APIC/SHEA POSITION PAPER

Antimicrobial Stewardship: A Collaborative Partnership between Infection Preventionists and Healthcare Epidemiologists

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Misuse and overuse of antimicrobials, primarily involving therapeutic agents used to treat infection in humans, is considered one of the world's most pressing public health problems.[1] Not only does such inappropriate use diminish the therapeutic benefit of essential medications, it also facilitates the development and spread of multidrug-resistant organisms (MDROs).[2] Antimicrobial resistance and the rise in MDROs globally are associated with increased morbidity and mortality, cross-transmission within and between healthcare settings, and increased consumption of limited patient-care resources. Despite elevated awareness, publication of guidelines on antimicrobial stewardship,[3] and several initiatives, the proportion of resistant strains causing both health care– and community-associated infections continues to increase and the number of new antimicrobials continues to decline.[4,5]

In response to this growing problem, the Centers for Disease Control and Prevention (CDC) launched the Get Smart for Healthcare initiative[6,7] in 2004, which includes a national campaign to promote collaboration across healthcare settings and mobilize national and local health officials in educating patients, consumers, and healthcare practitioners about appropriate use of antibiotics. The importance of antimicrobial resistance was recently highlighted by the World Health Organization (WHO), which dedicated World Health Day 2011[8] to halting the spread of antimicrobial resistance. The CDC and WHO are leading voices working toward an international solution with a three-pronged focus: (1) optimizing use of existing antimicrobial agents, (2) preventing transmission of MDROs, and (3) pursuing new therapeutic tools to treat emerging pathogens.

Antimicrobial Stewardship (AS) is an interprofessional effort and involves optimal, prudent antimicrobial use for patients across the continuum of care: acute, inpatient, and long-term care and outpatient settings.[9]

This position paper highlights the critical importance of healthcare epidemiologists (HEs) and infection preventionists (IPs) in effective antimicrobial stewardship programs (ASPs). The skills and knowledge each of these highly skilled professionals brings to a facility's ASP, when combined with other disciplines, can accelerate progress toward preventing emergence and cross-transmission of MDROs (Table 1). The Association for Professionals in Infection Control and Epidemiology (APIC) and the Society for Healthcare Epidemiology (SHEA) are the professional organizations with historical focus, expertise, and credibility in articulating and implementing best practices in antimicrobial stewardship and infection prevention and control.

APIC and SHEA believe the following:

- MDROs cause a significant proportion of serious healthcare-associated infections (HAIs) and pose significant risk to patient safety across all points of health care delivery.
- Regulatory and accreditation organizations, along with legislative bodies, must continue to make HAIs, including those caused by MDROs, a greater priority in health care.[10,11]
- Integrated, multidisciplinary ASPs led by a physician and a pharmacist with training in antimicrobial stewardship are crucial to promoting the prudent use of antimicrobials and in combating the development of MDROs in all health care settings.
- ASPs can benefit infection prevention and control (IPC) programs by identifying reported trends and outbreaks of epidemiologically significant organisms and educating about infection prevention policies in the course of interaction with providers.
- IPs and HEs benefit ASPs by providing support and guidance in approaches to surveillance for syndromes of interest, implementing interventions to guide the delivery of

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TABLE 1. Examples of Healthcare Epidemiologist (HE) and Infection Preventionist (IP) Strategies to Improve Stewardship

- Identification of MDROs detected among the population served by a healthcare facility
- As part of surveillance, the monitoring and reporting of trends over time involving multidrug-resistant organisms
- Oversight of the use of standard and transmission-based precautions aimed at preventing cross-transmission of pathogens
- Compliance with hand hygiene
- Use of surveillance data to inform risk assessment and planning for prevention of infection
- Education of clinicians on prudent and appropriate use of antibiotics
- Development of clinical algorithms for treating infections
- Audit, analysis, and reporting of data on healthcare-associated infections
- Implementation of strategies aimed at prevention of infection and elements involving prescribing and therapeutic use of antimicrobials (eg, guidelines, decision support involving order/entry, de-escalation)

evidence-based practices, and translating data and infection rates to healthcare workers, nursing units, and administrators.[12-14]

SUMMARY

It is clear that the widespread and injudicious use of antimicrobials has greatly increased the presence of MDROs that threaten the health of all. There is worldwide acknowledgment that this threat is growing and that prudent use of antimicrobials combined with infection prevention can prevent harm and improve patient safety. ASPs must harness the talents of all members of the healthcare team to effectively identify the organism, determine its susceptibility, institute any precautions required, and prescribe the narrowest-acting antibiotic that will destroy it. IPs/HEs play a pivotal role in this approach by assisting with early organism and infected-patient identification, by promoting compliance with standard and transmission-based precautions and other infection prevention strategies such as care bundle practices, hand hygiene, and by educating staff, patients, and visitors.

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ADDITIONAL RESOURCES

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