

# **Antibiotic Stewardship in Nursing Home & Outpatient Settings**

**A patient-centered quality  
improvement project**



# Antibiotic Stewardship Initiative Overview

- Overview of the Centers for Medicare & Medicaid Services (CMS) quality goals and strategy for antibiotic stewardship
- Define initiative for implementation of antibiotic stewardship in nursing homes
- Define initiative for implementation of antibiotic stewardship in the outpatient setting

# CMS Quality Goals and Strategy (2014-2019)



# CMS Quality Strategy

- Promote medication safety such as antimicrobial stewardship programs through the continuum of care
- Engage individuals and families as partners in appropriate antibiotic prescribing
- Implement strategies to protect patients from healthcare-associated infections (HAIs), antibiotic resistance and patient harm

# Antibiotic Stewardship

- Set of commitments and activities designed to optimize the treatment of infections while reducing the adverse events associated with antibiotic use
- Overall goals
  - improve antibiotic prescribing practices
  - reduce inappropriate use
  - optimize clinical outcomes
  - minimize unintended consequences
  - improve antibiotic stewardship patient education

# Antibiotic Stewardship Program Initiative Goals

- Advance antibiotic resistance prevention through education
- Reduce inappropriate antibiotic use
- Slow development of resistant bacteria and prevent the infections they cause
- Reduce admissions and readmissions related to preventable infections such as C. Difficile

# CMS Antibiotic Stewardship Initiative in Nursing Homes

## Background

- 40% - 75% of antibiotics prescribed in nursing homes may be unnecessary or inappropriate
- Harms from antibiotics can lead to serious adverse events
  - *Clostridioides difficile* infections
  - Increased adverse drug events and Drug interactions
  - Colonization or infection with antibiotic-resistant organisms

<https://www.cdc.gov/longtermcare/index.html>

# Antibiotic Stewardship in Nursing Homes

- CDC supports antibiotic stewardship - single most important action needed to slow down the development and spread of antibiotic resistant infections
- CMS LTC Final Rule, 483.80 *mandates an antibiotic stewardship program* as part of the Infection Control Program (by 11/28/17)



# CDC Antibiotic Stewardship Core Elements for Nursing Homes

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




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

# Monitor progress in Antibiotic Stewardship Implementation

## Antibiotic Stewardship core elements facility checklist

- provides an outline of current antibiotic stewardship program and guidance to develop it further
- <https://www.cdc.gov/longtermcare/pdfs/core-elements-antibiotic-stewardship-checklist.pdf>



### Checklist for Core Elements of Antibiotic Stewardship in Nursing Homes

The following checklist is a companion to the Core Elements of Antibiotic Stewardship in Nursing Homes. The CDC recommends that all nursing homes take steps to implement antibiotic stewardship activities. Before getting started, use this checklist as a baseline assessment of policies and practices which are in place. Then use the checklist to review progress in expanding stewardship activities on a regular basis (e.g., annually). Over time, implement activities for each element in a step-wise fashion.

LEADERSHIP SUPPORT	ESTABLISHED AT FACILITY
1. Can your facility demonstrate leadership support for antibiotic stewardship through one or more of the following actions? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If yes, indicate which of the following are in place (select all that apply)	
<input type="checkbox"/> Written statement of leadership support to improve antibiotic use	
<input type="checkbox"/> Antibiotic stewardship duties included in medical director position description	
<input type="checkbox"/> Antibiotic stewardship duties included in director of nursing position description	
<input type="checkbox"/> Leadership monitors whether antibiotic stewardship policies are followed	
<input type="checkbox"/> Antibiotic use and resistance data is reviewed in quality assurance meetings	
ACCOUNTABILITY	
2. Has your facility identified a lead(s) for antibiotic stewardship activities? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If yes, indicate who is accountable for stewardship activities (select all that apply)	
<input type="checkbox"/> Medical director	
<input type="checkbox"/> Director or assistant director of nursing services	
<input type="checkbox"/> Consultant pharmacist	
<input type="checkbox"/> Other: _____	
DRUG EXPERTISE	
3. Does your facility have access to individual(s) with antibiotic stewardship expertise? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If yes, indicate who is accountable for stewardship activities (select all that apply)	
<input type="checkbox"/> Consultant pharmacy has staff trained/is experienced in antibiotic stewardship	
<input type="checkbox"/> Partnering with stewardship team at referral hospital	
<input type="checkbox"/> External infectious disease/stewardship consultant	
<input type="checkbox"/> Other: _____	
ACTIONS TO IMPROVE USE	
4. Does your facility have policies to improve antibiotic prescribing/use? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If yes, indicate which policies are in place (select all that apply)	
<input type="checkbox"/> Requires prescribers to document a dose, duration, and indication for all antibiotic prescriptions	
<input type="checkbox"/> Developed facility-specific algorithm for assessing residents	
<input type="checkbox"/> Developed facility-specific algorithms for appropriate diagnostic testing (e.g., obtaining cultures) for specific infections	
<input type="checkbox"/> Developed facility-specific treatment recommendations for infections	
<input type="checkbox"/> Reviews antibiotic agents listed on the medication formulary	
<input type="checkbox"/> Other: _____	

CENTERS FOR DISEASE CONTROL AND PREVENTION | CORE ELEMENTS OF ANTIBIOTIC STEWARDSHIP FOR NURSING HOMES 2

# Nursing Home Antibiotic Stewardship Monitoring Measures

## Process measures

- Track how and why antibiotics are prescribed

## Antibiotic use measures

- Track how often and how many antibiotics are prescribed

## Antibiotic outcome measures

- Track the adverse outcomes and costs from antibiotics
- Use of National Healthcare Safety Network (NHSN) to track rates of *C. difficile*
- Use of NHSN for surveillance of CDI

# CMS Antibiotic Stewardship Initiative in the Outpatient Setting

## Background

- Antibiotic use, particularly overuse and misuse is the greatest risk factor for the development of antibiotic resistance
- Based on current prescribing data, experts determined that at least 30 percent of overall antibiotic use in outpatient settings is unnecessary\*

\*U.S. Centers for Disease Control and Prevention and PEW Charitable Trust, Joint Statement on Importance of Outpatient Antibiotic Stewardship from 12 National Health Organizations. October 5, 2015

# Impact

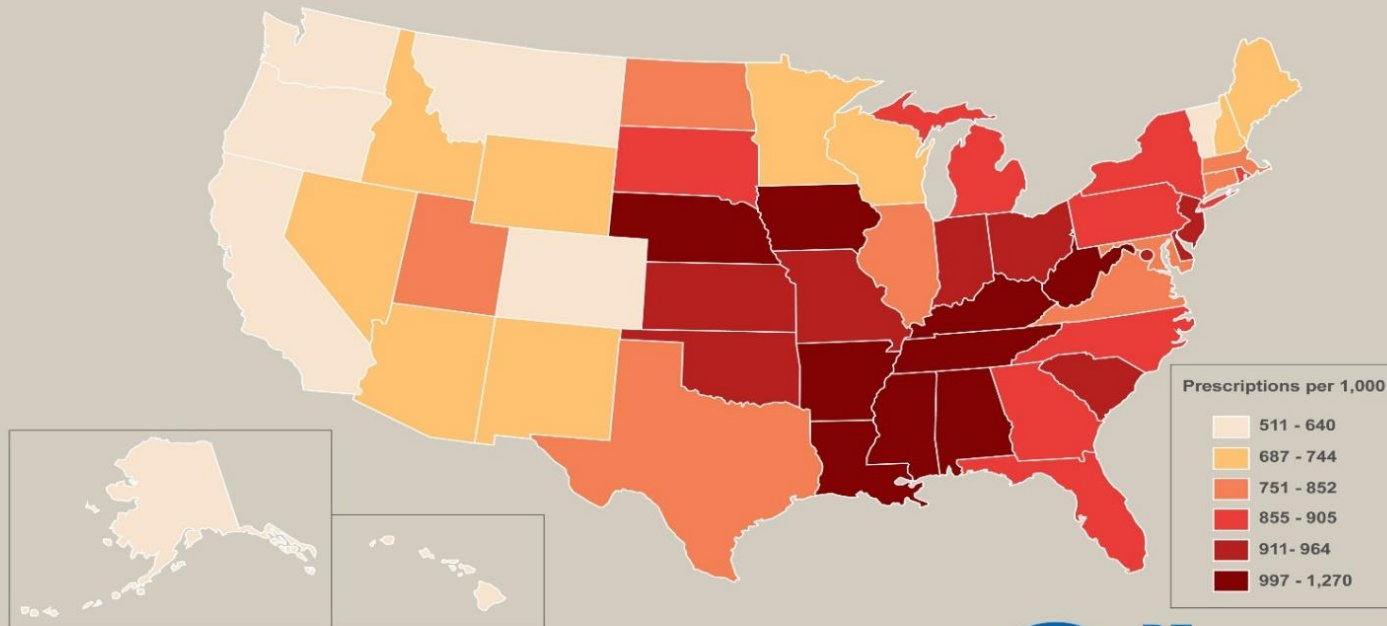
- Estimated 80-90% of the volume of human antibiotic use occurs in the outpatient setting
- Majority (>60%) of antibiotic expenditures are associated with the outpatient setting
- Total inappropriate antibiotic use, inclusive of unnecessary use and inappropriate selection, dosing and duration, may approach 50% of all outpatient antibiotic use

<https://www.cdc.gov/antibiotic-use/community/programs-measurement/measuring-antibiotic-prescribing.html>

# Outpatient Antibiotic Prescribing Map

## Community Antibiotic Prescriptions per 1,000 Population by State - 2016

Each year 270.2 million antibiotic prescriptions are written in the United States; equivalent to 836 antibiotic prescriptions per 1,000 persons.



Data source: IQVIA Xponent 2016



# Antibiotic Stewardship in Outpatient Setting Goals

- Improve efforts to measure and improve how antibiotics are prescribed by clinicians and used by patients
- Improving antibiotic prescribing involves implementing effective strategies to modify prescribing practices to align them with evidence-based recommendations for diagnosis and management

# Implementing CDC's Core Elements in Outpatient Antibiotic Stewardship

- **Commitment:** demonstrated dedication to and accountability for optimizing antibiotic prescribing and patient safety
- **Action for policy and practice:** implement at least one policy or practice to improve antibiotic prescribing, assess whether it is working, and modify as needed
- **Tracking and reporting:** monitor antibiotic prescribing practices and offer regular feedback to clinicians or have clinicians assess their own antibiotic use
- **Education and expertise:** provide educational resources to clinicians and patients on antibiotic prescribing and ensure access to needed expertise on antibiotic prescribing

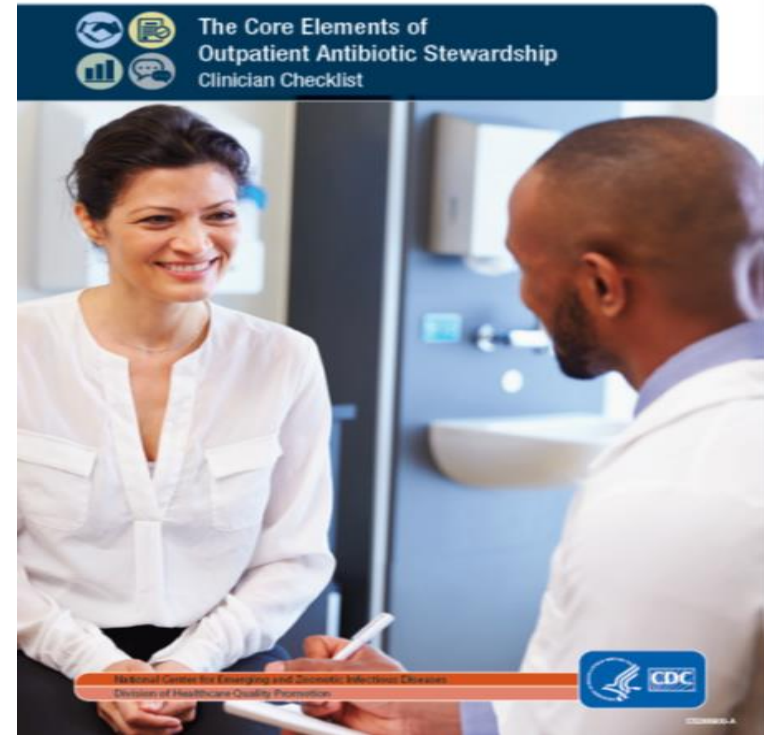
<https://www.cdc.gov/antibiotic-use/community/improving-prescribing/core-elements/core-outpatient-stewardship.html>



# Monitor Implementation Progress

## Complete the Core Elements Outpatient checklist

- Provides a gap analysis of current antibiotic stewardship program and guidance for developing it further
- Assists with targeting change packages, resources and tools to improve



<https://www.cdc.gov/antibiotic-use/community/improving-prescribing/core-elements/core-outpatient-stewardship.html>

# Interventions Developed

- Implementation strategies – Change package
- Data collection resources
- Clinical practice guidelines
- Tools such as on demand videos, sample treatment protocols/recommendations, waiting room videos, commitment posters
- Standardized communication strategies
- Patient and family education material

<https://www.lsqin.org/initiatives/asp/resources-for-pharmacies/>

# Take-Home Messages

- Antibiotic stewardship helps reduce inappropriate antibiotic use in all settings
- Inappropriate use causes development of resistant bacteria which can be very difficult and costly to treat
- Multiple antibiotic stewardship strategies in nursing homes and outpatient settings can be implemented to improve quality care and decrease patient harm

# Nursing Home Antibiotic Stewardship Resources

- [AHRQ Nursing Home Antimicrobial Stewardship Guide](#)
- [The Core Elements of Antibiotic Stewardship for Nursing Homes](#)
- [Implementing an Antibiotic Stewardship Program: Guidelines by the Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America](#)
- [Learning Session LSQIN #4 Antibiotic stewardship and C.difficile](#)
- [Minnesota Antimicrobial Stewardship Program Toolkit for Long-Term Care Facilities](#)
- [Nursing Home Antibiotic Stewardship tip sheet](#)

# Outpatient Antibiotic Stewardship Resources

- [A Field Guide to Antibiotic Stewardship in Outpatient Settings](#)
- [Antibiotic Stewardship sustainability toolkit for the outpatient setting](#)
- [CDC Core Elements of Outpatient Antibiotic Stewardship](#)
- [CDC Patient safety Atlas](#)
- [Choosing Wisely Antibiotic stewardship campaign](#)
- [Community Pharmacy Antibiotic Stewardship toolkit](#)
- [LSQIN Antibiotic resources for communities and pharmacies](#)
- [MITIGATE Antimicrobial Stewardship toolkit](#)
- [Outpatient Antibiotic Stewardship tip sheet](#)
- [Reducing Inappropriate Antibiotic Prescribing in Outpatient Settings Using Behavioral Intervention webinar](#)

# Thank you

**Helping Healthcare Get Better**

22671 Haggerty Road, Suite 100

Farmington Hills, MI 48335

248-465-7300 | [mpro.org](http://mpro.org)

