

Creative Collaborations in Antimicrobial Stewardship

Using the Centers for Disease Control and Prevention's Core Elements as Your Guide



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KEYWORDS

- Antimicrobial stewardship programs
- Quality collaboratives
- Multidisciplinary
- Core elements of stewardship

KEY POINTS

- Antimicrobial stewardship programs (ASPs) are built on a foundation of collaboration across multiple disciplines within the health system infrastructure and with external partners.
- Daily collaborations with pharmacy, microbiology, clinical services, and infection prevention are core activities of stewardship.
- Key stakeholders in ASP success and sustainability include health system executives, departmental and divisional leaders, patient safety and quality, postgraduate training programs, medical schools, and other health professionals.
- ASPs should strive to participate in regional and national quality collaboratives to help advance their agendas, adapt successful interventions from other institutions and establish stewardship benchmarks and best practices. Collaboratives can also assist stewardship programs meet the challenges of impending regulatory requirements.
- Collaboration with neighboring stewardship programs and public health agencies can result in successful innovations in policy, education, scholarship, quality improvement and research.

INTRODUCTION

A 2007 *Harvard Business Review* article entitled “Eight Ways to Build Collaborative Teams”¹ suggests that successful collaborators encourage communication, model

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collaborative behavior, mentor and coach other to build networks across boundaries, ensure team building as a requisite skill, and foster a strong sense of community among team members (Table 1).¹ These attributes pave the way for success in myriad settings, including antimicrobial stewardship.

Successful antimicrobial stewardship programs (ASPs) harness the diverse expertise of physicians, pharmacists, nurses, microbiologists, and infection preventionists.² Unique opportunities for stewardship collaboration exist in daily exchanges with colleagues, challenging clinical cases from the wards, hospital patient safety initiatives, or exciting new research presented at professional society meetings. The following scenario is an illustrative example of a multidisciplinary collaborative to implement a stewardship and quality improvement initiative with a high potential impact on the hospital.

Antimicrobial stewardship vignette 1

At a recent Infectious Diseases Society of America (IDSA) conference, you attended a research presentation on the procalcitonin (PCT) assay as a biomarker of bacterial infection used to prevent unnecessary antibiotic use when coupled with antimicrobial stewardship. The presenter, the stewardship pharmacists at a neighboring facility in New York City, touted several important outcomes of a stewardship-guided PCT algorithm at his facility, namely, reduced days of antibiotic therapy, reduced length of stay and readmissions, and lack of adverse outcomes.³ You are intrigued by its potential value as stewardship tool at your own institution, which has not yet adopted this test despite approval from the Food and Drug Administration (FDA) for lower respiratory tract infection and sepsis in February 2017.⁴ You ask your infectious diseases (ID) fellow to present a review of the latest PCT literature at your ID divisional grand rounds.⁵ You invite several important stakeholders to the presentation, including the director of clinical pathology, the director of the emergency department (ED), and the director of quality improvement. After a very thoughtful discussion, a decision is made to pilot the PCT assay for lower respiratory tract infection in the ED. A multidisciplinary task force of experts (stewardship, ID, pulmonology, pathology, quality, information technology, and emergency medicine) is assembled. You invite the IDSA speaker to present his research and serve as an expert consultant to the task force. Over the next 12 months, the PCT initiative is implemented at your facility and the multidisciplinary task force studies its impact on antibiotic utilization, length of stay, mortality, *Clostridium difficile* incidence, and readmissions. The findings are submitted for publication to a reputable journal.

As antimicrobial stewards in New York City (NYC), the authors' goal is to personalize antimicrobial management to their complex patient population, prescribers, and multidrug-resistant pathogens of their local ecosystem. In 2008, the Montefiore Health System established an interdisciplinary ASP to meet the demands of the authors' academic medical center in the Bronx, New York, a heavily resource-limited setting within NYC. The program is co-led by physicians and clinical pharmacists certified in ID and antimicrobial stewardship. The ASP directors oversee stewardship operations at 3 campuses and a pediatric hospital (inclusive of more than 1400 beds in all). The Montefiore ASP recently implemented an ambulatory stewardship program with support from the United Hospital Fund, a local health care policy and research organization. The Centers for Disease Control and Prevention's (CDC) core elements of stewardship have served as the framework for the authors' ASP charter and strategic plan.⁶ The backbone of the authors' program is a tiered, upfront restriction policy and robust prescriber educational curriculum.⁷ This component is supplemented by numerous pharmacy-driven actions and systematic audit and feedback to prescribers.

The IDSA and the Society for Healthcare Epidemiology of America (SHEA) describe several necessary structural components of a successful ASP and state that

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