

Antibiotic Resistance and Stewardship: A Primer

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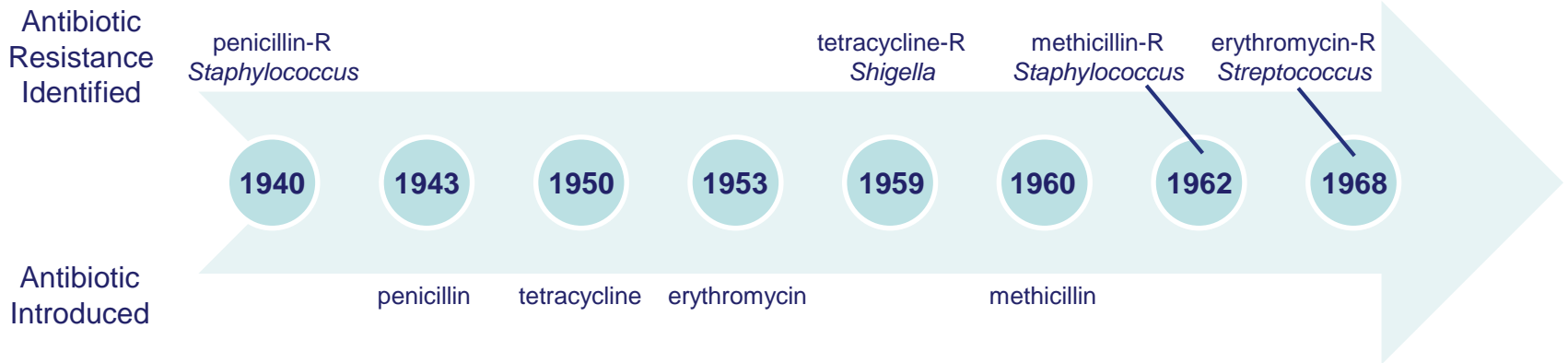
Indiana State
Department of Health

Objectives

- Define the problem of antimicrobial resistance
- Describe the scope of antimicrobial resistance
- Identify the best practices of antimicrobial stewardship

Antibiotics: A History

- Antibiotics are powerful drugs that have changed healthcare – making once deadly diseases treatable



Antibiotics

- Antibiotics are powerful drugs that have changed healthcare – making once deadly diseases treatable
 - Allowing for treatment during critical medical interventions among patients most at risk for developing severe infections



Surgery

Dialysis for
End-Stage
Renal Disease



Cancer
chemotherapy



Treatment for
inflammatory
conditions



Organ
transplants

Antibiotic Resistance at a Glance

- Antibiotic resistance occurs when bacteria no longer respond to the drugs designed to kill them. Anytime antibiotics are used, they can cause antibiotic resistance

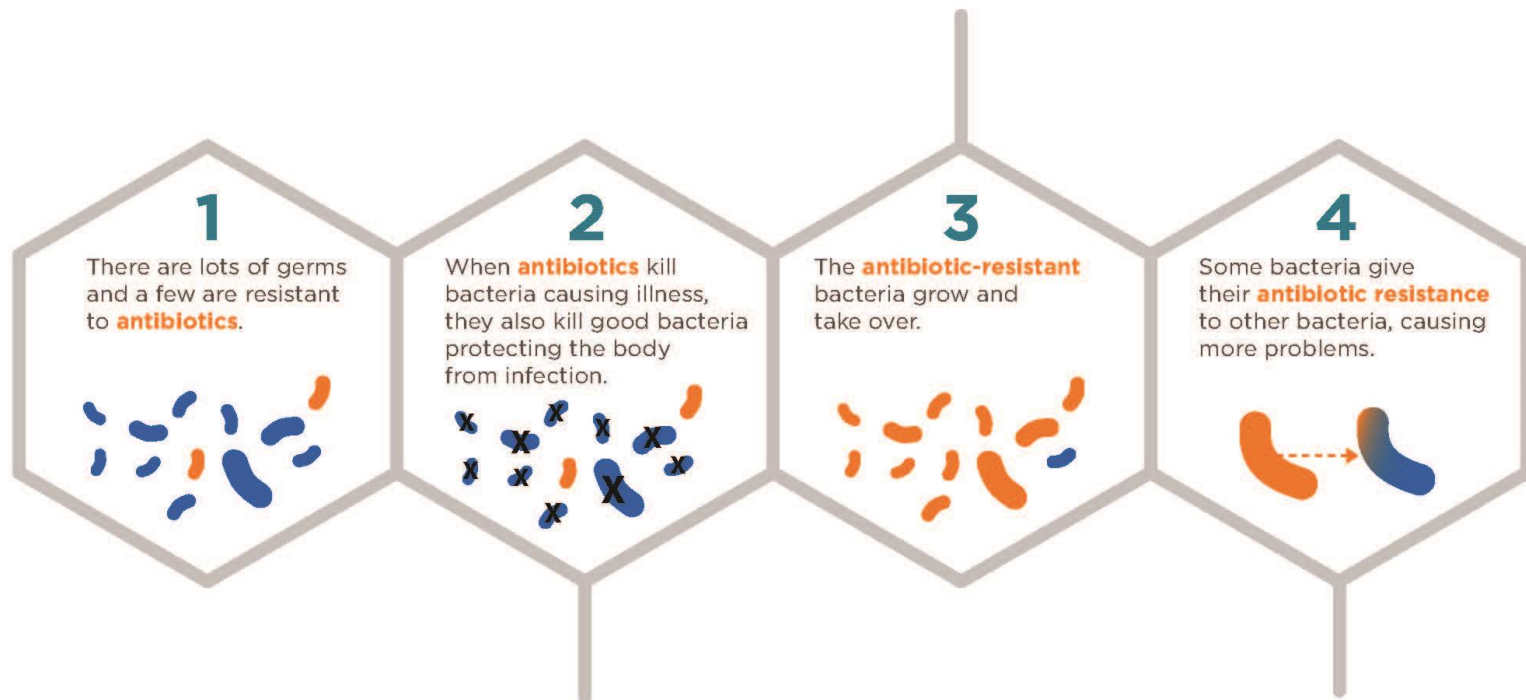


2,000,000
infections per year

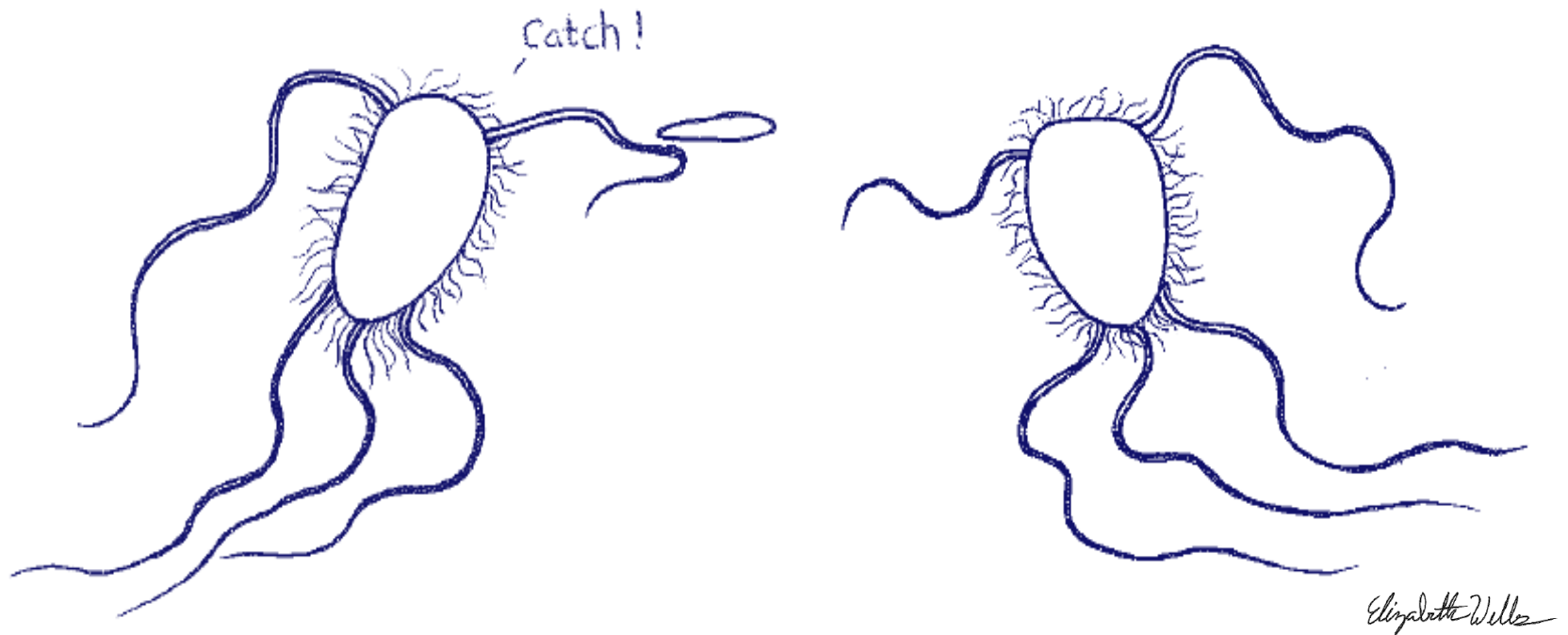


23,000
deaths per year

How Antibiotic Resistance Happens



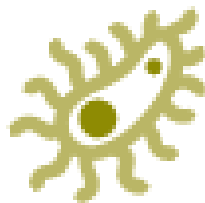
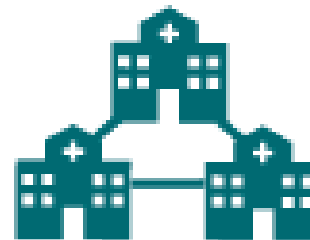
Spread of Antibiotic Resistance



Spread of Antibiotic Resistant Bacteria

Antibiotic resistance can spread...

- From people with and without symptoms of infections
- Between healthcare facilities
- Between bacteria



Antibiotic Resistance Example

Bacterial Infection

Strongest Resistance

Antibiotic

Strong Antibiotic

Stronger Antibiotic

Strongest Antibiotic

STRENGTH

Combating Antibiotic Resistance



Improving Antibiotic Use to Combat Antibiotic Resistance

What is an Antibiotic Stewardship Program?

Set of commitments and activities designed to “*optimize the treatment of infections while reducing the adverse events associated with antibiotic use.*”

-CDC

Antibiotic Stewardship programs help ensure that patients get the right antibiotics at the right time for the right duration

Improving Antibiotic Use to Combat Antibiotic Resistance

Antibiotic stewardship programs can:



Antibiotic Stewardship Programs in Critical Access Hospitals



Core Element 1:

Leadership Commitment

- Antibiotic stewardship programs (ASPs) need clear support from hospital leadership for success
- Examples of actions to demonstrate leadership commitment:
 - Facility leadership should provide a visible, written statement of support for the ASP
 - Facility leadership should provide financial and FTE support for training and education on AS

Core Element 1: Leadership Commitment

Basic

Issue a formal board-approved statement of the importance of AS.

Regularly communicate the importance of improving antibiotic use.

Intermediate

Integrate AS activities into ongoing quality improvement efforts.

Support ongoing provider education for AS in annual competencies.

Advanced

Provide financial support training for AS leaders.

Core Element 1: Leadership Commitment

Potential Barriers

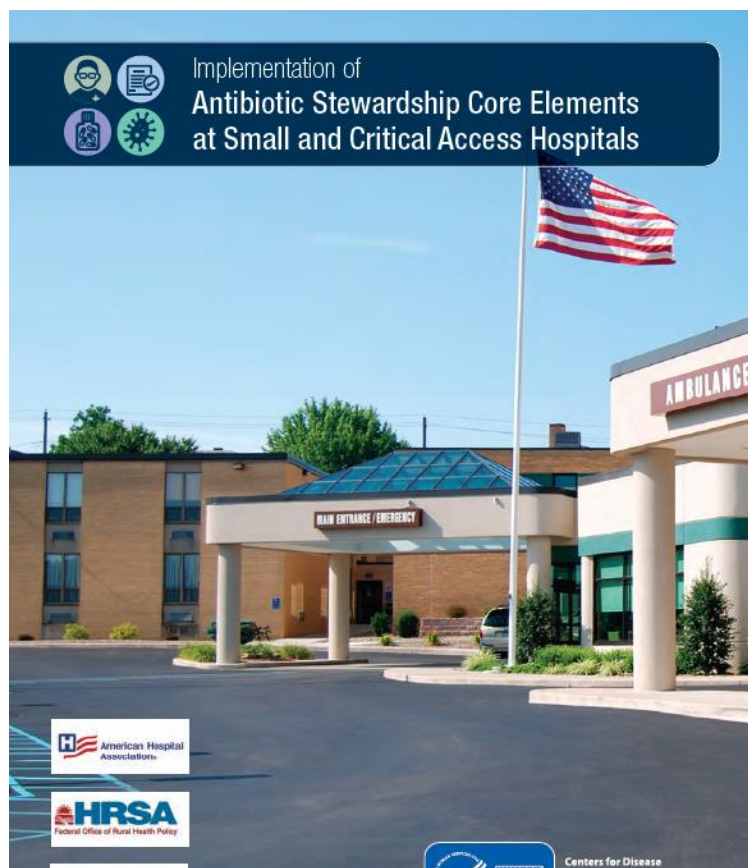
- Low support for ASP by hospital Leaders

Suggested Solutions

- Refer to key national reports on the importance of antibiotic resistance and stewardship

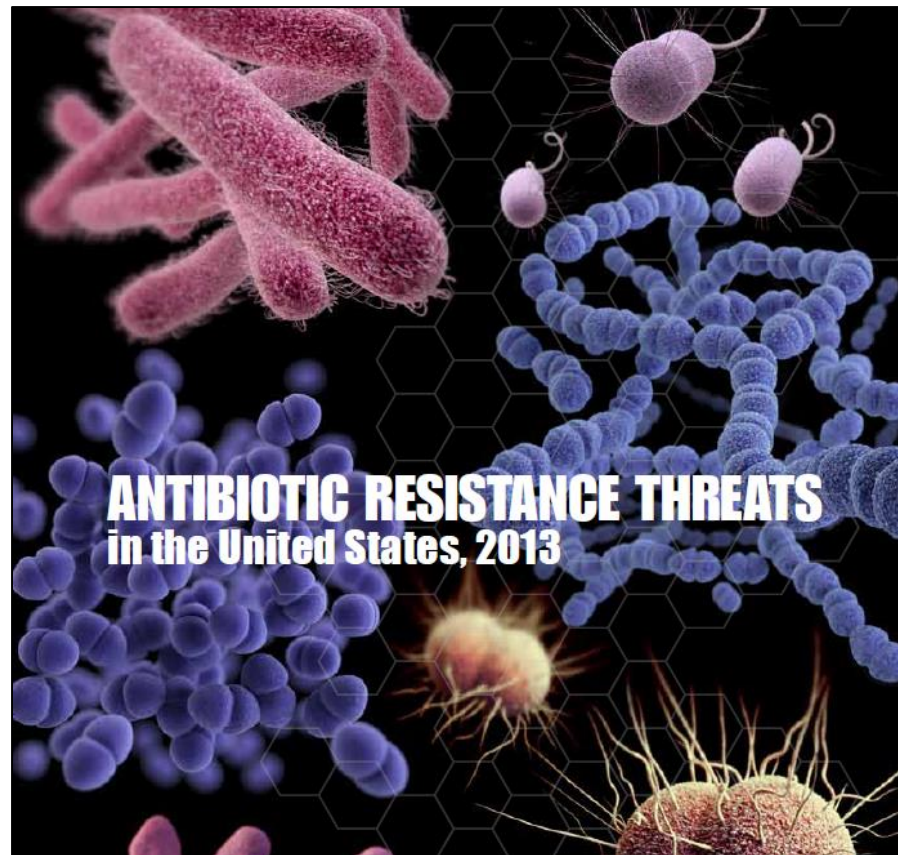
Resources

CDC Antibiotic Stewardship in CAHs



Resources

CDC Antibiotic Resistance Threats



Resources

National Strategy for Combating AR

NATIONAL STRATEGY FOR COMBATING ANTIBIOTIC- RESISTANT BACTERIA

Vision: The United States will work domestically and internationally to prevent, detect, and control illness and death related to infections caused by antibiotic-resistant bacteria by implementing measures to mitigate the emergence and spread of antibiotic resistance and ensuring the continued availability of therapeutics for the treatment of bacterial infections.

September 2014



Core Element 1:

Leadership Commitment

Potential Barriers

- Low support for ASP by hospital Leaders
- Initiative Fatigue

Suggested Solutions

- Refer to key national reports on the importance of antibiotic resistance and stewardship
- Learn about the impact ASPs can have on a healthcare facility

Resources

Evidence on Impact of ASPs on Hospitals

Current evidence on hospital antimicrobial stewardship objectives: a systematic review and meta-analysis



Emelie C Schuts, Marlies E J L Hulscher, Johan W Mouton, Cees M Verduin, James W T Cohen Stuart, Hans W P M Overdiek, Paul D van der Linden, Stephanie Natsch, Cees M P M Hertogh, Tom F W Wolfs, Jeroen A Schouten, Bart Jan Kullberg, Jan M Prins

Summary

Background Antimicrobial stewardship is advocated to improve the quality of antimicrobial use. We did a systematic review and meta-analysis to assess whether antimicrobial stewardship objectives had any effects in hospitals and long-term care facilities on four predefined patients' outcomes: clinical outcomes, adverse events, costs, and bacterial resistance rates.

Methods We identified 14 stewardship objectives and did a separate systematic search for articles relating to each one in Embase, Ovid MEDLINE, and PubMed. Studies were included if they reported data on any of the four predefined outcomes in patients in whom the specific antimicrobial stewardship objective was assessed and compared the findings in patients in whom the objective was or was not met. We used a random-effects model to calculate relative risk reductions with relative risks and 95% CIs.

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Resources

Anthem Q-HIP



Provider Programs – Quality Management Programs

Quality-in-Sights®: Hospital Incentive Program (Q-HIP®)

Program Description

The Quality-In-Sights®: Hospital Incentive Program (Q-HIP®) is our performance-based reimbursement program for hospitals. The mission of Q-HIP is to help improve patient outcomes in a hospital setting and promote health care value by financially rewarding hospitals for practicing evidence-based medicine and implementing best practices. Q-HIP strives to promote improvement in health care quality and to raise the bar by moving the bell shaped “quality curve” to the right towards high performance.

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