiotic Use Measures for Tracking Antibiotic Use

Important Data Elements

Reporting Antibiotic Use and Outcomes

Essential Data Elements

- ✓Resident name
- ✓Prescription or administration date
- ✓Antibiotic name and class
- ✓Days of therapy (DOT)
- ✓Route
- ✓Resident-days

DEPARTMENT OF HEALTH

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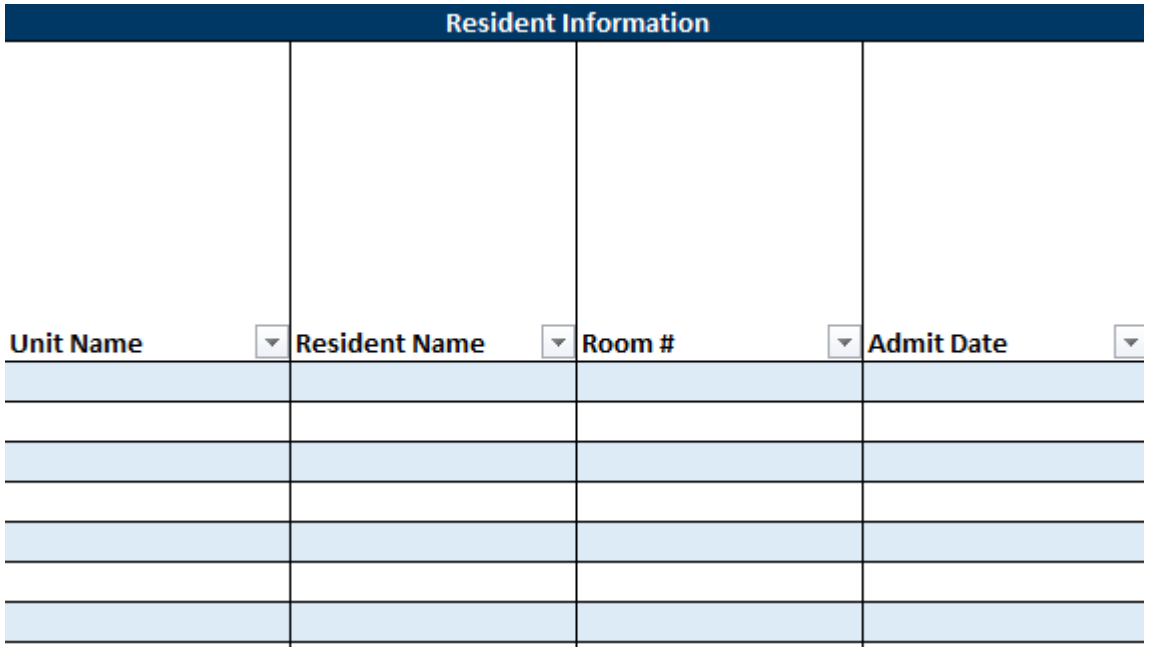
Resident Days Present	
Month	**Resident Days Present per Month**
January	
February	
March	
April	
May	
June	
July	
August	
September	
October	
November	
December	

Essential Data Elements

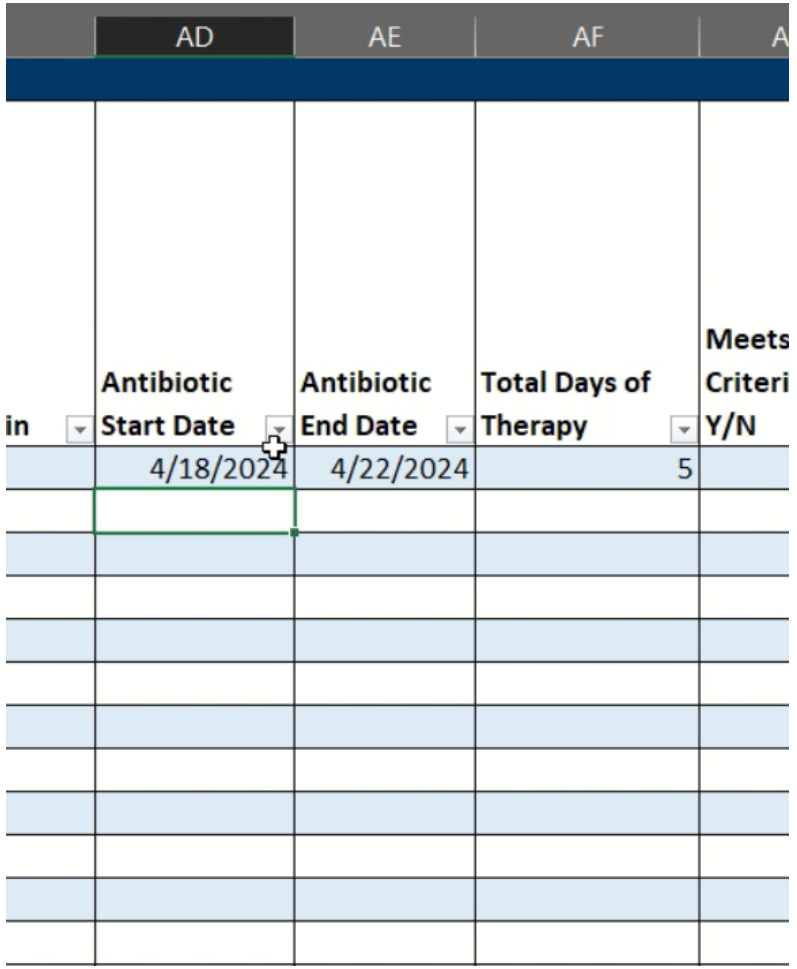
- ✓Resident name
- ✓Prescription or administration date
- ✓Antibiotic name and class
- ✓Days of therapy (DOT)
- ✓Route
- ✓Resident-days



Resident Information			
Unit Name	Resident Name	Room #	Admit Date

Essential Data Elements

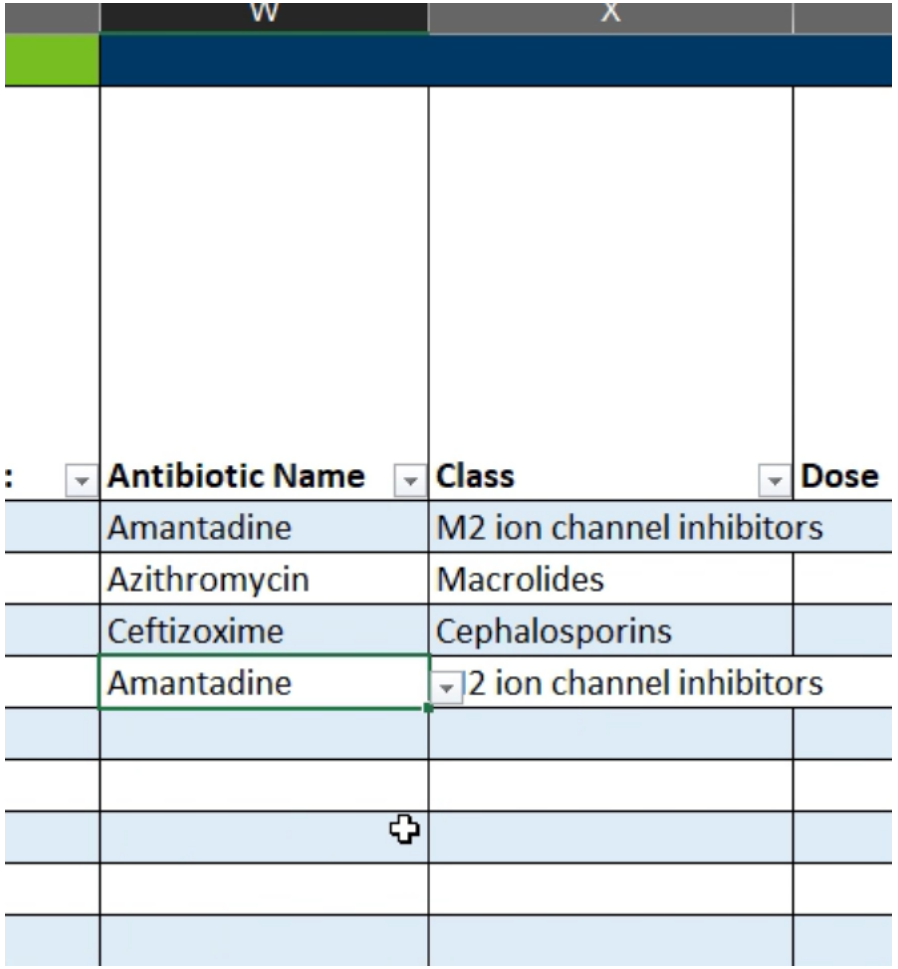
- ✓Resident name
- ✓Prescription or administration date
- ✓Antibiotic name and class
- ✓Days of therapy (DOT)
- ✓Route
- ✓Resident-days



	AD	AE	AF	A
in	Antibiotic Start Date	Antibiotic End Date	Total Days of Therapy	Meets Criteri Y/N
	4/18/2024	4/22/2024	5	

Essential Data Elements

- ✓Resident name
- ✓Prescription or administration date
- ✓Antibiotic name and class
- ✓Days of therapy (DOT)
- ✓Route
- ✓Resident-days



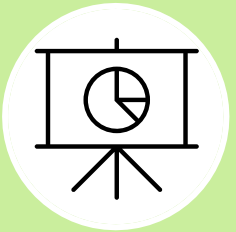
:	Antibiotic Name	Class	Dose
	Amantadine	M2 ion channel inhibitors	
	Azithromycin	Macrolides	
	Ceftizoxime	Cephalosporins	
	Amantadine	2 ion channel inhibitors	

Infection and Antibiotic Tracking Tool

Essential Data Elements

Antibiotic Use Measures for Tracking Antibiotic Use

Important Data Elements



Reporting Antibiotic Use and Outcomes

Important Data Elements

- ✓ Indication
- ✓Duration of the antibiotic course
- ✓Nursing home unit
- ✓Admission date
- ✓Prescriber

	F	G	
	Classification		
ction ıs es/No	Infection type	Body System of Infection	Surve defini Yes/N
	COVID-19 (SARS-C	Respiratory Tract	
	Norovirus	Gastrointestinal	
	Prophylaxis	Other	

Infection and Antibiotic Tracking Tool

Essential Data Elements

Antibiotic Use Measures for Tracking Antibiotic Use

Important Data Elements

Reporting Antibiotic Use and Outcomes

Summary Data

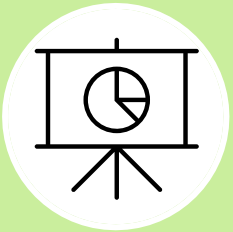
- ✓Total Days of Therapy
- ✓Days of Therapy (DOT) per 1,000 Resident Days
- ✓Total Infection Rates per 1,000 Resident Days
- ✓Infection Rates per 1,000 Resident Days
- ✓Prescription (Rx) Origin
- ✓Percent (%) Meeting Criteria
- ✓Antimicrobial Class Utilization

Infection and Antibiotic Tracking Tool

Essential Data Elements

Important Data Elements

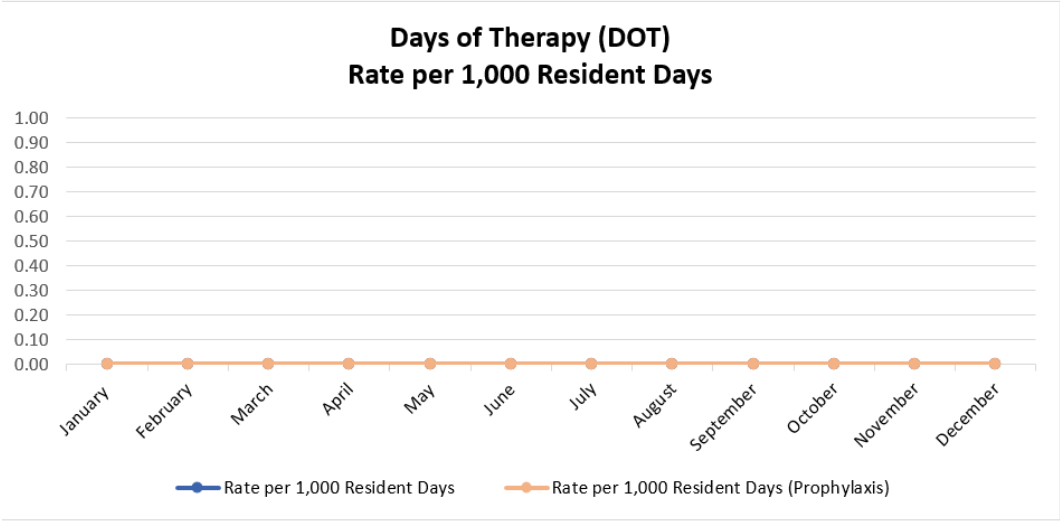
Antibiotic Use Measures for Tracking Antibiotic Use



Reporting Antibiotic Use and Outcomes

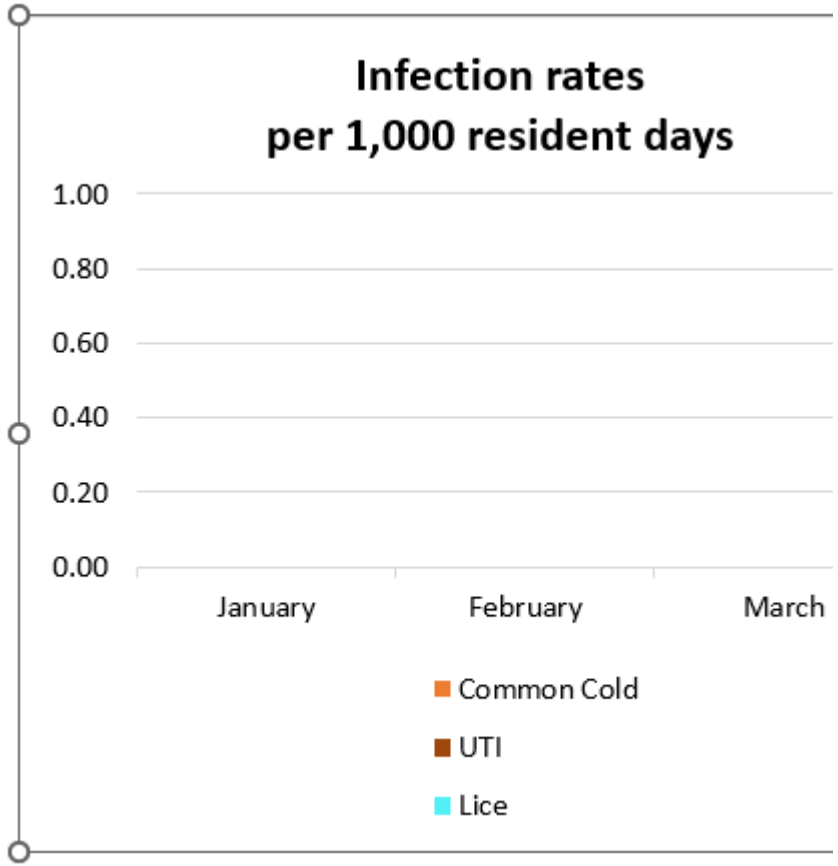
Days of Therapy

Total Days of Therapy				
Month	Total Days of Therapy per Month	Rate per 1,000 Resident Days	Total Days of Therapy per Month (Prophylaxis)	Rate per 1,000 Resident Days (Prophylaxis)
January	0	0.00	0.00	0.00
February	0	0.00	0.00	0.00
March	0	0.00	0.00	0.00
April	0	0.00	0.00	0.00
May	0	0.00	0.00	0.00
June	0	0.00	0.00	0.00
July	0	0.00	0.00	0.00
August	0	0.00	0.00	0.00
September	0	0.00	0.00	0.00
October	0	0.00	0.00	0.00
November	0	0.00	0.00	0.00
December	0	0.00	0.00	0.00

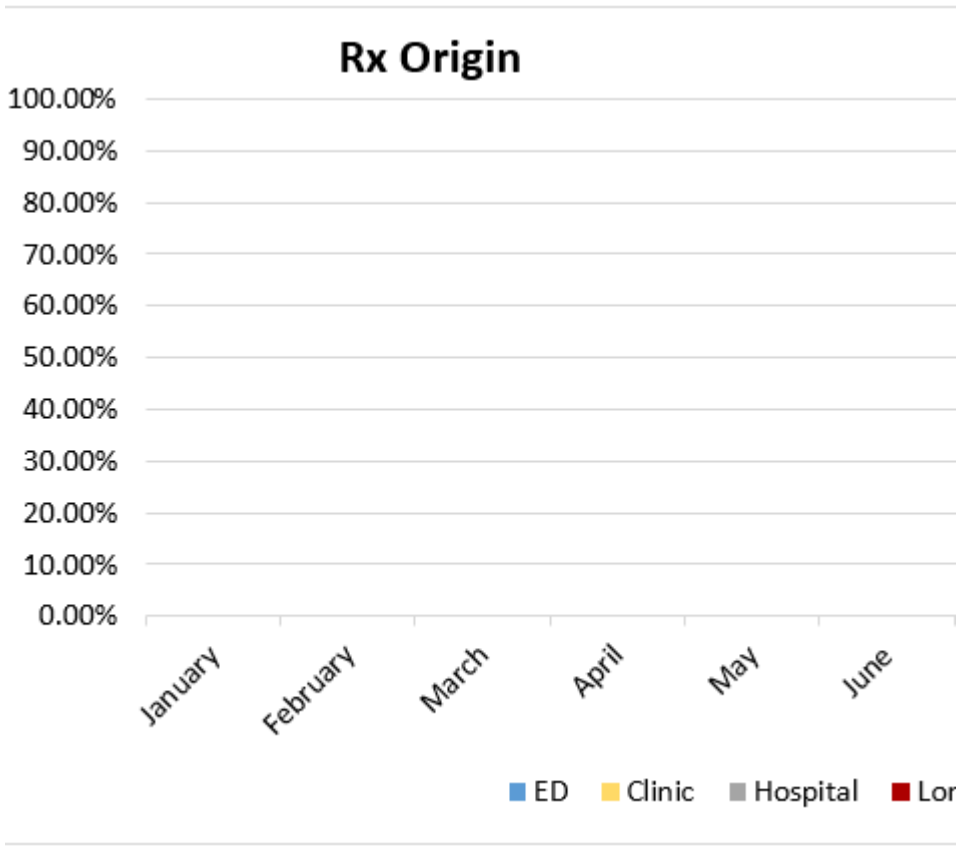


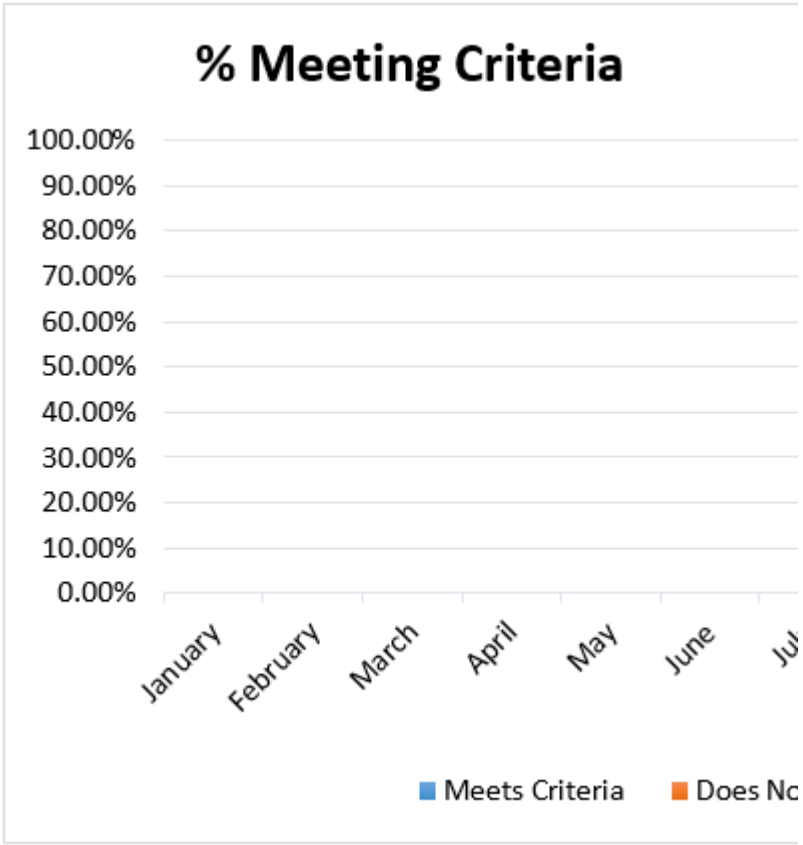
Infection Rates

Total Infection Rates per 1,000 Resident Days			
Month	Total	Common Cold	Pharyngitis
January	0.00	0.00	0.00
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

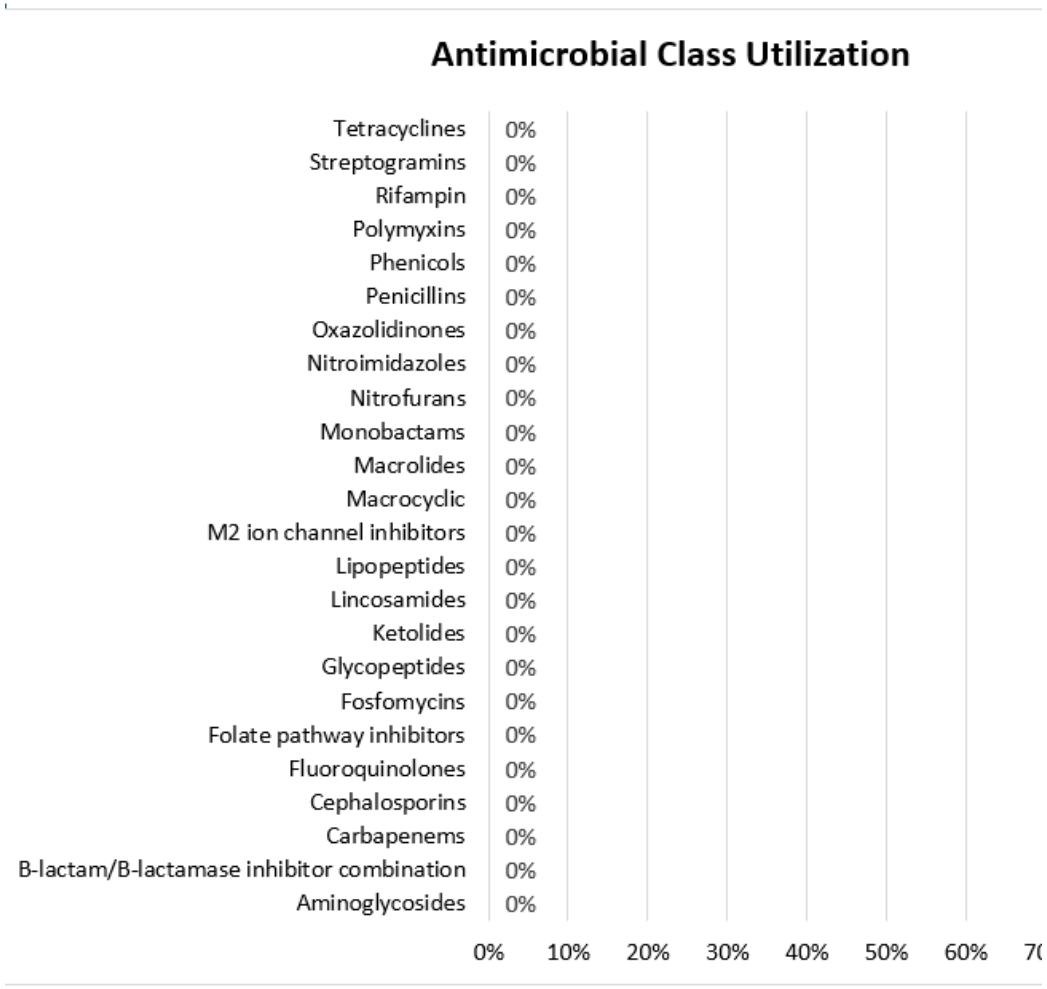


Rx Origin and % Meeting Criteria





Antimicrobial Class Utilization



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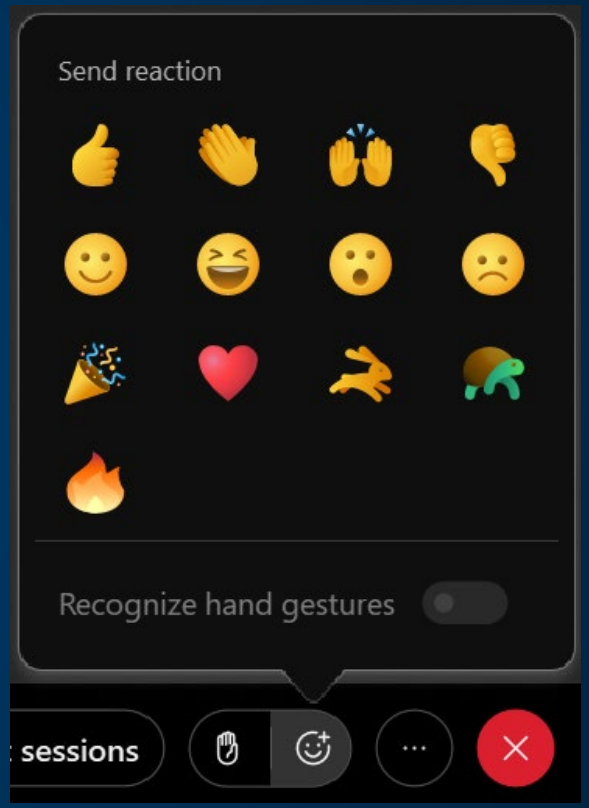
True or False



True/False: Long-term care resident will only ever be prescribed an antibiotic.

Think influenza….

True/False: Residents are always prescribed an antibiotic because of an infection.

Think of the letter ‘P’

True/False: Antibiotic therapy is prescribed within the same month.

True/False: Infections stop at month end.

True/False: Residents are only prescribed one antibiotic at a time.

True/False: Residents only have one infection per month.

Not so unique situations

- Provide a section to include other antimicrobials (i.e., antiviral and antifungal drugs)
- Residents on prophylaxis are considered during analysis
- You may enter a resident more than once if there is more than one infection within a month
- You may enter more than one antibiotic per resident per month
- Existing infections are documented and accounted for during analysis

Where to find the tracking tool?

- Minnesota Antimicrobial Stewardship Program Resources for Long-term Care Facilities (www.health.state.mn.us/diseases/antibioticresistance/hcp/asp/ltc/index.html)
  - Scroll down to Communication, decision-making and surveillance tools
  - Within the featured tools box:
    - **Infection and Antibiotic Use Tracking Tool Instructions** (www.health.state.mn.us/diseases/antibioticresistance/hcp/asp/ltc/apxlinstructions.pdf)
    - **Infection and Antibiotic Use Tracking Tool Workbook** (www.health.state.mn.us/diseases/antibioticresistance/hcp/asp/ltc/apxl.xlsx)
  - Under the Infection surveillance header:
    WebEx Recording: Infection and Antibiotic Use Tracking in Long-term Care (https://minnesota.webex.com/minnesota/k2/e.php?RCID=a93b9b1728a985588085cead03cfb061) (1 hour)
- Technical assistance:
  - Reach out to: Health.icar@state.mn.us

Resources

- CDC: Core Elements of Antibiotic Stewardship for Nursing Homes
  (www.cdc.gov/antibiotic-use/core-elements/nursing-homes.html)
  - Appendix B: Measures of antibiotic prescribing, use and outcomes
    (www.cdc.gov/antibiotic-use/core-elements/pdfs/core-elements-antibiotic-stewardship-appendix-b-508.pdf)
  - Appendix C: Data Sources, Elements, and Measures for Tracking Antibiotic Use in Nursing Homes
    (www.cdc.gov/antibiotic-use/core-elements/pdfs/Nursing-Homes-Core-Elements-C-508.pdf)
- CDC: Core Elements for Antibiotic Stewardship in Nursing Homes: What You Need to Know About Antibiotics in a Nursing Home
  (www.cdc.gov/antibiotic-use/core-elements/pdfs/factsheet-core-elements-what-you-need-to-know-508.pdf)
- AHRQ: About the Nursing Home Antimicrobial Stewardship Guide
  (www.ahrq.gov/nhguide/about/index.html)
- Washington State Department of Health: Nursing Home Resources
  (https://doh.wa.gov/public-health-healthcare-providers/healthcare-professions-and-facilities/healthcare-associated-infections/antibiotic-stewardship/nursing-homes)

Thank You!

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