



An advisory on safety & quality issues

National Action Plan: Use antibiotics wisely

Issue:

A new National Action Plan for Combating Antibiotic-resistant Bacteria¹ highlights the important actions that need to be taken by essential federal departments and agencies to address the rise of antibiotic-resistant bacteria. The misuse and overuse of antibiotics in health care has contributed to the development of bacterial drug resistance and diminished the effectiveness of currently used antibiotics. With the emergence of antibiotic resistance, treating bacterial infections has become progressively more restricted, costly, and can result in no available antibiotic options – to the detriment of patients.

The Centers for Disease Control and Prevention (CDC) estimates that drug-resistant bacteria cause 2 million illnesses and approximately 23,000 deaths each year in the U.S. Improving antibiotic use across the health care continuum is both a medication safety and patient safety issue. Essentially, it requires a change in current practice of how antibiotics are used in the U.S. It has been estimated that up to 50 percent of antibiotic use in hospitals is unnecessary or inappropriate. Reducing unnecessary antibiotic use can decrease antibiotic resistance.²

Issued in March 2015 by the White House, the comprehensive National Action Plan has five goals, including one to implement antibiotic stewardship programs (goal 1: Slow the emergence of resistant bacteria and prevent the spread of resistant infections). The plan was developed in response to President Barack Obama's Executive Order 13676: Combating Antibiotic-Resistant Bacteria, issued Sept. 18, 2014.

Antibiotic stewardship is a means to address a serious, unrelenting drug-resistant threat to public health. A well thought out, appropriate, and safe plan for the use of antibiotics in an effort to decrease antibiotic resistance includes prescribing the right antibiotic, at the right time, at the right dose, for the right duration. Antimicrobial stewardship refers to organized interventions designed to improve and measure the appropriate use of antimicrobial agents.³

National Action Plan for Combating Antibiotic-resistant Bacteria

Goal 1: Slow the Emergence of Resistant Bacteria and Prevent the Spread of Resistant Infections.

Judicious use of antibiotics in healthcare and agricultural settings is essential to slow the emergence of resistance and extend the useful lifetime of effective antibiotics. Antibiotics are a precious resource, and preserving their usefulness will require cooperation and engagement by healthcare providers, healthcare leaders, pharmaceutical companies, veterinarians, the agricultural industry, and patients. Goal 1 activities include the optimal use of vaccines to prevent infections, implementation of healthcare policies and antibiotic stewardship programs that improve patient outcomes, and efforts to minimize the development of resistance by ensuring that each patient receives *the right antibiotic at the right time at the right dose for the right duration*. Prevention of resistance also requires rapid detection and control of outbreaks and regional efforts to control transmission across community and healthcare settings.

Safety Actions to Consider:

Hospitals can take action to better manage antibiotics, including implementing an antibiotic stewardship program. The CDC has developed core elements for hospital antibiotic stewardship programs^{4,5} that include:

- Getting leadership commitment, which includes dedicating the necessary human, financial and information technology resources.
- Appointing a single leader responsible for program outcomes. Experience with successful programs shows that a physician leader is effective.
- Appointing a single pharmacist leader responsible for working to improve antibiotic use.
- Obtaining key support from multiple stakeholders, including infection prevention and control, nursing, information technology, laboratory, quality improvement and clinicians.

(Cont.)



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- Implementing policies and interventions to improve antibiotic use. Specific interventions can be divided into three categories: broad, pharmacy driven, and infection and syndrome specific.
- Implementing at least one recommended action, such as systemic evaluation of ongoing treatment need after a set period of initial treatment (i.e., “antibiotic time out” after 48 hours).
- Monitoring antibiotic prescribing and resistance patterns.
- Regularly reporting information on antibiotic use and resistance to doctors, nurses and relevant staff.
- Educating clinicians about resistance and optimal prescribing.

Efforts to improve antibiotic use through an antibiotic stewardship program should be applied across the health care continuum of settings – hospitals, ambulatory care and home care – to decrease antibiotic resistance, cost, and improve patient care outcomes.

Resources:

1. The White House: [National Action Plan for Combating Antibiotic-resistant Bacteria](#). Washington, DC (accessed July 2, 2015)
2. Centers for Disease Control and Prevention: [Get Smart for Healthcare](#) Web page (accessed July 2, 2015)
3. Society for Healthcare Epidemiology of America (SHEA), the Infectious Diseases Society of America (IDSA), and the Pediatric Infectious Diseases Society of America (PIDS): [Policy Statement on Antimicrobial Stewardship](#) by the Society for Healthcare Epidemiology of America (SHEA), the Infectious Diseases Society of America (IDSA), and the Pediatric Infectious Diseases Society of America (PIDS). *Infection Control and Hospital Epidemiology*, Vol. 33, No. 4, Special Topic Issue: Antimicrobial Stewardship, April 2012, pp. 322-327 (accessed July 2, 2015)
4. Centers for Disease Control and Prevention: [Checklist for Core Elements of Hospital Antibiotic Stewardship Programs](#) (accessed July 2, 2015)
5. Centers for Disease Control and Prevention: [Core Elements of Hospital Antibiotic Stewardship Programs](#). Atlanta, Georgia: U.S. Department of Health and Human Services, CDC; 2014 (accessed July 2, 2015)

Additional resources:

- American Hospital Association Physician Leadership Forum: [Appropriate Use of Medical Resources: Antimicrobial Stewardship Toolkit](#)
- American Society of Health-System Pharmacists: [Antimicrobial Stewardship Resources Web page](#)
- Association for Professionals in Infection Control and Epidemiology: [Antimicrobial Stewardship Web page](#)
- Centers for Disease Control and Prevention: [Overview and Evidence to Support Stewardship](#)
- Infectious Diseases Society of America: [Promoting Antimicrobial Stewardship in Human Medicine](#)
- Joint Commission Resources: [Antimicrobial Stewardship Toolkit](#) (free)
- The Joint Commission:
 - [Speak Up: Antibiotics](#) patient safety program
 - [Antimicrobial Stewardship Web page](#)

Note: This is not an all-inclusive list.



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