

Antibiotic Stewardship Implementation Framework for Health Departments

Background

Antibiotic resistance is an urgent public health problem that is responsible for over 2 million illnesses and 23,000 deaths annually in the United States¹. The misuse of antibiotics has contributed to the growing problem of resistance and improving the use of antibiotics in healthcare to protect patients and reduce the threat of antibiotic resistance is a national priority². Because antibiotics are a shared resource, the potential for spread of resistant organisms means that the misuse of antibiotics can adversely impact the health of patients, even those who are not directly exposed to them. Further, like all medications, antibiotics can have unintended consequences, including adverse drug reactions and *Clostridium difficile* infection (CDI)².

Antibiotic stewardship refers to coordinated interventions designed to improve the use of antibiotics. Antibiotic stewardship programs have been shown to increase optimal prescribing for therapy and prophylaxis, improve the quality of patient care, reduce adverse events associated with antibiotic use such as CDI and resistance, and offer cost savings to hospitals². CDC recommends that antibiotic stewardship programs be implemented in all hospitals³.

State and local health departments play critical roles as partner and convener across the healthcare continuum and are positioned to promote appropriate antibiotic use and prevention strategies to limit the development of antimicrobial resistance⁴. In 2014, the Council of State and Territorial Epidemiologists (CSTE) submitted a policy position statement recommending that all state health departments evaluate and incorporate stewardship activities across healthcare settings into their healthcare-associated infection (HAI) programs⁵. The Association of State and Territorial Health Officials also advocates for state and local health departments to play coordinating and facilitating roles to address antimicrobial resistance by implementing stewardship activities across the healthcare continuum of care⁶. The National Association of County and City Health Officials also supports local health departments' participation and engagement in antibiotic stewardship activities⁷.

What activities can state and local health departments do to implement antibiotic stewardship?

1. **Establish leadership in health departments** by identifying a lead to evaluate and incorporate stewardship activities into the healthcare-associated infection (HAI) program; secure expertise knowledgeable on antibiotic stewardship activities and tools (e.g., from within agency and/or engagement with local/state based stewardship leaders); and identify staff available to evaluate antibiotic stewardship programs and antibiotic resistance patterns and trends.
2. **Conduct surveillance** to understand current stewardship practices/needs across facilities. Surveillance should include tracking HAIs as well as some aspect of resistance patterns (e.g., antibiotic resistance associated with HAIs, single pathogens of concern, or cumulative susceptibility data), including outbreaks of antibiotic-resistant infections and evaluation of progress in stewardship implementation through ongoing assessment of stewardship activities and needs.
3. **Coordinate** and integrate stewardship activities with ongoing quality improvement efforts both within own agency and by reaching out to Quality Improvement Organizations (e.g., Centers for Medicare & Medicaid Services Quality Innovation Network-Quality Improvement Organizations), Hospital Improvement and Innovation Networks, and Hospital Associations to synergize activities.
 - a. **Convene prevention collaboratives** for facilities who commit to sharing tools and best practices; link facilities with each other to enhance antibiotic stewardship across a region; incorporate local

- surveillance data into collaborative actions; and share effective methods for stewardship implementation and promote guidance and best practices.
4. **Provide and develop education and tools** on appropriate antibiotic prescribing for facilities and healthcare professionals; make stewardship resources available on website; support training of professionals and facilities on antibiotic stewardship through hosting online or in-person education.
 5. **Develop a communications plan** to reach and maintain relationships with facilities and organizations with similar goals and guide partners to appropriate stewardship resources; incorporate antibiotic stewardship into departmental reports and improvement plans; raise public awareness of antibiotic overuse and potential risks; and reach out to public regarding appropriate antibiotic use and issue of antibiotic resistance.
 6. **Inform the legislative process** to advance appropriate antibiotic use. Health department leadership have the opportunity to educate policymakers about the importance of appropriate antibiotic use. State and local health departments can provide recommendations for stewardship programs and work with health policy organizations, including health insurance providers, to initiate mandates such as tracking individual provider prescribing.

References

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