



Combating Antibiotic Resistance: The Future Role of the Infection Preventionist in Antibiotic Stewardship

Infection Preventionists Leading the Way to Reduce Healthcare-Associated Infections
Columbia, MO
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No Disclosures



Objectives

- Discuss how antibiotic stewardship (AS) is unfolding and spreading beyond infectious diseases physicians and clinical pharmacists
- Identify how other disciplines, particularly infection preventionists (IP) can support AS programs
- Discuss developing expertise as the IP role continues to evolve
- Review potential barriers for IP integration in AS programs or how to obtain resources from administrative leaders



Pretest Question 1

True or False: The Infectious Diseases Society of America (IDSA) and the Society for Healthcare Epidemiology of America (SHEA) define antibiotic stewardship (AS) as the coordinated interventions designed to improve and measure the appropriate use of antibiotics by promoting the selection of the optimal antibiotic drug regimen including dosing, duration of therapy, and route of administration. Based on this definition AS is limited to antibiotic prescribers (e.g., physicians) and dispensers (pharmacists).



Pretest Question 2

True or False: IDSA and SHEA strongly believe, and CDC concurs that AS programs are best led by ID physicians with additional stewardship training or clinical pharmacist with additional infectious disease training.



Pretest Question 3

What percentage of US hospitals reported AS programs with all 7 of CDC's Core Elements?

- 10%
- 20%
- 40%
- 80%



Pretest Question 4

True or False: AS is just one of many measures needed to prevent and manage antibiotic resistance in the hospital. A well functioning infection prevention and control program is fundamental to successful organizational stewardship strategies.

In general, threats assigned to the urgent and serious categories require more monitoring and prevention activities, whereas the threats in the concerning category require less. Regardless of category, threat-specific CDC activities are tailored to meet the epidemiology of the infectious agent and to address any gaps in the ability to detect resistance and to protect against infections.

HAZARD LEVEL: URGENT
 These are high-priority antibiotic-resistant threats because of significant risk associated with several criteria. These threats may not be readily preventable but have the potential to become more urgent as they become widespread among certain patient groups, health care settings, and geographic areas.
 Examples: Carbapenem-resistant Enterobacteriaceae (CRE), Drug-resistant Acinetobacter baumannii (DRAB), Carbapenem-resistant Pseudomonas aeruginosa (CRPA)

HAZARD LEVEL: SERIOUS
 These are significant antibiotic-resistant threats, but varying factors (e.g., local disease burden, limited resources or expertise, availability of resources, etc.) may not be well understood or preventable. They are well understood, but these threats will continue to spread among certain patient groups, health care settings, and geographic areas.
 Examples: Extended Spectrum Beta-lactamase-producing Enterobacteriaceae (ESBLE), Resistant-to-resistant Acinetobacter baumannii (RRAB), Multi-resistant Pseudomonas aeruginosa (MRPA), Resistant-to-resistant Salmonella typhi (RRSTyphi), Multi-resistant Enterobacteriaceae (MRE), Drug-resistant Streptococcus pneumoniae (DRSP), Resistant-to-resistant MRSA and CRE

HAZARD LEVEL: CONCERNING
 These are threats for which the threat of antibiotic resistance is low, and/or there are multiple alternative options for medical treatment. They are well understood, but these threats may become more serious if they become widespread among certain patient groups, health care settings, and/or in some cases rapid spread or outbreak potential.
 Examples: Resistant-to-resistant Streptococcus pneumoniae (RRSP), Drug-resistant Streptococcus Group A, Carbapenem-resistant Streptococcus Group B

HAZARD LEVEL: URGENT, SERIOUS, and CONCERNING are relative terms used to help to understand the threat associated with an agent. HAZARD LEVEL: URGENT, SERIOUS, and CONCERNING are relative terms used to help to understand the threat associated with an agent. HAZARD LEVEL: URGENT, SERIOUS, and CONCERNING are relative terms used to help to understand the threat associated with an agent.

Four Core Actions to Prevent Antibiotic Resistance

- 1 PREVENTING INFECTIONS**
PREVENTING THE SPREAD OF RESISTANCE
 Reducing infections is the best way to reduce the amount of antibiotic use. This helps reduce the pressure on antibiotics and decreases the chance that bacteria will develop drug resistance. There are many ways that drug resistance can be prevented, including: hand hygiene, proper use of antibiotics, and proper use of antibiotics in animals. Reducing antibiotic use also helps prevent the spread of antibiotic resistance.
- 2 TRACKING**
 US partners track antibiotic-resistant infections, causes of infections, and whether there are antibiotic resistance genes. Tracking that caused some people to get a resistant infection. WHO has information about antibiotic resistance globally. In general, these infections are preventable. The best way to prevent these infections is to track them.
- 3 IMPROVING ANTIBIOTIC PRESCRIBING/STEWARDSHIP**
 Making the right choice about whether to use antibiotics, how long to use them, and what antibiotic to use is key to preventing antibiotic resistance. Improving antibiotic prescribing and use is a key to preventing antibiotic resistance. Improving antibiotic prescribing and use is a key to preventing antibiotic resistance. Improving antibiotic prescribing and use is a key to preventing antibiotic resistance.
- 4 DEVELOPING NEW DRUGS AND DIAGNOSTIC TESTS**
 There are many ways to prevent antibiotic resistance. One way is to develop new drugs and diagnostic tests. New drugs and diagnostic tests can help prevent antibiotic resistance. New drugs and diagnostic tests can help prevent antibiotic resistance. New drugs and diagnostic tests can help prevent antibiotic resistance.

National Strategy

September 18, 2014
 The White House announced a new federal effort to combat antibiotic resistant bacteria

- Report from the President's Council of Advisors on Science and Technology (PCAST)
- National Strategy to Combat Antibiotic-Resistant Bacteria (CARB)
- Executive Order 13676: Combating Antibiotic-Resistant Bacteria

[Stewardship prominent in all three parts](#)

National Action Plan

March 2015

- Outlines steps for implementing the National Strategy-5 year roadmap
- Primary goal: guide activities by the federal government as well as actions by public health, healthcare, and veterinary partners to address this urgent drug-resistant threat
- [Calls for establishment of AS programs in all acute care hospitals by 2020](#)

June 2015

White House Forum on Antibiotic Stewardship

As part of the continued effort to combat antibiotic resistance the Obama Administration convened the Forum to bring together key human and animal health constituencies involved in antibiotic stewardship—the development, promotion, and implementation of activities to ensure the responsible use of antibiotics.

More than 150 food companies, retailers, and human and animal health stakeholders committed to implement changes over the next five years to slow the emergence of resistant bacteria and prevent the spread of resistant infections.

September 2015

Presidential Advisory Council on Antibiotic-Resistant Bacteria (PACCARB) established.

The Advisory Council provides advice, information, and recommendations to the US Department of Health and Human Service's Secretary regarding programs and policies intended to support and evaluate the implementation of [Executive Order 13676](#) including the [National Strategy for Combating Antibiotic-Resistant Bacteria \(Strategy\)](#) and the [National Action Plan for Combating Antibiotic-Resistant Bacteria \(Action Plan\)](#).

June 2016

- The Joint Commission announced a new Medication Management (MM) standard for hospitals, critical access hospitals, and nursing care centers.
- The Centers for Medicare & Medicaid Services (CMS) released a **proposed rule** to help address the growing threat of antibiotic resistance. It outlines the updated standards—known as “conditions of participation”—that hospitals must meet in order to participate in U.S. Medicare and Medicaid programs.

January 1, 2017

- The Joint Commission new Standard MM.09.01.01 related to antimicrobial stewardship becomes effective.

Antimicrobial Stewardship

New Antimicrobial Stewardship Standard

APPLICABLE TO Hospitals and Critical Access Hospitals

Effective January 1, 2017

Medication Management (MM)

Standard MM.09.01.01
The critical access hospital has an antimicrobial stewardship program based on current scientific literature.

Elements of Performance for MM.09.01.01

1. Leaders establish antimicrobial stewardship as an organizational priority. (See also LD.01.03.01, EP.1)
 - Accountability documents
 - Budget plans
2. The critical access hospital educates staff and licensed independent practitioners involved in antimicrobial ordering, dispensing, administration, and monitoring about antimicrobial resistance and antimicrobial stewardship practices. Education occurs upon hire or granting of retail privileges and periodically thereafter, based on organizational need.
 - Infection prevention plans
 - Performance improvement plans
 - Change plans
 - Using the electronic health record to collect antimicrobial stewardship data
3. The critical access hospital educates patients, and their families as needed, regarding the appropriate use of antimicrobial medications, including antibiotics. (For more information on patient education, refer to Standard MM.09.01.02.)
 - Infection prevention plans
 - Performance improvement plans
 - Change plans
 - Using the electronic health record to collect antimicrobial stewardship data
4. The critical access hospital has an antimicrobial stewardship multidisciplinary team that includes the following members, when available in the setting:
 - Infectious disease physician
 - Infection preventionist(s)
 - Pharmacist(s)
 - Physician

Continued on page 6 of 10

Antibiotic stewardship programs are not new - documented in US hospitals since 1970s

Antimicrobial Stewardship

Antimicrobial stewardship (AS) is defined by the Infectious Diseases Society of America (IDSA) and the Society for Healthcare Epidemiology of America (SHEA) as coordinated interventions designed to improve and measure the appropriate use of antibiotics by promoting the selection of the optimal antibiotic drug regimen including dosing, duration of therapy, and route of administration.

This 2007 document formalized antibiotic stewardship as a programmatic activity

Stewardship Goals

- From a public health standpoint, reduction of emergence of antibiotic resistance and preservation of existing and future antimicrobial agents are a priority.
- Optimizing antibiotic selection, dose, route of administration, and duration of therapy to maximize clinical cure while limiting unintended consequences, such as the emergence of resistance at the patient level, *Clostridium difficile* infection, and adverse drug toxicities
- Prevent antibiotic overuse, misuse, and abuse

Antimicrobial Stewardship Core Team

7A.0 Recommendation, letters and A.03

1. Surber PR, et al. Clin Infect Dis. 2007;45:1218-1222.

an infectious disease professional, and hospital epidemiologist being required (A.03). Because antimicrobial stewardship, an important component of patient safety, is considered to be a medical staff function, the program is usually directed by an infectious diseases physician or subspecialist by an infectious diseases physician and a clinical pharmacist with infectious disease training. (A.03)

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY **2012**, 36(1), 12, 10-12

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SHEA/IDSA/PIDS POLICY STATEMENT

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)

Society for Healthcare Epidemiology of America Infectious Diseases Society of America
Pediatric Infectious Diseases Society

Antimicrobial resistance has emerged as a significant healthcare quality and patient safety issue in the twenty-first century that, combined with a rapidly escalating antimicrobial consumption, has resulted in a critical threat to the public health of the United States. Antimicrobial stewardship programs optimize antimicrobial use to achieve the best clinical outcomes while minimizing adverse events and limiting selection pressures that drive the emergence of resistance and may also reduce excessive costs attributable to suboptimal antimicrobial use. Therefore, antimicrobial stewardship must be a fiduciary responsibility for all healthcare institutions across the continuum of care. This position statement of the Society for Healthcare Epidemiology of America, the Infectious Diseases Society of America, and the Pediatric Infectious Diseases Society of America outlines recommendations for the mandatory implementation of antimicrobial stewardship throughout health care, suggests process and outcome measures to monitor these interventions, and addresses deficiencies in education and research in this field as well as the lack of accurate data on antimicrobial use in the United States.

Infect Control Hosp Epidemiol 2012;36(1):122-127

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY **2012**, 36(1), 12, 10-12

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SHEA WHITE PAPER

Guidance for the Knowledge and Skills Required for Antimicrobial Stewardship Leaders

Sara E. Cosgrove, MD, MS¹; Elizabeth D. Hermes, PharmD, MBA²; Michael J. Rybak, PharmD, MPH³
Thomas M. File Jr, MD⁴; Sarah K. Parker, MD⁵; Tamar E. Barlam, MD⁶

Antimicrobial stewardship programs are increasingly recognized as critical in optimizing the use of antimicrobials. Consequently, more physicians, pharmacists, and other healthcare providers are developing and implementing such programs in a variety of healthcare settings. The purpose of this guidance document is to outline the knowledge and skills that are needed to lead an antimicrobial stewardship program. It was developed by antimicrobial stewardship experts from organizations that are engaged in advancing the field of antimicrobial stewardship.

Infect Control Hosp Epidemiol 2014;35(12):1444-1451

Antimicrobial stewardship (AS) refers to coordinated interventions to improve and measure the appropriate use of antimicrobials by promoting the selection of the optimal an- Recognizing this emerging and changing landscape, the Society for Healthcare Epidemiology of America has partnered with other leaders in advancing the field of antimic-

Clinical Infectious Diseases
IDSA GUIDELINE

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Implementing an Antibiotic Stewardship Program: Guidelines by the Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America

James E. Tenover,¹ David E. Nisman,² Lisa M. Alon,³ Gerson MacIntyre,⁴ Andrew W. Kachare,⁵ Edward J. Septimus,⁶ Aydin Sotoudeh,⁷ Emily H. Dethlefsen,⁸ Paul P. Fan,⁹ Neil D. Friedman,¹⁰ Gady M. Hershkovitz,¹¹ Timothy C. Johnston,¹² Pranita A. Ligon,¹³ Patrick M. Malachuk,¹⁴ Larissa B. May,¹⁵ Gregory J. Moore,¹⁶ Maranda M. Neill,¹⁷ Jason C. Novakoff,¹⁸ Christopher A. Olin,¹⁹ Matthew H. Saman,²⁰ Susan K. Shaw,²¹ and Kristin E. Tenover²²

2014

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2014 2015 2016

Core Elements of Hospital Antibiotic Stewardship Programs

MMWR

Core Elements of Outpatient Antibiotic Stewardship

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- LEADERSHIP COMMITMENT** - Dedicating necessary human, financial and information technology resources.
- ACCOUNTABILITY** - Appointing a single leader responsible for program outcomes. Experience with successful programs show that a physician leader is effective.
- DRUG EXPERTISE** - Appointing a single pharmacist leader responsible for working to improve antibiotic use.
- ACTION** - Implementing at least one recommended action, such as systemic evaluation of ongoing treatment need after a set period of initial treatment (i.e. "antibiotic time out" after 48 hours).
- TRACKING** - Monitoring antibiotic prescribing and resistance patterns.
- REPORTING** - Regular reporting information on antibiotic use and resistance to doctors, nurses and relevant staff.
- EDUCATION** - Educating clinicians about resistance and optimal prescribing.

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National Quality Partners Playbook: Antibiotic Stewardship in Acute Care

Based on CDC Core Elements for Hospital AS Programs

Has specific suggestions for implementation and special section on measurement

Identifies potential barriers and solutions

Tool and resources - Making the Business Case for ASP

2016

Clinical Infectious Diseases
MAJOR ARTICLE

AIDSA hivmo

Antibiotic Stewardship Programs in U.S. Acute Care Hospitals: Findings From the 2014 National Healthcare Safety Network Annual Hospital Survey

Leif A. Pallock, Barbara L. van Boven, Lindsey M. Weiss, Margaret A. Studak, Jacobus K. Edwards, and Alan S. Baseman

Cite the Editorial Comments by Schwartz on page 408-93.

Background. The National Action Plan to Combat Antibiotic-Resistant Bacteria calls for all US hospitals to improve antibiotic stewardship as a key prevention strategy for resistance and eliminate antibiotic-resistant infections. Antibiotic stewardship programs (ASPs) will be essential to this effort but implementation is not well understood.

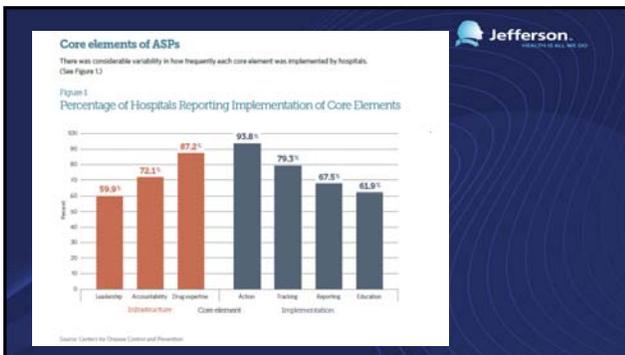
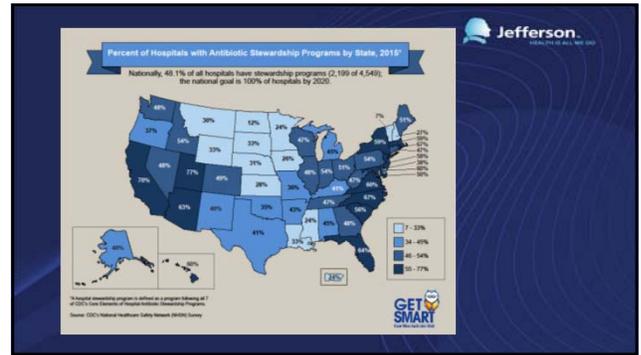
Methods. We analyzed the 2014 National Healthcare Safety Network Annual Hospital Survey to describe ASPs in US acute care hospitals as defined by the Center for Disease Control and Prevention (CDC) Core Elements for Hospital ASPs. Descriptive analyses were used to assess stewardship infrastructure and practices by facility characteristics and a multivariate model determined factors associated with meeting all ASP core elements.

Results. Among 4184 US hospitals, 9% reported having an ASP that met all 7 core elements. Although hospitals with greater than 200 beds (59%) were more likely to have ASPs, 1 in 4 (25%) of hospitals with less than 50 beds reported achieving all 7 CDC-defined core elements of a comprehensive ASP. The percent of hospitals in each size that reported all seven elements ranged from 7% to 54%. In the multivariate model, better report indicated relative risk [RR]: 2.2 [95% confidence interval (CI), 1.2-4.1, P = .009] for safety support (defined as 1.5-10% CI, i.e., all, P = .008) was significantly associated with having a comprehensive ASP.

Conclusions. Our findings show that ASP implementation varies across the United States and provide a baseline to monitor progress toward national goals. Comprehensive ASPs can be established in facilities of any size and hospital leadership support for antibiotic stewardship programs to drive the establishment of ASPs.

Keywords. anti-biostat agents (therapeutic uses), Health Care Services, Hospitals, Centers for Disease Control and Prevention (US), United States.

DOI: 10.1093/cid/ciw041



Antibiotic Stewardship: Meeting the 2020 Goal

- Successful hospital AS programs, like infection prevention and control programs, are complex, resource-intensive, and require constructive engagement with a broad spectrum of hospital personnel
- There are not enough specialty-trained ID physicians or pharmacist with additional infectious disease training to meet the demand
- To date AS programs have been physician-centric. That is changing. AS is now on the minds and agendas of health professions and clinical specialties, other than ID physicians and clinical pharmacists

Four Core Actions to Prevent Antibiotic Resistance

- 1. PREVENTING INFECTIONS, PREVENTING THE SPREAD OF RESISTANCE**
 Infection prevention and control (IPC) programs are essential to reduce the burden of antibiotic-resistant infections. These are among the most important actions that can be taken to prevent antibiotic resistance. IPC programs, including hand hygiene, use of personal protective equipment, and proper antibiotic use, are essential to prevent the spread of resistant bacteria.
- 2. TRACKING**
 Tracking antibiotic use and antibiotic resistance is essential to understand the burden of antibiotic resistance and to identify areas for improvement. Tracking programs should include monitoring of antibiotic use, antibiotic resistance, and antibiotic stewardship program performance.
- 3. IMPROVING ANTIBIOTIC PRESCRIBING/STEWARDSHIP**
 Improving antibiotic prescribing/stewardship is essential to reduce the burden of antibiotic resistance. This includes ensuring that antibiotics are prescribed only when necessary, at the right dose, for the right duration, and with the right drug. Improving prescribing/stewardship also includes ensuring that patients are educated about the importance of taking antibiotics as prescribed and not sharing their antibiotics.
- 4. DEVELOPING NEW DRUGS AND DIAGNOSTIC TESTS**
 Developing new drugs and diagnostic tests is essential to address the growing burden of antibiotic resistance. This includes investing in research and development of new antibiotics and diagnostic tests that can identify antibiotic-resistant bacteria and guide treatment decisions.

On the left, arrows indicate the role of Infection Prevention and Control (IPC) in each action:

- Primary IP Role: Actions 1 and 2
- Primary IP Role: Action 3
- Future IP Role but Look Beyond Prescribing: Action 4

Infection Preventionists

In the acute care setting IPs may (or may not) have limited formal power, but often have significant informal power and influence due to their access to key organizational leaders and clinical decision makers.

Future IP Role/Responsibilities

- Antibiotic stewardship is much, much more than improving prescribing practices. Similar to HAI prevention - it is about improving systems of care
- IPs understand the organizational factors that affect the implementation of infection prevention and control strategies. IPs understand systems of care
- IPs prevent HAI by working with and through others involved in daily patient care
- How might IPs influence and engage in AS activities?

IPs Understand Process :Antibiotic Safety

Medication Use Process

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    graph LR
      A[Prescribing  
• Physician  
• NP, PA  
• Pharmacist] --> B[Transcribing  
• RN, NP  
• Nurse  
• Med Tech  
• Pharmacist]
      B --> C[Dispensing  
• Pharmacist  
• Pharmacy Intern  
• Pharmacist  
• Technician]
      C --> D[Administering  
• Nurse  
• Pharmacist]
      D --> E[Monitoring  
• Physician  
• NP, PA  
• Nurse  
• Pharmacist]
  
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Penicillin Allergy Culture Practices

Antibiotic De-escalation

The Dangers of Penicillin Allergy Misdiagnosis

- Penicillin allergy is the most common self-reported medication allergy, occurring in up to 20% of the general population. After formal allergy evaluation, 90% -99% of patients with reported allergy can tolerate penicillins. (Ann Allergy Asthma Immunol 115 (2015) 294-300.
- Inaccurate self-reporting results in patients likely being treated with broad-spectrum antibiotics, such as quinolones, vancomycin, and third generation cephalosporins, thereby contributing to antibiotic resistance.

Emerging or future IP role?

Culture Practices

- Ensure proper culturing technique
- Interpret results
- Colonization vs. infection
- Emerging or future IP role?

Antibiotic De-escalation

Reassess antibiotic therapy after 48 hours when culture results are available

Future IP Role/Responsibilities

- Unprecedented time for antibiotic stewardship
- Should IPs be part of the ASP core team or "support?"
- Should IPs lead the ASP team?
- Should ASPs come under the umbrella of IPC or patient safety? After all, virtually everyone understands and accepts the need for infection prevention and control services, including hospital executives!
- Where do you want to be? Where should you be?
- What will it take to get there?
- How will the new JC Standard affect the IPC program?

What Next?

- Become an AS subject matter expert. At a minimum read the articles in this talk.
- Be proactive! Don't wait for an invitation. An IP should be on the AS program steering committee
- Expand your network
- Be deliberate - know what you will contribute
- Discuss IPC role with your health care epidemiologist
- Conduct staff training - lunch and learn, roundtable discussions, seminars
- The new frontier in molecular diagnostics - role of IP

Abstract

The new frontier of diagnostics: Molecular assays and their role in infection prevention and control

Sanchita Das MD^{1,2*}, Dena E. Shalhoub DO^{1,3}, Michael O. Vernon DPH^{1,4}

Abstract: Advances in technology over the last decade have provided the microbiology laboratory with a diverse array of infection prevention and control. The rapid utilization of molecular techniques in the laboratory is revolutionizing the way in which infection prevention and control (IPC) is practiced. This abstract discusses the role of molecular assays in the laboratory and their impact on IPC. It describes the use of molecular assays to identify and track outbreaks, to monitor antimicrobial resistance, and to detect and track the spread of infectious agents. It also discusses the role of molecular assays in the development of new diagnostic tests and the impact of these tests on IPC. The abstract concludes with a discussion of the future of molecular assays in the laboratory and their potential to revolutionize IPC.

Keywords: Molecular assays, Infection prevention and control, Microbiology laboratory, Antimicrobial resistance, Infectious diseases.

Introduction: The use of molecular assays in the laboratory has revolutionized the way in which infection prevention and control (IPC) is practiced. This abstract discusses the role of molecular assays in the laboratory and their impact on IPC. It describes the use of molecular assays to identify and track outbreaks, to monitor antimicrobial resistance, and to detect and track the spread of infectious agents. It also discusses the role of molecular assays in the development of new diagnostic tests and the impact of these tests on IPC. The abstract concludes with a discussion of the future of molecular assays in the laboratory and their potential to revolutionize IPC.

Special article

Antimicrobial stewardship: A collaborative partnership between infection preventionists and health care epidemiologists

Julia Moody MS, SMCSCP^{1,2*}, Sara E. Grogg MD, MS³, Russell Olmsted MPH, CIC⁴, Edward Septimus MD, PhD, FIDSA, FIDSA⁵, Kathy Auerken MS, MT (ASCP)⁶, Shannon Onisla BSN, RN, CIC, COHN⁷, Gita Wasan Patel PhD, PharmD, BCPS⁸, Kavita K. Trivedi MD⁹

Abstract: Antimicrobial stewardship (AMS) is a collaborative partnership between infection preventionists and health care epidemiologists. This article discusses the role of AMS in the laboratory and its impact on IPC. It describes the use of AMS to identify and track outbreaks, to monitor antimicrobial resistance, and to detect and track the spread of infectious agents. It also discusses the role of AMS in the development of new diagnostic tests and the impact of these tests on IPC. The article concludes with a discussion of the future of AMS in the laboratory and its potential to revolutionize IPC.

Keywords: Antimicrobial stewardship, Infection prevention and control, Microbiology laboratory, Antimicrobial resistance, Infectious diseases.

Major article

Tensions inherent in the evolving role of the infection preventionist

Laura J. Conway RN, MPH, CIC^{1*}, Victoria H. Barrett PhD², Shoshika Pogorelec-Kalauer PhD, MPH³, May Elshaha RN, MPH, CNP, IC⁴, Patricia W. Stone PhD, RN, FAAN⁵, Estelle L. Larson RN, PhD, FAAN, CIC^{6*}

Abstract: The role of infection preventionists (IPs) is evolving rapidly in response to increasing rates of antimicrobial resistance and the emergence of new pathogens. This article discusses the tensions inherent in the evolving role of the IP. It describes the tensions between the IP's role in the laboratory and their role in the clinical setting. It also discusses the tensions between the IP's role in the laboratory and their role in the community. The article concludes with a discussion of the future of the IP and their potential to revolutionize IPC.

Keywords: Infection preventionist, Antimicrobial resistance, Infectious diseases, Laboratory, Clinical setting, Community.

Reflection



- How can you have the greatest impact?
- What do you need to know?
- Who do you need to know?
- What will you do by Tuesday?

Question 1 - False

The Infectious Diseases Society of America (IDSA) and the Society for Healthcare Epidemiology of America (SHEA) define antibiotic stewardship (AS) as the coordinated interventions designed to improve and measure the appropriate use of antibiotics by promoting the selection of the optimal antibiotic drug regimen including dosing, duration of therapy, and route of administration. Based on this definition AS is limited to antibiotic prescribers (e.g., physicians) and dispensers (pharmacists).

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Question 2 - True

IDSAs and SHEA strongly believe, and CDC concurs that AS programs are best led by ID physicians with additional stewardship training or clinical pharmacist with additional infectious disease training.

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Question 3 - 40%

What percentage of US hospitals reported AS programs with all 7 of CDC's Core Elements?

- a) 10%
- b) 20%
- c) 40%
- d) 80%

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Question 4 - True

AS is just one of many measures needed to prevent and manage antibiotic resistance in the hospital. A well functioning infection prevention and control program is fundamental to successful organizational stewardship strategies.

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Antibiotic Resistance



Flu! Hey kid! Wanna be a Superbug? Stick some of *them* into your genome... Even penicillin won't be able to tame you!

It was on a short-cut through the hospital kitchen that Albert was first approached by a member of the Antibiotic Resistance.

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