Outpatient Antibiotic Stewardship: Why It Matters

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Agenda for today’s meeting

• Introduction
• Problem: Antibiotic Resistance
• Solution: Antibiotic Stewardship
• Project particulars
• Outpatient Core Elements
• How to participate
Today’s Speakers

- **E. Eve Esslinger, MSN, CRNP**, Network Task Lead, Quality Insights, Pennsylvania
- **Jerad L. Bailey, Pharm.D.**, Consultant Pharmacist, Quality Insights, West Virginia
Quality Innovation Network Staff

- Sally Jennings, Delaware
- Debby Fosson, West Virginia
- Jane Ehrhardt, Louisiana
- Jan Takewell, Louisiana
- Louise Bourgeois, Louisiana
- Julie Volz, Pennsylvania
- Julie Sholtis, Pennsylvania
- Janet Phillips, New Jersey
- Gail Bondar, New Jersey
- Dr. Andrew Miller, New Jersey
Terms and Definitions

- Centers for Medicare & Medicaid Services (CMS)
- Centers for Disease Control and Prevention (CDC)
- Learning and Action Network (LAN)
- Quality Innovation Network (QIN)
- Quality Improvement Organization (QIO)
- Scope of Work (SoW)
- Project or Task
- Antibiotic Stewardship Program (ASP)
- Combatting Antibiotic Resistant Bacteria (CARB)
What are Quality Innovation Network-Quality Improvement Organizations (QIN-QIOs)?

- QIN-QIOs are contracted with and work under the direction of the Centers for Medicare & Medicaid Services (CMS) to assist providers (hospitals, nursing homes, home health, physician offices, etc.) with quality improvement.
- QIN-QIOs work with healthcare services to improve care of patients and families and convene community partners for communication and collaboration.
- QIN-QIOs also work to improve the quality of healthcare to meet national and local priorities.

The QIN-QIO Program’s Approach to Clinical Quality

Aims

Make care safer
Strengthen person and family engagement
Promote effective communication and coordination of care
Promote effective prevention and treatment
Promote best practices
Make care affordable

Foundational Principles
- Enable innovation
- Foster learning organizations
- Eliminate disparities
- Strengthen infrastructure and data systems
11th SOW QIN-QIO Map
QIN-QIO: Quality Insights

- Five-year contract with CMS under its 11th Scope of Work (SoW)
- Includes Delaware, Louisiana, New Jersey, Pennsylvania and West Virginia
CMS Quality Improvement Program

- Innovation, Spread and Sustainability
- Learning and Action Networks
- Technical Assistance
Four Key Roles of QIN-QIOs

• Facilitate Learning and Action Networks (LANs)
  – Creating an “all teach, all learn” environment
  – Placing motivation for improvement at the bedside level – e.g., handwashing

• Teach and advise as technical experts
  – Teach so learning is never lost

• Champion local-level, results-oriented change
  – Improve data
  – Active engagement of patients and other partners
  – Spread innovation and best practices that “stick”

• Communicate effectively
  – Sustain clinician, provider and patient/family behavior change
Learning and Action Networks (LANs)

• LANs convene stakeholders, providers, patient/family representatives, and improvement experts in an “all teach, all learn” environment

• Through the LAN, Quality Insights’ networks:
  – Provide educational webinars and conferences
  – Allow for the sharing of best practices
  – Support for adapting and spreading successful improvements
Antibiotic Resistance in the News

By HELEN BRANSWELL @HelenBranswell
JANUARY 12, 2017

If it sometimes seems like the idea of antibiotic resistance, though unsettling, is more theoretical than real, please read on.

Public health officials from Nevada are reporting on a case of a woman who died in Reno in September from an incurable infection. Testing showed the superbug that had spread throughout her system could fend off 26 different antibiotics.

“It was tested against everything that’s available in the United States … and was not effective,” said Dr. Alexander Kallen, a medical officer in the Centers for Disease Control and Prevention’s division of health care quality promotion.

Although this isn’t the first time someone in the US has been infected with pan-resistant bacteria, at this point, it is not common. It is, however, alarming.
How Does Antibiotic Resistance Happen?

Natural Selection

- Polymorphic organisms are “selected” for survival and reproduction based upon outside factors.
- Organisms with variations (mutations) that protect them from a particular stressor may survive the course of therapy to reproduce.
- These variations are passed to offspring.
- Ineffectual or incomplete antibiotic treatments cause resistant organisms to be “selected” for survival and subsequent reproduction.
How Do We Deal With Antibiotic Resistance?

• New antibiotics
  – The discovery of antibiotic-resistant microbes outpaces the discovery of new therapies

• “Old” antibiotics
  – Eg. Colistin (polymyxin) has been widely ignored due to potential for nephrotoxicity and neurotoxicity
  – Many previously-resistant organisms have evolved to no longer harbor resistance (resistance is “expensive”) to Colistin

• Antibiotic Stewardship
  – Multifaceted approach to mitigate antibiotic resistance
Antibiotic Stewardship

“[Antibiotic] stewardship is a coordinated program that promotes the appropriate use of antimicrobials (including antibiotics), improves patient outcomes, reduces microbial resistance, and decreases the spread of infections caused by multidrug-resistant organisms.”

-Association for Professionals in Infection Control and Epidemiology

Use antibiotics appropriately now to ensure their efficacy in the future
Why is Antibiotic Stewardship Important?

• Overuse of antibiotics for conditions that do not require them
  – Additional cost to the patient
  – Unnecessary side effects and drug-drug interactions
  – Opportunist infections such as *Clostridium difficile* (C. diff) or Candida albicans (thrush/yeast infection)

• Improper use of prescribed antibiotics
  – Non-adherence may forge antibiotic resistance

• Overuse of broad-spectrum antibiotics
  – Routine use of “big gun” therapies ultimately reduce their effectiveness
Project Particulars

• First let’s start with an ‘old’ quote and some recent history

"In such cases, the thoughtless person playing with penicillin is morally responsible for the death of the man who finally succumbs to infection with the penicillin-resistant organism. I hope this evil can be averted.“  -Alexander Fleming, 1945
Federal Engagement in Antimicrobial Resistance

- **Sept. 2014**: Executive Order to emphasize the importance of addressing the threat of antimicrobial resistance.
- **March 2015**: White House released the *National Action Plan for Combating Antibiotic Resistant Bacteria*.
- **June 2015**: White House hosted the Forum on Antibiotic Stewardship to bring together more than 100 key human and animal health leaders involved in antibiotic stewardship.

National Action Plan For Combating Antibiotic-Resistant Bacteria

• Slow the Emergence of Resistant Bacteria and Prevent the Spread of Resistant Infections

• By 2020:
  – Establishment of antibiotic stewardship programs in all acute care hospitals and improved antibiotic stewardship across all healthcare settings
  – Reduction of inappropriate antibiotic use by 50% in outpatient settings and by 20% in inpatient settings

Why are Antibiotics Prescribed Inappropriately?

• Fear of complications
  – Providers cite fear of infectious complications

• Patient pressure and satisfaction
  – Providers universally cite patient requests for antibiotics
  – Effective communication can help

• Habit?

Sanchez, EID; 2014; 20(12);2041-7
What if Something Bad Happens?

• Without an antibiotic
  – Complications from common respiratory infections are very rare
  – Over 4000 patients with colds need to be treated to prevent 1 case of pneumonia

• With an antibiotic
  – Side effects
    • Diarrhea in 5-25%
    • Yeast infections
    • Allergic reactions and anaphylaxis

• 1 in 1000 risk that an antibiotic will lead to ED visit for adverse event
• *Clostridium difficile* infection
Combatting Antibiotic Resistant Bacteria through Antibiotic Stewardship in Communities

• **AKA:** *Outpatient Antibiotic Stewardship*
• New project—started in October 2016
• It’s free
• Funded by CMS
• Multidisciplinary Advisory Group
• Partner with local, state and federal stakeholders such as State Departments of Health and the Centers for Disease Control and Prevention (CDC)
Outpatient Settings

• Ambulatory Surgery Centers (ASCs)
• Federally-Qualified Health Centers (FQHCs)
• Emergency Departments
• ESRD Facilities
• Outpatient Clinics
• Outpatient pharmacies
• Pharmacy-based clinics
• Physician Offices
• Public Health Clinics
• Urgent Care
Project Purpose

• Educate and assist outpatient settings to incorporate Core Elements of Outpatient Antibiotic Stewardship
• Focus efforts when possible (specific antibiotics, high-use providers)
• All outpatient providers welcome
CDC Core Elements

2014

Core Elements of Hospital Antibiotic Stewardship Programs

2015

The Core Elements of Antibiotic Stewardship for Nursing Homes
Core Elements of Outpatient Antibiotic Stewardship

• Four Core Elements
  – Commitment
  – Action
  – Tracking and Reporting
  – Education and Expertise

• Checklists
  – Facility
  – Clinician
Commitment

Can your facility demonstrate dedication to and accountability for optimizing antibiotic prescribing and patient safety related to antibiotics?

If yes, indicate which of the following are in place. (Select all that apply.)

• Write and display public commitments in support of antibiotic stewardship
• Identify a single leader to direct antibiotic stewardship activities within a facility
• Include antibiotic stewardship-related duties in position descriptions or job evaluation criteria
• Communicate with all clinic staff to set patient expectations
Action

Has your facility implemented at least one policy or practice to improve antibiotic prescribing?
If yes, indicate which interventions are in place. (Select all that apply.)

• Use evidence-based diagnostic criteria and treatment recommendations
• Use delayed prescribing practices or watchful waiting, when appropriate
• Provide communications skills training for clinicians
• Require explicit written justification in the medical record for non-recommended antibiotic prescribing
• Provide support for clinical decisions
• Use call centers, nurse hotlines, or pharmacist consultations as triage systems to prevent unnecessary visits
Does your facility monitor at least one aspect of antibiotic prescribing?

- Self-evaluate antibiotic prescribing practices. (This intervention only applies to solo practitioners or practices with fewer than 5 clinicians as long as all clinicians participate.)
- Participate in continuing medical education and quality improvement activities to track and improve antibiotic prescribing. (This intervention only applies if all clinicians in the practice participate in the activity.)
- Track and report antibiotic prescribing for one more high priority conditions.
- Track and report the percentage of all visits leading to antibiotic prescriptions.
- (If already tracking and reporting one of the above) Track and report, at the level of a health care system, complications of antibiotic use and antibiotic resistance trends among common outpatient bacterial pathogens.
- Assess and share performance on quality measures and established reduction goals addressing appropriate antibiotic prescribing from health care plans and payers.
Education and Expertise

Does your facility provide resources to clinicians and patients on evidence-based antibiotic prescribing?
If yes, indicate how your facility provides antibiotic stewardship education to patients. (Select all that apply.)
• Use effective communication strategies to educate patients about when antibiotics are and are not needed
• Educate about the potential harms of antibiotic treatment
• Provide patient education materials
If yes, indicate how your facility provides antibiotic stewardship education to clinicians. (Select all that apply.)
• Provide face-to-face educational training (academic detailing)
• Provide continuing education activities for clinicians
• Ensure timely access to persons with expertise
How to Participate
I want to join – what do I do next?

- Sign an agreement.
- Start planning how you can adopt/integrate the core elements.

Please enter your facility name, provider number, and address:

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<tr>
<th>FACILITY NAME:</th>
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<tbody>
<tr>
<td>FACILITY TYPE (URGENT CARE CLINIC, EMERGENCY DEPARTMENT CLINIC, ETC.):</td>
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<tr>
<td>IDENTIFICATION NUMBER (TIN, CCN, OR NPI):</td>
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<tr>
<td>CLINIC/HOSPITAL SYSTEM ADDRESS:</td>
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</tbody>
</table>

Required signatures (2):

<table>
<thead>
<tr>
<th>ROLE:</th>
<th>SIGN AND PRINT YOUR NAME:</th>
<th>DATE:</th>
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<tbody>
<tr>
<td>Outpatient Setting Clinical Leader (i.e., the leader will commit to engage staff, help implement clinically relevant antibiotic stewardship activities, and oversee results)</td>
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<td>Outpatient Setting Champion (i.e., physician, nurse, or pharmacist)</td>
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Hospitals...

- Hospital Improvement and Innovation Networks (HIINs) have CDI/antibiotic stewardship projects

QIN will provide

- Welcome packet
- Timeline and calendar of educational events
- Quarterly webinars
- Learning platform: My Quality Insights
  - E-learn courses
  - Resources
- Collaboration/sharing
- E-messaging (bulletins/newsletters)
Questions/Discussion
Contact Information for the Outpatient Antibiotic Stewardship project

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Thank you.
We look forward to working with you.