



TEXAS

Health and Human Services

**Texas Department of
State Health Services**

Antimicrobial Stewardship: 2023 Report

Prepared January 2024

Introduction

[Antimicrobial resistance](#) (AR) occurs when germs, like bacteria, develop the ability to fight the medicines designed to kill them. AR is an ongoing global public health challenge that negatively impacts humans and animals. The Centers for Disease Control and Prevention (CDC) [reported](#) 2.8 million infections and 35,900 deaths from AR in the United States (U.S.) each year, costing \$4.6 billion annually. According to the [CDC 2022 Antibiotic Use Report](#), outpatient antimicrobial prescriptions are highest in the Southern U.S. and continue rising. Texas averages outpace national averages for both antimicrobial prescriptions and AR, as seen on the [CDC Patient Safety Portal](#).

Nursing home (NH) and skilled nursing facility (SNF) residents are particularly vulnerable to AR due to increased antimicrobial exposure during facility stays, decreasing the efficacy of antimicrobial medicines (i.e., resistance). AR increases treatment failures, morbidity, mortality, hospitalization risk, and the use of expensive antibiotics (when more commonly prescribed medications are ineffective due to resistance). To address AR, healthcare facilities across Texas engage in antimicrobial stewardship (AS) activities. AS refers to activities designed to optimize the treatment of infections while reducing negative events associated with antimicrobial use (AU).

The Texas Department of State Health Services' (DSHS) [AS team](#) works with Texas facilities to promote appropriate AU and decrease AR through the CDC's "Five D's" and Core Elements of AS.

"Five D's" of Antimicrobial Stewardship

The [CDC's "Five D's" of AS](#) are designed to keep individuals healthy and prevent diseases from disrupting lives. Therefore, it is essential that all healthcare professionals actively participate in and support cautious AU by following these "Five D's" of AS.

1. **Diagnosis:** Does the patient's diagnosis require AU?
2. **Drug choice:** Which medicine best treats the organism that is present?
3. **Dose:** Is the recommended dose within the correct range?
4. **Duration of therapy:** What is the appropriate medication duration?
5. **De-escalation:** If the bacteria or virus is no longer present, can the medicine be reduced or stopped to prevent excess AU?

Core Elements of Antimicrobial Stewardship

The [CDC's Core Elements of AS](#) provide guidelines for professionals to build an effective AS program across healthcare settings, leading to better patient safety and outcomes. The Core Elements of AS include:

1. **Leadership commitment:** dedicate safe and effective AU within healthcare setting.
2. **Accountability:** single leader responsible for overseeing AS activities.
3. **Drug expertise:** access to pharmacy expert or other with AS training.
4. **Action:** implement at least one recommended action to improve AS.
5. **Tracking:** monitor antimicrobial prescribing and resistance patterns.
6. **Reporting:** report antimicrobial prescribing and resistance patterns.
7. **Education:** inform professionals about AR, optimal and excessive prescribing.

Texas' Core Elements of Antimicrobial Stewardship Rates

The [CDC reports that 96% of Texas hospitals](#) implemented all seven AS Core Elements in 2022, an increase [from 38% of hospitals in 2014](#). Similarly, [89% of Texas long-term care facilities](#) implemented all seven Core Elements in 2022. Despite long-term care facilities facing higher AR rates — presumably due to longer facility stays and more immunocompromised patients — implementation of the Core Elements shows a strong dedication to improving AS in hospitals and long-term care facilities.

2023 Projects

Antimicrobial Stewardship Webinar

The AS team hosted a three-day virtual AS policy writing and implementation workshop for nursing homes and skilled nursing facilities in July 2023. Around 100 professionals attended the workshop for continuing education credit.

Antimicrobial Stewardship Regional Advisory Committees

As directed by [House Bill 1848](#), an [AS Regional Advisory Committee](#) (ASRAC) was established in each of Texas' eight public health regions (PHRs). Every ASRAC had five voting members, including physicians, directors of nursing, public health professionals, pharmacists, and microbiologists. These meetings were open to the public, with meeting notices and agendas posted on the [ASRAC webpage](#). In 2023, each PHR met 1-2 times. The first meetings were

introductory and allowed the members to learn about each other, the ethical considerations of advisory committees, and the DSHS' Healthcare Safety Unit (HSU) projects. The second meetings were held in 2023 for all PHRs, except PHRs 1 and 6/5S (scheduling barriers). Second meeting agendas depended on the concerns of each committee and PHR, including regional antibiogram creation and available educational materials. To offer increased time to PHR-specific concerns, PHR 7 and PHR 11 ASRACs voted to create subcommittees to address specific projects, including: 1) Urinary Tract Infection and Urine Culture Subcommittee (PHR 7); 2) Respiratory and Skin Infection Subcommittee (PHR 7); 3) Materials Review Subcommittee (PHR 7); and 4) Survey Development Subcommittee (PHR 11). Per House Bill 1848, the ASRACs expire September 1, 2023.

Academic Partnership with Dell Medical School at The University of Texas at Austin

The AS team will conduct a two-year collaborative AS project with Dell Medical School to pilot an AS quality improvement initiative designed to:

- Improve diagnosis and treatment of infectious diseases.
- Improve tracking and reporting of antibiotic use in nursing homes/skilled nursing facilities within the jurisdiction of the City of Austin/Travis County.

The initial focus will be on urinary tract infections. Dell Medical School will provide clinical/medical expertise (Infectious Disease Physicians) and antibiotic expertise (Infectious Disease Pharmacists) to develop AS for urinary tract infection guidelines, best practices, and tools to improve mis-diagnosis by using the [LOEB and McGreer criteria](#), treatment, tracking, and reporting of urinary tract infection antibiotic use. DSHS will identify and engage nursing homes on AS, develop and maintain a quality improvement initiative webpage, administer surveys and other data collection tools, and perform data analysis in support of this pilot. By the end of the two-year nursing homes/skilled nursing facilities project, goals include reduced inappropriate antibiotic use, improved use of diagnostic tests for urinary tract infections in the nursing homes/skilled nursing facility setting, and established, up-to-date best-practice guidelines and tools for nursing homes/skilled nursing facilities across Texas. The contract development began in 2023 with anticipated project start for January 2024.

Project Objectives:

1. Improve tracking of AR data in Texas long-term care facilities.
2. Improve AS education in Texas long-term care facilities.
3. Reduce AR by implementing standard urinary tract infection treatment guidelines and diagnostic protocols in Texas long-term care facilities.

Antimicrobial Stewardship Facility Assessments

The AS team offered free, non-regulatory, and voluntary infection control and response assessments (ICARs) for all Texas healthcare settings. The purpose of the ICAR was to identify key problems with AU, implement AS strategies to alleviate problems, and track AS implementation progress. Results from these ICARs will be uploaded into Texas Healthcare Safety Network (TxHSN) 2.0 through a collaboration with the HSU's TxHSN team. Utilizing the TxHSN 2.0 platform allows the AS team to track AS data, determine trends and patterns, and increase promotion. In 2023, the AS team completed one AS ICAR and will continue to promote the AS ICAR in 2024.

Outreach and Communications

United States Antimicrobial Awareness Week

The DSHS AS Team participated in CDC's Annual [U.S. Antimicrobial Awareness Week](#) to raise AR and AS awareness worldwide. Activities included:

1. Disseminated AR and AS content via X (formally Twitter) and Facebook "blasts."
2. Curated social media content, including CDC AS statements and graphics on X (formally Twitter), Facebook, and Instagram.
3. Sent CDC-approved AS content to listserv members, community and academic partners, and professional contacts.
4. Posted AS resources and tools to the DSHS website.

Newsletters

AS information is included in every HSU quarterly "HAI-Lights" newsletter to increase education and outreach for academic partners and public health and healthcare professionals. The [Fall 2023 issue](#) focused on ASRAC updates and promoting AS assessments.

Presentations

AS presentations, resources, and/or guidance are routinely offered throughout

Texas, either when professionals contact DSHS or via invitations to contact DSHS for AS resources on the DSHS website, intra- and interagency meetings, and regular regional and local health department communications. In 2023, the HSU presented on the current state of AR and AS in Texas for Brazos County Public Health and for PHR 6/5S's Bioterrorism Epidemiology Team.

Select Collaborations

Austin Public Health Antibigram Collaboration

A partnership with Austin Public Health is ongoing to establish a comprehensive regional antibiogram. Antibiograms are tables showing how susceptible germs are to specific antimicrobials. Prescribers use antibiograms to identify proper treatments to increase treatment success rates.

Summary

The DSHS AS team will continue supporting and promoting CDC's "Five D's" and Core Elements of AS to improve proper antimicrobial use across Texas. The 2024 Texas goals include:

1. Increase collaboration with regional and local health departments.
2. Continue ongoing projects (e.g., U.S. Antibiotic Awareness Week and CDC Core Elements of AS webinar for long-term care facilities).
3. Complete the CDC grant-funded milestones, including the UT Dell pilot project, and the AS ICAR.

Resources

Department of State Health Service's Healthcare Safety Unit

1. [HSU AS Team Home page](#)
2. [HSU AS Resources and Training](#)

Centers for Disease Control and Prevention

1. [CDC Antibiotic Use Report](#)
2. [Core Elements of Antimicrobial Stewardship](#)
3. [Antimicrobial Resistance Report](#)
4. [Antimicrobial Resistance & Patient Safety Portal \(AR & PSP\)](#)