

Building a Business Case for Developing an Antibiotic Stewardship Program in Your Skilled Nursing Facility

November 1, 2023

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Objectives

- Review the core elements of antibiotic stewardship in nursing homes.
- Discuss the importance of leadership involvement in building a strong antimicrobial stewardship (AMS) program.
- Examine how leveraging data can help improve buy-in and make a business case for incorporating strong practices into your AMS program.

Summary of Core Elements for Antibiotic Stewardship in Nursing Homes



Leadership commitment

Demonstrate support and commitment to safe and appropriate antibiotic use in your facility



Accountability

Identify physician, nursing and pharmacy leads responsible for promoting and overseeing antibiotic stewardship activities in your facility



Drug expertise

Establish access to consultant pharmacists or other individuals with experience or training in antibiotic stewardship for your facility



Action

Implement **at least one** policy or practice to improve antibiotic use



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



Education

Provide resources to clinicians, nursing staff, residents and families about antibiotic resistance and opportunities for improving antibiotic use

Why is Antibiotic Stewardship Important for Nursing Homes?



Cost-estimates of antibiotics in nursing homes range from

\$38 million to \$137 million per year.¹



Residents in nursing homes with higher antibiotic use have a

24% increased risk of antibiotic-related harm.²



In nursing homes with higher antibiotic use, **even residents who do**

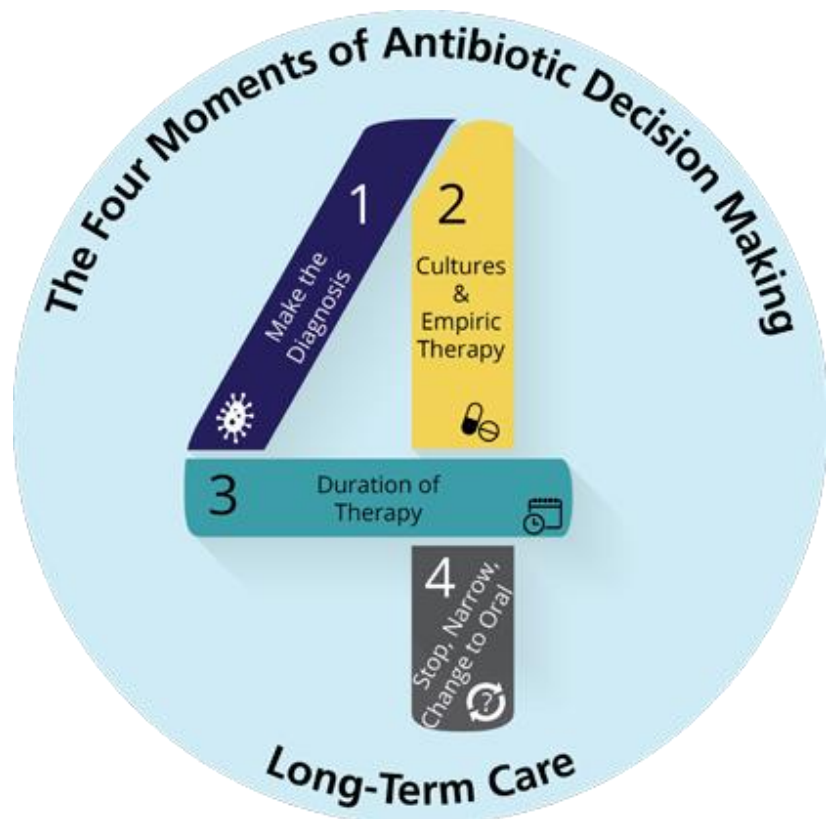
not receive antibiotics are at increased risk of indirect antibiotic-related harms due to the spread of resistant bacteria or *C. difficile* germs from other patients.²

Antibiotic Overuse and Consequences



Potential consequences:

- Allergic reactions
- Loss of appetite
- Diarrhea
- Kidney or liver damage
- Confusion or mental status changes
- Seizure
- Cardiac arrhythmias
- *Clostridioides difficile* infection
- Drug-resistance



1- Make the Diagnosis

2- Cultures & Empiric Therapy

3- Duration of Therapy

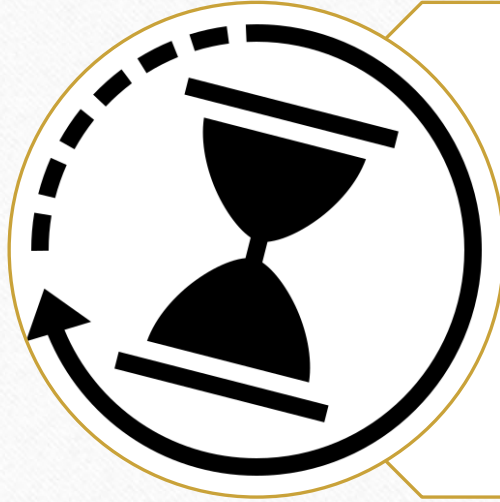
4- Stop, Narrow, Change to Oral



Moment 1: Make the Diagnosis- Does the resident have symptoms that suggest an infection?



Moment 2: Cultures & Empiric Therapy



Moment 3- Duration of Therapy



Moment 4-Stop, Narrow, Change to Oral

Deficiencies in Staff Education and Antibiotic Stewardship Knowledge and the Impact on Resident Care

Gouin et al. performed a quantitative and qualitative review of antibiotic stewardship citation deficiencies issued to nursing homes between September 2018-July 2019 across 44 states.

- 631 nursing homes that received an antibiotic stewardship deficiency were more likely to be for-profit or have small bed size (≤ 99) compared to 14,841 nursing homes that did not receive a citation.
- 318 randomly selected citation texts were categorized into 1 or more of 4 main categories based on the CDC's Core Elements of Antibiotic Stewardship.

Antibiotic Stewardship Deficiencies Citations for SNFs (2018-2019 in the U.S.)



Pair Feedback With Appropriate Education



- Antibiotic stewardship education
 - To all staff, at least annually
- Antibiotic use protocols
 - Distribute to all prescribers and nursing staff
 - At least biannually, update when new policies or guidelines are released
- Residents and caregivers should be educated and involved in the care process with any new prescription

Leveraging the Data

Collect and Analyze **Compliance** With Antibiotic Use Protocols

- Share audit feedback with healthcare providers and facility staff.
- Educate staff when compliance issues arise.

Measure Antibiotic Use

- Ensure a method is in place to monitor antibiotic use and address issues of elevated use with providers and staff.
- Provide education to staff when needed.

Monitor Antibiotic Use and Resistance

- Develop a method to monitor types of antibiotics used in the facility.
- Educate staff on how to interpret an antibiogram.

Resources to Help Get you Started

- [Template for an Antibiotic Stewardship Policy for Post-Acute and Long-Term Care Settings \(unc.edu\)](#)
- [Long-term Care Antibiotic Stewardship | A.R. & Patient Safety Portal \(cdc.gov\)](#)
- [CDC's Antibiotic Stewardship Course - CDC TRAIN - an affiliate of the TRAIN Learning Network powered by the Public Health Foundation](#)



Leadership Commitment and Drug Expertise

What Can I Do as a Leader to Improve Antibiotic Use?

- Share formal statements in support of improving antibiotic use with staff, residents and families.
- Print and distribute materials to educate staff, residents and families.
- Commit resources for monitoring antibiotic use and providing feedback to staff.
- Identify and empower the medical director, director of nursing, and/or consultant pharmacist to lead stewardship activities.

Continued Actions of a Leader

- Have clear policies to improve prescribing practices for staff to ensure patients are not started on antibiotics unless needed.
- Partner with antibiotic stewardship program leaders at hospitals and infectious diseases consultants in the community
- Review antibiotic appropriateness and resistance patterns on a regular basis.
- Share antibiotic usage feedback with prescribers

Leader Drug Expertise

- Develop facility-specific standards for empiric antibiotic use, based on data from the facility
- Establish minimum criteria for prescribing antibiotics
- Provide access to individuals with antibiotic expertise for support staff accountable for implementing antibiotic stewardship activities.

Building a Business Case

Building a Business Case

- Although the primary goals of an ASP are related to improvement in patient-related outcomes, the ASP can also result in cost-savings (or cost-avoidance) for health care facilities.



The Cost of Resistance

“Resistance” -

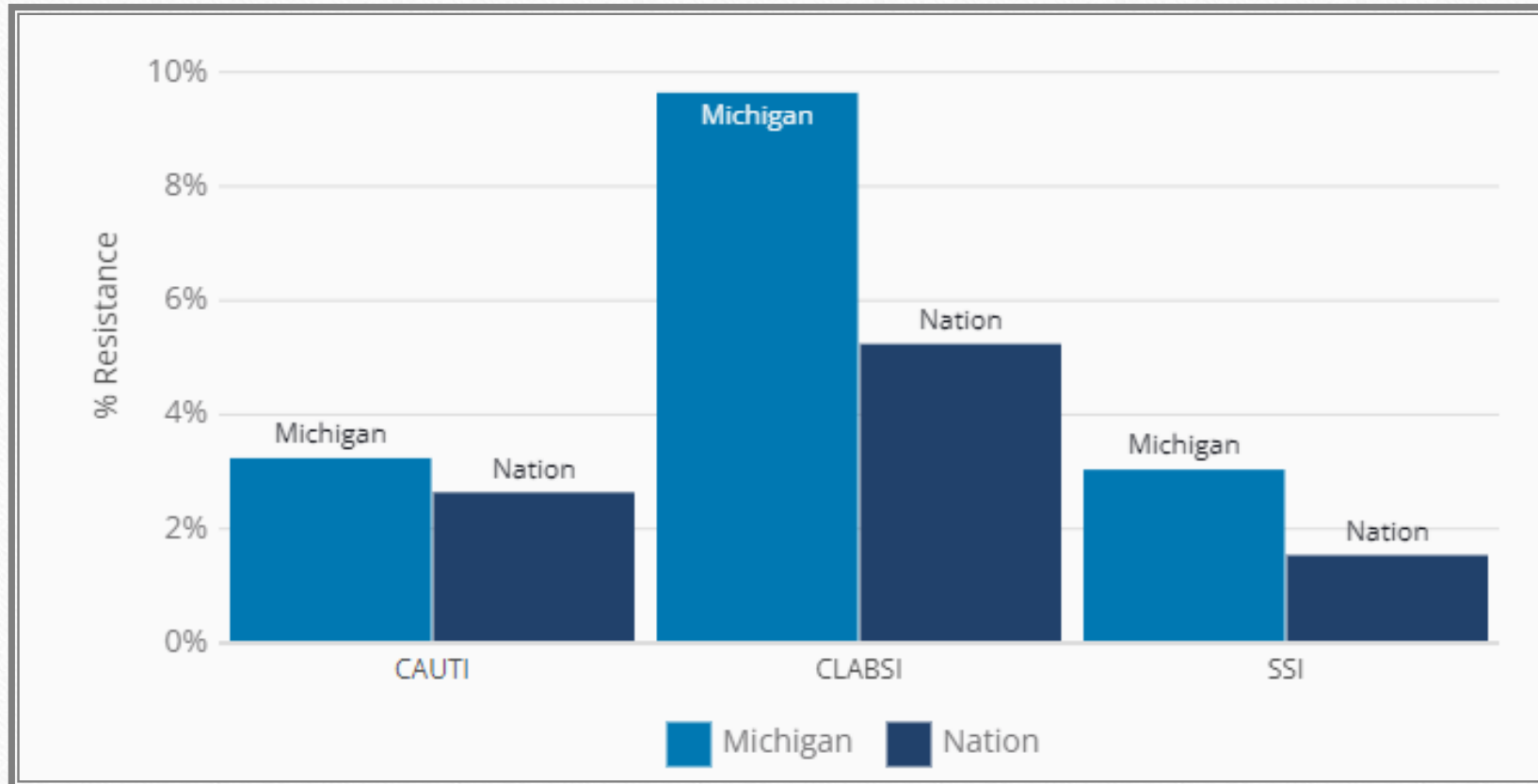
The tendency for a bacteria to develop a resistance to one or more antibiotics.

This can occur when antibiotics are used repetitively.

Resistant infections prolong length of hospital stay by 24% and increase costs by 29% vs. susceptible infections (Maudlin et al. Antimicrobial Agent and Chemotherapy (2010) 54:109–115)

Antibiotic resistance costs in the U.S.- 8 million additional hospital days and \$21-34 billion/year (2009 dollars using CPI) (Roberts et al. Clinical Infectious Diseases (2009) 49:1175-84; & PRN Newswire —Antibiotic-Resistant Infections Cost the U.S.)

% Antibiotic Resistance by HAI Type



Areas of Reduced Costs

- IV:PO conversions
- Reductions in use of high-cost antimicrobials
- Reductions in performing therapeutic drug monitoring (TDM) lab tests
- Reduction in overall antimicrobial use

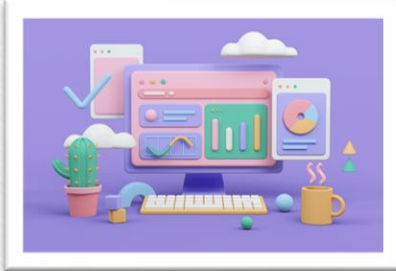
Reduced Costly Outcomes

- Reduced incidence of *C. difficile*
- Reductions in rates of antibiotic resistance among health care facility–associated pathogens
- Reduced incidence of toxicity

Key Takeaways



Feedback paired with education for prescribers and staff is key to sustainability of your program



Choose a method to monitor and measure your antibiotic usage—make this a regular activity



Share your successes and distribute the data for buy-in and continued support

Summary

- ASPs must be implemented and sustained with commitment from facility leaders
- ASP implementation is a CMS requirement
- ASPs produce benefits, improving quality and safety of care for residents
- Data from hospitals shows that ASPs produce cost savings despite expenditures to establish and maintain an ASP
- In long-term care ASPs can prevent expenditures on unnecessary antibiotics and avoid some costly *C.diff* infections

Other Resources

- CMS Development of an Antibiotic Stewardship Program for Nursing Home Providers: <https://qsep.cms.gov/data/251/DEVELO1.PDF>
- AHRQ Toolkit to Improve Antibiotic Use in Long-term Care: <https://www.ahrq.gov/antibiotic-use/long-term-care/index.html>
- Indiana Long-term Care Antibiotic Stewardship Toolkit: <https://www.in.gov/health/idepd/files/CoverPageAntibioticStewardshipToolkit.pdf>