

# Current State of Federal Preparedness to Address Antibiotic Resistance

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# Objective

Share information on the U.S. Government General Accounting Office Expert Meeting on *Federal Efforts to Address Antibiotic-Resistant Pathogens*, September 2018

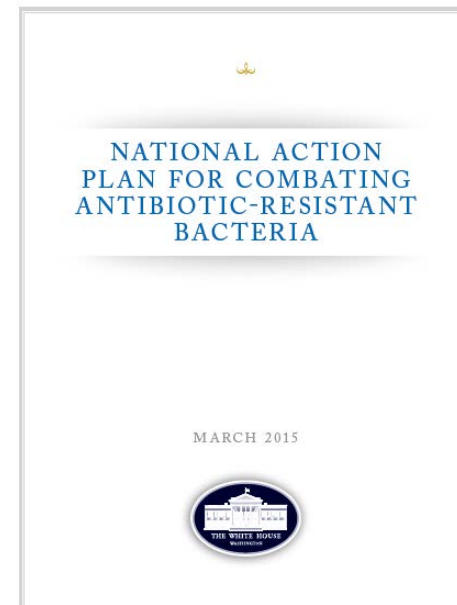
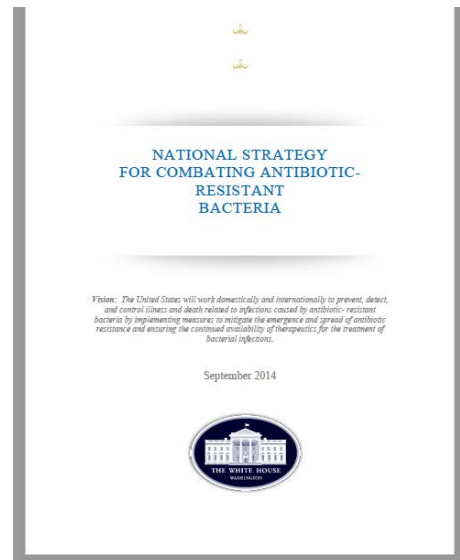
# About the GAO

- The U.S. Government Accountability Office (GAO) is an independent, nonpartisan agency the legislative branch of the federal government. Commonly known as the “investigative arm of Congress” or the “congressional watchdog,” GAO examines how taxpayer dollars are spent and advises lawmakers and agency heads on ways to make government work better.
- Most GAO work is done at the request of congressional committees or subcommittees or is mandated by public laws or committee reports.

# Background

The GAO meeting was held in response to a request from the majority and ranking members of the House Energy and Commerce and Senate Housing, Education, Labor and Pensions Committees to conduct a review of federal preparedness to address antibiotic resistance.

## National Goals and Priorities



# Background

- GAO brought together a diverse set of experts to address a number of questions related to antibiotic-resistant bacteria, epidemiology, surveillance and detection of antibiotic-resistant bacteria, treatment options, and federal agency responses to antibiotic-resistant bacteria.
- In particular, the GAO was interested in hearing participants' perspective on these questions drawing from their knowledge and experience. The questions were further delineated during the discussion. No one was expected to give a presentation, rather, the expectation was to engage in moderated discussions along with other invited experts over the meeting period.

# Questions

- What is known about the epidemiology of antibiotic resistance in selected bacteria, and what are the challenges in conducting epidemiological surveillance?
- What gaps have been identified regarding detection and characterization of antibiotic-resistant bacteria, and to what extent have federal agencies and others addressed these gaps?
- What is known about barriers to the development of new treatments for bacterial infections, and to what extent are federal agencies taking steps to address these barriers?
- What approaches have been identified to slow the emergence and prevent the spread of ABR, and to what extent, if any, have federal agencies implemented any of these approaches?

# Agenda

**September 17: 8:00am to 5:00pm**

Session 1: Diagnostic Testing

Session 2: Epidemiology and Surveillance

Session 3: Development of Products to Treat and Prevent  
Antibiotic-resistant Infections

**September 18: 8:00AM to 1:00PM**

Session 4: Antibiotic Stewardship

# Session 1: Diagnostic Testing Discussion Topics

- Gaps in resistance testing, including rapid, point-of-care testing, and how the heterogeneity of testing availability across pathogens can be addressed, particularly by federal agencies.
- Challenges that have slowed the broad adoption of tests, including discrepancies between user needs and available technologies, and how such challenges can be addressed, particularly by federal agencies.
- Challenges related to test breakpoints, including how breakpoint issues affect adoption and use of tests, and what can be done to address these challenges, particularly by federal agencies.
- Issues with reimbursement for antibiotic resistance testing and how these issues can be addressed, particularly by federal agencies.



# Session 2: Epidemiology and Surveillance

## Discussion Topics

- The magnitude and distribution of resistance, as well as the economic burdens, in the United States and globally.
- Risk factors for resistant infections and the causes of resistance.
- The United States' and WHO's surveillance systems.
- U.S. federal agencies' efforts, including international coordination, to address gaps and challenges in epidemiology.

# Session 3: Development of Products to Treat and Prevent Antibiotic-resistant Infections

## Discussion Topics

- Additional barriers to the development of antibiotics and non-traditional products for treating antibiotic-resistant infection beyond those classified as economic, scientific, or regulatory barriers.
- Challenges to addressing barriers to development.
- The extent to which steps that U.S. federal agencies and other entities have taken to address these barriers are effective.
- Other strategies, efforts, or incentives that could be improved or implemented to address these barriers and promote the development of new antibiotics and nontraditional products.

# Session 4: Antibiotic Stewardship

## Discussion Topics

- Strengths and weaknesses of federal efforts regarding antibiotic stewardship—and how such efforts could be enhanced.
- Challenges healthcare providers face in their efforts to implement antibiotic stewardship programs—and how federal agencies could help address such challenges.
- Outcome metrics/performance measures that would be most useful in monitoring and reporting on U.S. progress regarding appropriate use of antibiotics and/or implementation of antibiotic stewardship practices, including federal agencies' roles in supporting stewardship.
- Lessons learned or leading practices from other countries' approaches to antibiotic stewardship that could be adopted in the United States.



**Inspiration**

# Antibiotic Stewardship Key Challenges

- Poor compliance with current ASP standards
- Underdevelopment of outpatient ASPs
- Inadequate workforce to perform the duties of ASPs
- Inadequate training infrastructure to produce ID-trained pharmacists
- Inconsistent political will to combat AR
- Poorly defined metrics to measure the impact of ASPs

Emberger, Tassone, Stevens, & Markley, *Current Infectious Disease Reports* (2018) 20:31

# Antibiotic Stewardship Successes

- Prescription preauthorization
- Post-prescription audit and feedback
- Pharmacy-driven interventions
- System-wide integration

Emberger, Tassone, Stevens, & Markley, *Current Infectious Disease Reports* (2018) 20:31

# Antibiotic Stewardship Future Directions

- Nursing engagement
- Diagnostic test stewardship
- Rapid diagnostics
- Telemedicine
- Allergy testing
- Better antibiotic use metrics

Emberger, Tassone, Stevens, & Markley, *Current Infectious Disease Reports* (2018) 20:31

# Antibiotic Stewardship Training



## MASSIVE OPEN ONLINE COURSE (MOOC)

### ANTIMICROBIAL STEWARDSHIP: MANAGING ANTIBIOTIC RESISTANCE

*Supported by Alera*

Developed by the British Society for Antimicrobial Chemotherapy and the University of Dundee, this landmark course is the first free, global online course available to all learners across the globe.



ANTIMICROBIAL  
STEWARDSHIP  
MOOC

Designed for healthcare professionals, this six-week course will inform you about - and empower you to provide - safe, high-quality antibiotic use. You'll interact with colleagues globally, to understand what antibiotic resistance means - and why the World Economic Forum has placed it alongside terrorism and climate change on its global risk register.

This course will help you understand what antimicrobial stewardship is and how you can apply it every day. Although the focus is for prescribing in the hospital setting, the skill set can be applied and adapted to other healthcare settings. The intention of the course is to stimulate and encourage further inquiry and learning in

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MAKING A DIFFERENCE  
IN INFECTIOUS DISEASES



## CDC Launches Antibiotic Stewardship Online Course

Monday, July 17, 2017 (0 Comments)

Alexandria, VA— Today the American Society of Consultant Pharmacists (ASCP), the Society of Infectious Diseases Pharmacists (SIDP), and ProCE launched a joint Long-Term Care (LTC) Antimicrobial Stewardship Certificate Program. This is a practice-based certificate program focused on the role that pharmacists play in the appropriate use of antimicrobial agents.



# Question

- Is there interest in an online antibiotic stewardship certificate for nurses?
- If so, from your perspective, what topics are essential to the curriculum?



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