

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

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 stewardship programs may vary considerably - antibiotic policies, antibiotic management programs, antibiotic control programs, and other terms may be used more or less interchangeably.² 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 12888.8,³ 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.

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 Program:

- 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 Program:

- 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 Program:

- 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.