

Antimicrobial Stewardship Subcommittee Update

HAI-AC Meeting
December 12, 2013



ANTIBIOTIC RESISTANCE THREATS
in the United States, 2013

NATIONAL SUMMARY DATA

Estimated minimum number of illnesses and deaths caused by antibiotic resistance*:

At least  **2,049,442** illnesses,
 **23,000** deaths

**bacteria and fungus included in this report*



Estimated minimum number of illnesses and death due to *Clostridium difficile* (*C. difficile*), a unique bacterial infection that, although not significantly resistant to the drugs used to treat it, is directly related to antibiotic use and resistance:

At least  **250,000** illnesses,
 **14,000** deaths

WHERE DO INFECTIONS HAPPEN?

Antibiotic-resistant infections can happen anywhere. Data show that most happen in the general community; however, most deaths related to antibiotic resistance happen in healthcare settings, such as hospitals and nursing homes.



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

CDC's 4 Core Actions to Prevent Antibiotic Resistance

1 PREVENTING INFECTIONS, PREVENTING THE SPREAD OF RESISTANCE
Avoiding infections in the first place reduces the amount of antibiotics that have to be used and reduces the likelihood that resistance will develop during therapy. There are many ways that drug-resistant infections can be prevented: immunization, safe food preparation, handwashing, and using antibiotics as directed and only when necessary. In addition, preventing infections also prevents the spread of resistant bacteria.

2 TRACKING
CDC gathers data on antibiotic-resistant infections, causes of infections and whether there are particular reasons (risk factors) that caused some people to get a resistant infection. With that information, experts can develop specific strategies to prevent those infections and prevent the resistant bacteria from spreading.

3 IMPROVING ANTIBIOTIC PRESCRIBING/STEWARDSHIP
Perhaps the single most important action needed to greatly slow down the development and spread of antibiotic-resistant infections is to change the way antibiotics are used. Up to half of antibiotic use in humans and much of antibiotic use in animals is unnecessary, inappropriate and makes people less safe. Stopping even some of the inappropriate and unnecessary use of antibiotics in people and animals would help greatly in slowing down the spread of resistant bacteria. This commitment to always use antibiotics appropriately and safely—only when they are needed to treat disease, and to choose the right antibiotics and to administer them in the right way in every case—is known as antibiotic stewardship.

4 DEVELOPING NEW DRUGS AND DIAGNOSTIC TESTS
Because antibiotic resistance occurs as part of a natural process in which bacteria evolve, it can be slowed but not stopped. Therefore, we will always need new antibiotics to keep up with resistant bacteria as well as new diagnostic tests to track the development of resistance.

“Perhaps the single most important action needed to greatly slow down the development and spread of antibiotic-resistant infections is to change the way antibiotics are used.”

ANTIBIOTIC STEWARDSHIP

IN YOUR FACILITY WILL



DECREASE

- ANTIBIOTIC RESISTANCE
- C. DIFFICILE INFECTIONS
- COSTS

INCREASE

- GOOD PATIENT OUTCOMES



ANTIBIOTIC STEWARDSHIP PROGRAMS ARE A "WIN-WIN" FOR ALL INVOLVED

A UNIVERSITY OF MARYLAND STUDY SHOWED
ONE ANTIBIOTIC STEWARDSHIP PROGRAM
SAVED A TOTAL OF \$17 MILLION
OVER EIGHT YEARS



ANTIBIOTIC STEWARDSHIP HELPS **IMPROVE
PATIENT CARE AND SHORTEN
HOSPITAL STAYS**, THUS **BENEFITING
PATIENTS AS WELL AS HOSPITALS**

If It's Such a Win-Win, Why Isn't Everyone Doing It?

It's difficult to change behaviors.
We need to lead this culture change
(and do so with urgency).

Antimicrobial Stewardship Subcommittee

- Developed a 3-tier definition of what constitutes an antimicrobial stewardship program (basic, intermediate, and advanced)
- Approved by the HAI AC on 8/15/13

Antimicrobial Stewardship Subcommittee

- Met via teleconference on 10/10/13 and 11/7/13
- Develop an introduction/preface for CDPH to disseminate along with the 3-tier definition of ASP
- Consider how to get this ASP guidance out to general acute care hospitals and how to support hospitals in their implementation of the ASP components
- Consider when/how to collect and report data on ASP implementation from general acute care hospitals

ASP Preface/Introduction

Antimicrobial stewardship refers to coordinated interventions designed to improve and measure the appropriate use of antimicrobial agents by promoting the selection of the optimal antimicrobial drug regimen, including dosing, duration of therapy, and route of administration. The major objectives of antimicrobial stewardship are to achieve best clinical outcomes for patients while minimizing toxicity and other adverse events associated with antimicrobial use, thereby limiting the selective pressure on bacterial populations that drives the emergence of antimicrobial-resistant strains. Antimicrobial stewardship may also reduce excessive costs attributable to suboptimal antimicrobial use.

ASP Preface/Introduction

Because the appropriate use of antimicrobials is a healthcare quality and patient safety issue, acute care hospitals in California are encouraged to implement antimicrobial stewardship programs. The terms used to refer to antimicrobial stewardships programs may vary considerably - antibiotic policies, antibiotic management programs, antibiotic control programs, and other terms may be used more or less interchangeably. However, regardless of the exact designation, the emphasis on the judicious use of antimicrobials within California hospitals is established by California Health and Safety Code 1288.8,3 which states the following:

(a) By January 1, 2008, the department shall take all of the following actions to protect against HAI in general acute care hospitals statewide: (3) Require that general acute care hospitals develop a process for evaluating the judicious use of antibiotics, the results of which shall be monitored jointly by appropriate representatives and committees involved in quality improvement activities.

ASP Preface/Introduction

In order to provide acute care hospitals with further guidance, the California Healthcare Associated Infections Advisory Committee has proposed to the California Department of Public Health a 3-tier definition for what constitutes an antimicrobial stewardship program. The purpose of this 3-tier definition is to provide acute care hospitals with an understanding of what is considered a basic program while encouraging implementation of additional strategies to achieve an intermediate and/or advanced status.

Action Item

- Preface/introduction unanimously approved by subcommittee
- Recommendation to CDPH that the ASP preface/introduction and 3-tier definition be disseminated as “guidance” to acute care hospitals

ASP Guidance/Support

- Discussed the idea of establishing a collaborative among hospitals to share ideas on how to best implement the ASP components within the 3-tiers (including how to achieve the basic level and how to move toward the advanced level)
- Collaborative process would be an excellent mechanism by which to highlight the ASP mandate, educate hospitals about the 3-tier ASP definition, and help hospitals with implementation

Action Item

- Recommendation that CDPH establish a collaborative process among California hospitals to facilitate the implementation of the three tiers of Antimicrobial Stewardship. The collaborative should include representation from a diverse cross section of California hospitals.

ASP Project 1

- “Spotlight” hospitals would be selected to share their progress in meeting the ASP tiers (via California ASP initiative webpage), provide mentorship to other hospitals, and serve on educational panels/discussions
- Unanimously supported by subcommittee

ASP Project 2

- An ASP collaborative involving a diverse group of hospitals would be established to provide ongoing education/support toward implementation and/or advancing their ASPs.
 - ASP teams participate in monthly learning and discussion teleconferences to begin January 2014 and continue for approximately 6-12 months
 - An opportunity to discuss strategies for and barriers to ASP implementation with their peers
- Unanimously supported by subcommittee but some debate as to the exact composition of the collaborative(s)

Data Collection Timeline

- Subcommittee felt it was necessary to give hospitals time to learn about the 3-tier ASP definition and time for implementation before collecting ASP data
- However, it was also felt that establishing a timeline was important to drive implementation of programs
- Initially, subcommittee proposed that data collection take place following the conclusion of the collaborative's efforts.
- Ultimately, timeline was revised and subcommittee agreed on 2 time points for data collection based on the start of the collaborative (Jan 2014)

Action Item

- 2 initial time points for data collection on how hospitals meet the 3-tier ASP definition (assuming collaborative starts in Jan 2014):
 - 6 months after start of collaborative: baseline data with public reporting in aggregate format (July 2014)
 - 1 year after start of collaborative: recollection of ASP data with public reporting on individual institutions (Feb 2014)

Summary of Antimicrobial Stewardship Committee Action Items

- Recommendation that CDPH disseminate ASP preface/definition as “guidance” to acute care hospitals
- Recommendation that CDPH establish a collaborative process among California hospitals to facilitate the implementation of the three tiers of Antimicrobial Stewardship. The collaborative should include representation from a diverse cross section of California hospitals.
- Recommendation to CDPH (assuming collaborative begins in Jan 2014) that:
 - Baseline data on which tier a hospital has achieved be collected in July 2014 with this data publically presented in aggregate format
 - Data from hospitals be recollected 1 year after start of collaborative (beginning on Feb 1, 2015) for the purpose of publicly reporting on individual institutions

ASP Subcommittee is presenting for approval by HAI-AC Meeting on Dec 12, 2012, Oakland

Antimicrobial Stewardship Programs for California Acute Care Hospitals

Antimicrobial stewardship refers to coordinated interventions designed to improve and measure the appropriate use of antimicrobial agents by promoting the selection of the optimal antimicrobial drug regimen, including dosing, duration of therapy, and route of administration. The major objectives of antimicrobial stewardship are to achieve best clinical outcomes for patients while minimizing toxicity and other adverse events associated with antimicrobial use, thereby limiting the selective pressure on bacterial populations that drives the emergence of antimicrobial-resistant strains. Antimicrobial stewardship may also reduce excessive costs attributable to suboptimal antimicrobial use.¹

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In order to provide acute care hospitals with further guidance, the California Healthcare Associated Infections Advisory Committee has proposed to the California Department of Public Health a 3-tier definition for what constitutes an antimicrobial stewardship program. The purpose of this 3-tier definition is to provide acute care hospitals with an understanding of what is considered a basic program while encouraging implementation of additional strategies to achieve an intermediate and/or advanced status.

Basic Tier Hospital:

- Hospital antimicrobial stewardship policy/procedure
- Physician-supervised multidisciplinary antimicrobial stewardship committee, subcommittee, or workgroup
- Program support from a physician or pharmacist who has attended specific training on antimicrobial stewardship (e.g. continuing education training program offered by the federal Centers for Disease Control and Prevention and the Society for Healthcare Epidemiology of America or other recognized professional organization, or post-graduate training with concentration in antimicrobial stewardship)
- Reporting of antimicrobial stewardship program activities to hospital committees involved in quality improvement activities

Intermediate Tier Hospital:

- Annual antibiogram developed using CLSI guidelines with distribution to/education of the medical staff
- Institutional guidelines for the management of common infection syndromes (e.g. order sets, clinical pathways, empiric antimicrobial therapy guide, etc.)
- Monitoring of usage patterns of antibiotics determined to be of importance to the resistance ecology of the facility, using Defined Daily Dosing (DDD) or Days of Therapy (DOT)
- Regular education of hospital staff/committees about antimicrobial stewardship

Advanced Tier Hospital:

- Antimicrobial formulary that is reviewed annually with changes made based on local antibiogram
- Prospective audit with intervention/feedback
- Formulary restriction with preauthorization

References

1. SHEA, IDSA, 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 (PIDS)" *Infect Control Hosp Epidemiol* 2012;33(4):322-327.
2. MacDougall C and Polk RE. "Antimicrobial Stewardship Programs in Health Care Systems" *Clinical Microbiology Reviews*, Oct. 2005, p. 638-656.
3. California Senate Bill 739. Approved and filed on September 28, 2006