

Critical Access Hospitals Patient Safety Summit

Antibiotic Stewardship Strategies

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Presentation Overview

- Antimicrobial Resistance
- Antibiotic Pipeline
- Antibiotic Stewardship Program (ASP)
- Campaign to Prevent Antimicrobial Resistance
- Antibiotic Stewardship Resources

Antimicrobial Resistance

- Inappropriate antibiotic use contributes to the development of antimicrobial resistance.
- Estimated that up to 50% of antibiotic use in hospitals is inappropriate.
- 70% of healthcare-associated infections (HAIs) are resistant to at least one antibiotic.
- Estimated \$5 billion increase in health care costs annually.

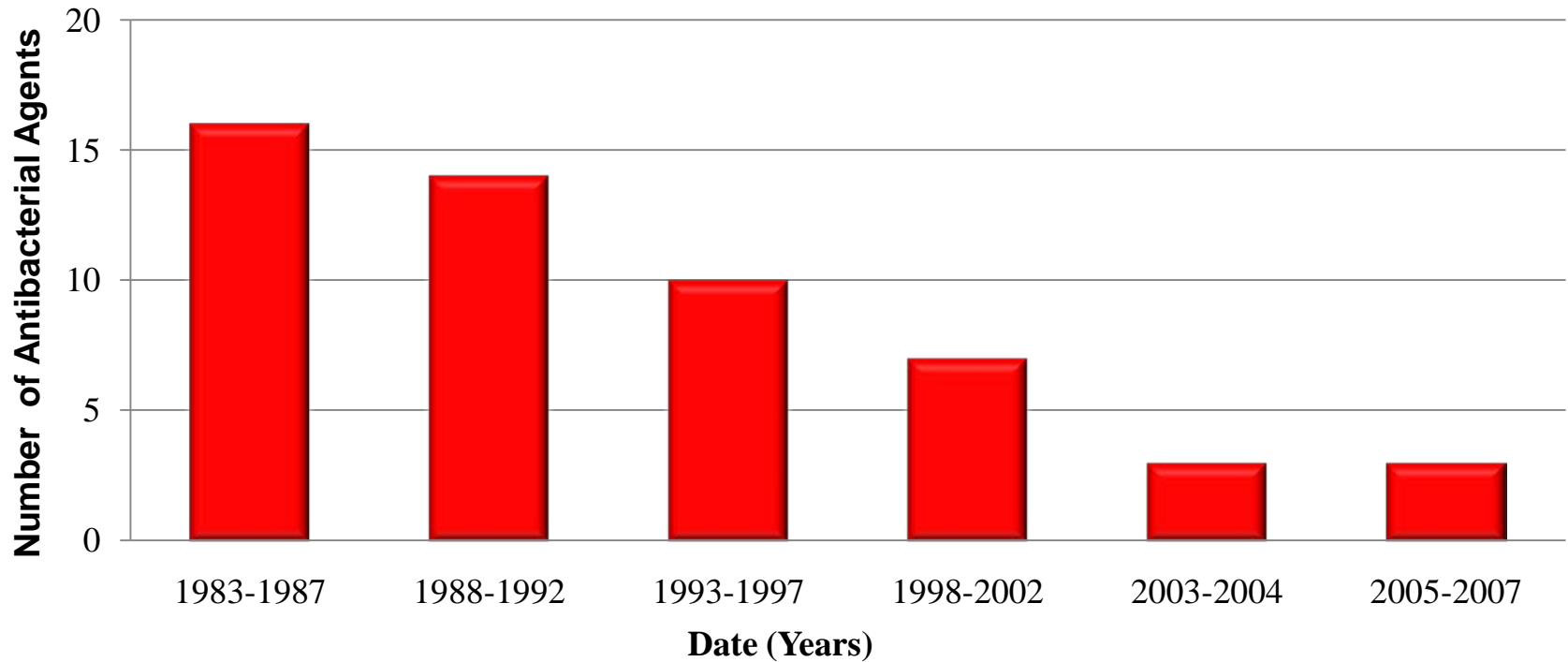
John JF Jr, Fishman NO. Programmatic role of the infectious disease physician in controlling antimicrobial costs in the hospital. *Clinical Infectious Diseases*. Mar 1997;24(3):471-485

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Antibiotic Pipeline

New Antibacterial Agents Approved 1983-2007



Source: Spellberg et al., Clinical Infectious Diseases, May 1, 2004 (modified)

Source: Extending the cure. The Antibiotic Pipeline. Policy Brief 6, May 2008

Antibiotic Stewardship Program

- Multisystem team approach
- Limits the inappropriate use of antibiotic agents
- Optimizes the selection, dose, duration, and route of therapy with the most appropriate drug for the patient's condition

Carling P, Fung T, Killion A, Terrin N, Barza M. Favorable impact of a multidisciplinary antibiotic management program conducted during 7 years. *Infection Control and Hospital Epidemiology*. Sept 2003;24(9):699-706

Dellit TH, et al. Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America guidelines for developing an institutional program to enhance antimicrobial stewardship. *Clinical Infectious Diseases*. Jan 2007;44(2):159-177

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ASP Goals

- Improve patient care
 - Appropriate use of antibiotics
 - Minimize antimicrobial resistance
 - Limit adverse drug reactions
- Reduce healthcare costs without compromising patient care

Tauman A, Robicsek A, Roberson J, Boyce J. Health care –Associated infection Prevention and Control: Pharmacists' Role in Meeting National Patient Safety Goal 7. *Hospital Pharmacy*. May 2009; 44(5):401-411

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ASP Team

- Infectious Disease Physician
- Infectious Disease Pharmacist
- Microbiologist
- Infection Control Director
- Epidemiologist
- Information System Specialist

ASP Structure

- Review pharmacy data
- Review microbiology data
- Report data
- Develop educational tools
- Develop guidelines
- Provide physician feedback

Core ASP Strategies

Which Do You Need?

- Formulary restriction and pre-authorization
- Prospective audit with intervention and feedback

Supplemental ASP Strategies

Which Do You Need?

- Streamlining/de-escalation
- Intravenous to oral conversion
- Automatic stop orders
- Extended infusions
- Education
- Guidelines

Sample ASP Intervention

- Goal
 - Decrease the use of antibiotics associated with *Clostridium difficile*
- Target Drugs
 - Fluoroquinolones, second and third generation cephalosporins, clindamycin
- Possible outcomes
 - Decrease in *Clostridium difficile* infections
 - Decrease in total antibiotic utilization
 - Decrease in targeted antibiotic utilization

Data Sources

- Pharmacy Data
 - Antibiotic utilization
 - Antibiotic cost
- Microbiology Data
 - Antimicrobial resistance patterns

Why implement an ASP?

- Decrease infection rates
- Improve antibiotic utilization
- Know local resistance patterns
- Decrease multidrug resistant organisms
- Improve patient care
- Reduce costs

Campaign to Prevent Antimicrobial Resistance



Source: Centers for Disease Control and Prevention, National Center for Infectious Diseases,
Division of Healthcare Quality Promotion

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Antibiotic Stewardship Resources

- CDC “Get Smart for Healthcare”
<http://www.cdc.gov/getsmart/healthcare/index.html>
- SHEA/ IDSA - Guidelines for Developing an Institutional Program to Enhance Antimicrobial Stewardship
<http://www.journals.uchicago.edu/doi/pdf/10.1086/510393>
- ASHP - Free Program on Antibiotic Stewardship
<http://onlinece.ashpadvantage.com/stewardship>
- The Joint Commission – What Every Health Care Executive Should Know: The Cost of Antibiotic Resistance
<http://www.jcrinc.com/Cost-of-Antibiotic-Toolkit/>

CDC – Centers for Disease Control and Prevention; ASHP - American Society of Health System Pharmacists
SHEA – Society of Healthcare Epidemiology of America; IDSA – Infectious Diseases Society of America

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Antibiotic Stewardship Pharmacist Certificate Programs

- Making a Difference in Infectious Diseases
Pharmacotherapy(MAD-ID)
http://www.mad-id.com/asp/asp_index.htm
- Society of Infectious Disease Pharmacists (SIDP)
[http://www.sidp.org/index.php?module=pagesetter&func=view
pub&tid=6&pid=12](http://www.sidp.org/index.php?module=pagesetter&func=view_pub&tid=6&pid=12)

Questions?

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