



# Antibiotic Stewardship Program Resources for Long-Term Care (LTC)

## The Core Elements of Antibiotic Stewardship for Nursing Homes

adapts the CDC Core Elements of Hospital Antibiotic Stewardship into practical ways to initiate or expand antibiotic stewardship activities in nursing homes. Nursing homes are encouraged to work in a step-wise fashion, implementing one or two activities to start and gradually adding new strategies from each element over time. Any action taken to improve antibiotic use is expected to reduce adverse events, prevent emergence of resistance and lead to better outcomes for residents in this setting.



[Checklist: Core Elements of Antibiotic Stewardship for Nursing Homes](#)



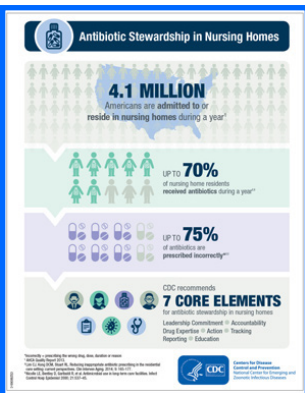
[Appendix A: Policy and practice actions to improve antibiotic use](#)



[Appendix B: Measures of antibiotic prescribing, use and outcomes](#)

## Facts Sheets

Fact sheets are a quick and easy way of communicating information in an efficient manner.



[Informatics: Antimitotic Stewardship in Nursing Homes](#)

[Core Elements Leading Antibiotic Stewardship](#)

[Creating a Culture to Improve Antibiotic Use in Nursing Homes](#)

## Toolkits

The [Nursing Home Antimicrobial Stewardship Guide](#) provides toolkits to help nursing homes optimize their use of antibiotics. This page provides information about antimicrobial stewardship and why it is important for nursing homes, and describes how the guide can be used.

The “[Browse Antimicrobial Toolkits](#)” section describes the toolkits, and the “[Choosing the Right Toolkit](#)” section provides some ideas to help nursing homes choose toolkits to use. Each toolkit includes an “overview” that describes why a nursing home might want to use the toolkit, what tools it includes, and provides step-by-step instructions for implementation. Many of the toolkits have been tested in nursing homes to see whether they had an impact on antibiotic use, and if so, how. Each toolkit includes information about any testing that has.



## Helpful Resources

These new educational materials are intended for use in training front-line personnel in nursing homes and other long-term care facilities. The materials were developed for the Agency for Healthcare Research and Quality (AHRQ) under a contract to the RAND Corporation.

- [AHRQ Improving Patient Safety in Long-term Care Facilities](#)

Deciding when to initiate antibiotics can be particularly challenging.

The “[Development of Minimum Criteria for the Initiation of Antibiotics in Residents of Long-Term-Care Facilities: Results of a Consensus Conference](#)” is also known as the Loeb Criteria.



In recognition of the differences between long-term care facilities and hospitals with regard to hosts and resources present, the Infectious Diseases Society of America first provided guidelines for evaluation of fever and infection in LTCF residents in 2000. “[Clinical practice guideline for the evaluation of fever and infection in older adult residents of long-term care facilities: 2008 update by the Infectious Diseases Society of America](#)” is a guideline in the second edition, updated by data generated over the intervening eight years.



The Centers for Disease Control and Prevention (CDC) released its [March 2016 Vital Signs report](#) focused on protecting patients from healthcare-associated infections (HAIs), including those caused by antibiotic resistant bacteria.



[Be Antibiotics Aware](#) is a CDC campaign focused on improving prescribing practices in outpatient and inpatient healthcare facilities. Print products are available for different audiences. It also has access to assessment tools for appropriateness for antibiotics:

- [Urinary Tract Infections](#)
- [Community-Acquired Pneumonia](#)



The U.S. Department of Health and Human Services (HHS) has identified the reduction of HAIs as an Agency Priority Goal for the Department and is committed to reducing the national rate of HAIs by demonstrating significant, quantitative, and measurable reductions in hospital-acquired central line-associated bloodstream infections and catheter-associated urinary tract infections.

[National Action Plan to Prevent Health Care-Associated Infections: Road Map to Elimination Health Care-Associated Infections \(HAIs\)](#) provides specifics related to the plan. [Phase three: LTC Facilities](#) is referenced. Page eight includes specifics about antibiotic use and resistance in nursing homes. Page 18 lists:



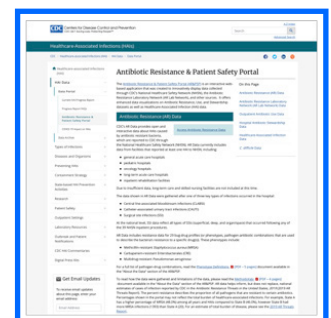
- Priority Area 1: Enrollment in NHSN for Nursing Home Infection Surveillance Activity
- Priority Area 2: Clostridium difficile Infection
- Priority Area 3: Vaccination for Residents (Influenza, Pneumococcal)
- Priority Area 4: Health Care Personnel Influenza Vaccination
- Priority Area 5: Urinary Tract Infections, Catheter-Associated Urinary Tract Infections, and Catheter Care Processes

[National Action Plan for Combating Antibiotic-resistant Bacteria](#) was released in March of 2015. Although its primary purpose is to guide activities by the U.S. Government, the National Action Plan is also designed to guide action by public health, healthcare and veterinary partners in a common effort to address urgent and serious drug-resistant threats that affect people in the U.S. and around the world. Implementation of the National Action Plan will also support World Health Assembly resolution 67.25 (Antimicrobial Resistance), which urges countries to take urgent action at the national, regional and local levels to combat resistance.

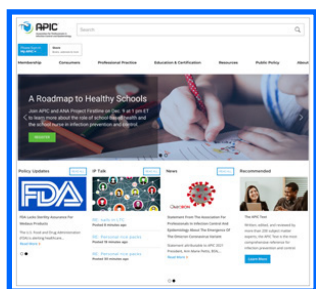
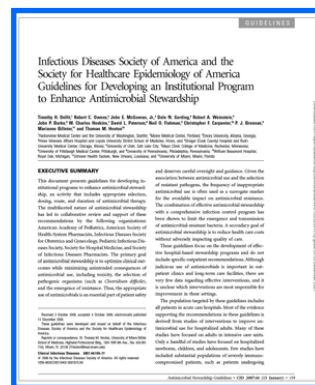


- Slow the Emergence of Resistant Bacteria, Prevent the Spread of Resistant Infections – page 11
- Strengthen National One-Health Surveillance Efforts to Combat Resistance – page 24
- Advance Development and Use of Rapid and Innovative Diagnostic Tests for Identification and Characterization of Resistant Bacteria – page 36
- Accelerate Basic and Applied Research and Development for New Antibiotics, Other Therapeutics and Vaccines – page 40
- Improve International Collaboration and Capacities for Antibiotic-resistance Prevention, Surveillance, Control and Antibiotic Research and Development – page 49

[Antibiotic Resistance & Patient Safety Portal](#) is an interactive web-based application that was created to innovatively display data collected through CDC's National Healthcare Safety Network (NHSN), the Antibiotic Resistance Laboratory Network (AR Lab Network), and other sources. It offers enhanced data visualizations on Antibiotic Resistance, Use, and Stewardship datasets as well as Healthcare-Associated Infection (HAI) data.



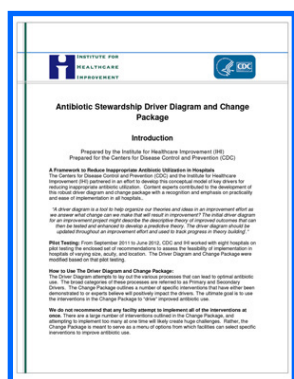
[“Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America Guidelines for Developing an Institutional Program to Enhance Antimicrobial Stewardship”](#) presents guidelines for developing institutional programs to enhance antimicrobial stewardship, an activity that includes appropriate selection, dosing, route, and duration of antimicrobial therapy. The multifaceted nature of antimicrobial stewardship has led to collaborative review and support of these recommendations by the following organizations: American Academy of Pediatrics, American Society of Health-System Pharmacists, Infectious Diseases Society for Obstetrics and Gynecology, Pediatric Infectious Diseases Society, Society for Hospital Medicine and Society of Infectious Diseases Pharmacists.



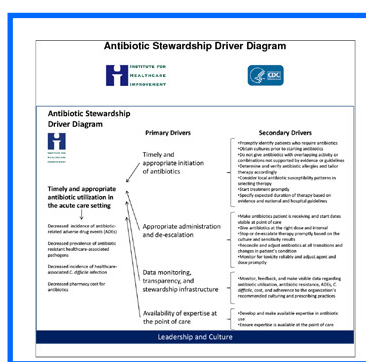
Infection preventionists and healthcare epidemiologists play key roles in promoting effective antimicrobial stewardship in collaboration with other health professionals, according to a joint position paper published by [APIC](#) and [SHEA](#) in their respective peer-review journals, the American Journal of Infection Control and Infection Control & Hospital Epidemiology. [“Antimicrobial Stewardship: A Collaborative Partnership between Infection Preventionists and Health Care Epidemiologists”](#)



The CDC and the [Institute for Healthcare Improvement \(IHI\)](#) partnered in an effort to develop this conceptual model of key drivers for reducing inappropriate antibiotic utilization. Content experts contributed to the development of this robust driver diagram and change package with a recognition and emphasis on practicality and ease of implementation in all hospitals.



[Antibiotic Stewardship Driver Diagram and Change Package](#)

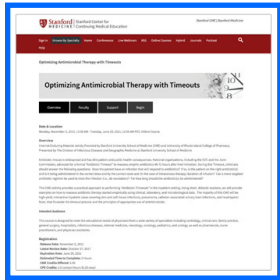
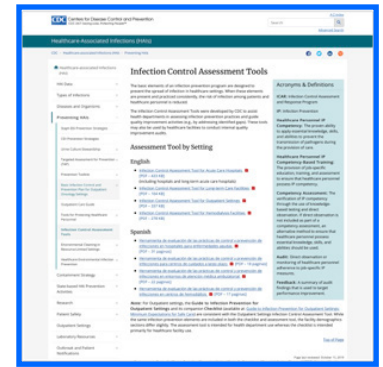


[Antibiotic Stewardship Driver Diagram](#)

Outcomes	Measure
Healthcare-associated (HCA) antibiotic resistance	<ul style="list-style-type: none"> <li>Rate of antibiotic resistance (e.g., MRSA, VRE, C. difficile) at the end of stay</li> <li>Rate of antibiotic resistance (e.g., MRSA, VRE, C. difficile) at the end of stay</li> <li>Rate of antibiotic resistance (e.g., MRSA, VRE, C. difficile) at the end of stay</li> </ul>
Primary Driver	<ul style="list-style-type: none"> <li>Percentage of antibiotic prescriptions that are appropriate</li> <li>Percentage of antibiotic prescriptions that are appropriate</li> <li>Percentage of antibiotic prescriptions that are appropriate</li> </ul>
Secondary Driver	<ul style="list-style-type: none"> <li>Percentage of antibiotic prescriptions that are appropriate</li> <li>Percentage of antibiotic prescriptions that are appropriate</li> <li>Percentage of antibiotic prescriptions that are appropriate</li> </ul>

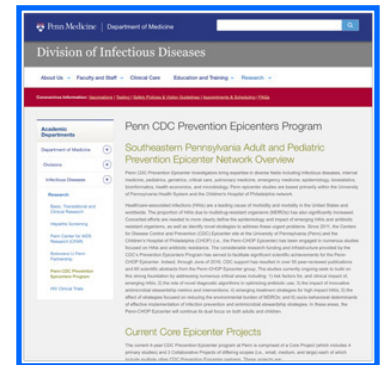
[Antibiotic Stewardship Measurement Framework](#)

The [Infection Control Assessment Tools](#) were developed by CDC for awardees under the [Epidemiology and Laboratory Capacity \(ELC\) Infection Control Assessment and Response \(ICAR\)](#) Program to assist health departments in assessing infection prevention practices and guide quality improvement activities (e.g., by addressing identified gaps). These tools may also be used by healthcare facilities to conduct internal quality improvement audits.

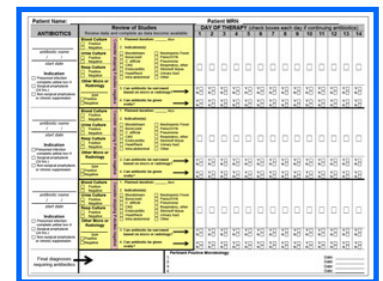


Antibiotic misuse is widespread and has dire patient and public health consequences. National organizations, including the CDC and the Joint Commission, advocate for a formal “[Antibiotic Timeout](#)” to reassess empiric antibiotics 48-72 hours after their initiation.

This CME/CPE activity provides a practical approach to performing “Antibiotic Timeouts” in the inpatient setting. Using short, didactic sessions, they provide examples on how to reassess antibiotic therapy started empirically using clinical, laboratory and microbiological data. The majority of this CME/CPE is high-yield, interactive inpatient cases covering skin and soft tissue infections, pneumonia, catheter-associated urinary tract infections and neutropenic fever that illustrate the timeout process and the principles of appropriate use of antimicrobials.



[The Penn CDC Prevention Epicenter Site](#) represents a broad collaboration across multiple institutions in southeastern Pennsylvania with a dual focus on adult and pediatric patient populations. Penn Epicenter investigators bring expertise in diverse fields including infectious diseases, internal medicine, pediatrics, geriatrics, critical care, pulmonary medicine, emergency medicine, epidemiology, biostatistics, bioinformatics, health economics and microbiology. It includes access to the [Penn CDC Antimicrobial Stewardship Checklist \(flowsheet\)](#) to document your review of an infection.



[Stewardship-Education.org](#) is a resource for antimicrobial stewardship training, policy and research.

**NOTE:** Resource links are provided and accurate at time of production. All links are external and are not the responsibility of Qsource.

[qio.qsource.org](http://qio.qsource.org)