

Appropriate Antibiotic Use: A Team Effort

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Objectives

- Summarize the concept and importance of antibiotic stewardship in the outpatient setting
- Discuss opportunities for antibiotic stewardship within the primary care visit
- List antibiotic stewardship opportunities for office staff



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Our Mission

Kentucky Antibiotic Awareness is a state-wide campaign to encourage appropriate antibiotic use throughout Kentucky.

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This content is solely the responsibility of the authors and does not necessarily represent the official views of the Cabinet for Health and Family Services, Department for Medicaid Services.



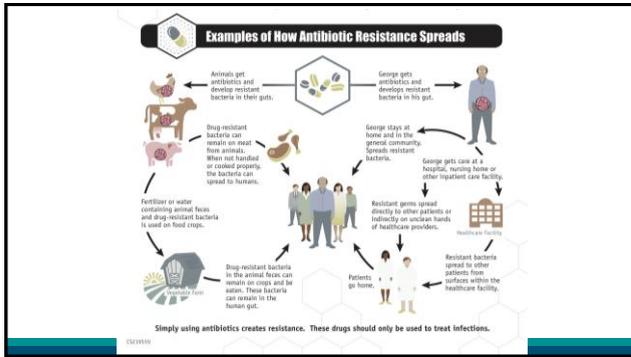
Antimicrobial Stewardship

- **Definition**
 - Coordinated interventions designed to improve and measure the appropriate use of agents by promoting the selection of the optimal drug regimen including dosing, duration of therapy, and route of administration
- **Goals**
 - To optimize clinical outcomes while minimizing unintended outcomes of antimicrobial use
 - To reduce healthcare costs without adversely impacting quality of care

Unintended Outcomes of Antibiotic Use

- Drug resistance
- Adverse effects
 - Most common reason for ED visits in children
 - Account for 1 out of 5 medication-related visits to the ED
 - Approximately half of all *C. diff* cases are community-acquired

Lovegrove JPID 2018.
www.cdc.gov/antibiotic-use
Olsen J Hosp Infect 2018.



Outpatient Antibiotic Prescribing

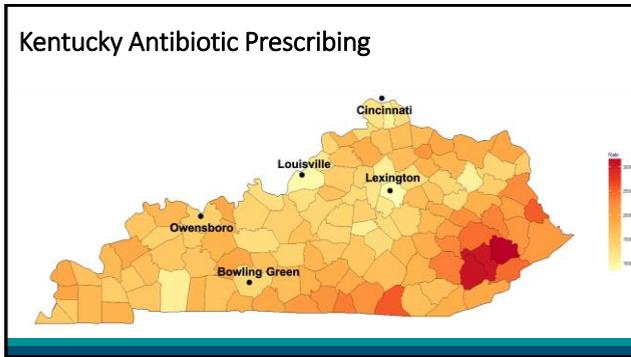
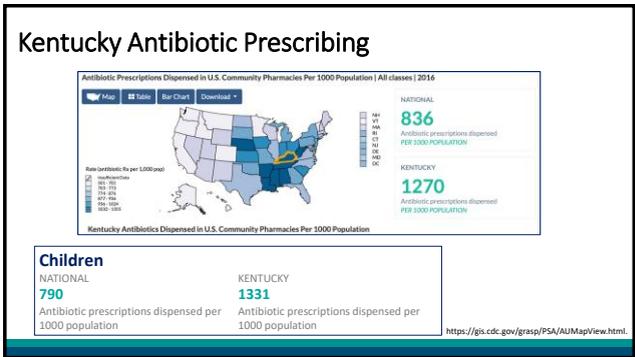
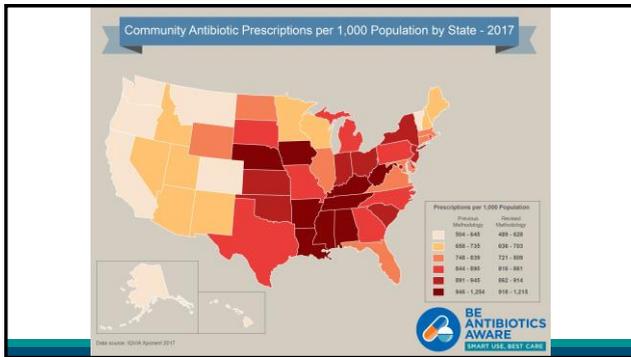
- An estimated 80-90% of antibiotic use occurs in the outpatient setting
- At least 30% of antibiotics prescribed in the outpatient setting are unnecessary
- A recent study by the CDC found only 50% of outpatient antibiotic prescribing was for the recommended first-line antibiotic

70% Unnecessary Prescriptions (due to improper drug selection, dose and duration)

At least 30% Unnecessary Prescriptions

In U.S. Doctor's Offices and Emergency Departments

Hotelling O'Quinn JAMA 2016; Stubbins J Antimicrob Chemother 2014; Public Antimicrob Agents Chemother 2019



Kentucky Antibiotic Awareness

Our Mission: KAA is a state-wide campaign to encourage appropriate antibiotic use throughout Kentucky.

uofl.edu/ky-antibiotic-awareness

Working together to keep the BAD BUGS out of the Bluegrass!

The Core Elements of Outpatient Antibiotic Stewardship



- Commitment**
Demonstrate dedication to and accountability for optimizing antibiotic prescribing and patient safety.
- Action for policy and practice**
Implement at least one policy or practice to improve antibiotic prescribing, assess whether it is working, and modify as needed.
- Tracking and reporting**
Monitor antibiotic prescribing practices and offer regular feedback to clinicians, or have clinicians assess their own antibiotic prescribing practices themselves.
- Education and expertise**
Provide educational resources to clinicians and patients on antibiotic prescribing, and ensure access to needed expertise on optimizing antibiotic prescribing.

Audience Question: What is your profession?

- Prescriber (physician, NP, PA)
- Nurse
- Nurse assistant, medical assistant
- Educator
- Pharmacist
- Administrator
- Public health
- Insurer
- Other



Education for all healthcare professionals

CDC Training on Antibiotic Stewardship https://www.train.org/cdctrain/training_plan/3697 **CDC TRAIN**

- **Section 1:** Antibiotic Resistance and the benefits of antibiotic stewardship
- **Section 2:** Antibiotic stewardship in outpatient settings
- **Section 3:** Antibiotic stewardship considerations for the management of common outpatient conditions and dentistry
 - UTI, SSTI, bronchitis, asthma, COPD, viral URI, sinusitis, AOM, pharyngitis
- **Section 4:** Antibiotic stewardship in emergency departments, hospitals, and nursing homes.

Before the Visit

- Handout from well-visit
- Social media messages
- Community education

Handout from well-visit



Why does taking antibiotics lead to antibiotic resistance?

Antibiotics Aren't Always the Answer.

How to care for your sick child

What are the side effects?

Watch for emergency warning signs that require medical care

Social media messages

Social Media
Follow us and share our posts!
Facebook: @KYAbxAwareness
Twitter: @KYAbxAwareness



Antibiotic Awareness
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Antibiotics can have serious side effects and should only be taken when absolutely necessary.

Do antibiotics have side effects?

Antibiotics can have serious side effects and should only be taken when absolutely necessary.

1 out of 5

1182 Views Reached 82 Engagements

Community education

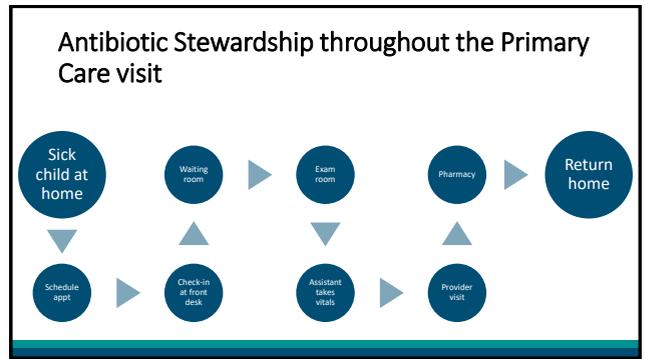
- Who?
 - Healthcare professionals, health educators, teachers, etc.
- What?
 - Handouts, presentations, articles, activities, etc.
- Where?
 - Health department, community events, health fairs, schools, churches, radio, newspaper, social meetings, etc.



Kentucky Antibiotic Awareness Education
Presented By: YOUR NAME HERE

Kentucky ANTIBIOTIC Awareness
Promoting responsible use and preventing antibiotic resistance

Logos for University of Louisville, CDC, and other partners are visible at the bottom.



Phone hold messages



“Antibiotics save lives. When a patient needs antibiotics, the benefits outweigh the risks of side effects and antibiotic resistance. However, **Antibiotics aren’t always the answer.** Antibiotics do not work on viruses, such as those that cause colds, flu, bronchitis, or runny noses, even if the mucus is thick, yellow, or green.”

- <https://tools.cdc.gov/medialibrary/index.aspx#/media/id/392303> (The Right Tool PSA)

Triage Sick Visits

- Use call centers, nurse hotlines, or pharmacist consultations as triage systems to prevent unnecessary visits
- Reduce visits for conditions that do not require an office visit, such as the common cold

CDC Core Elements of Outpatient Antibiotic Stewardship

Triage Sick Visits

CLINICAL

Optimizing the Use of Telephone Nursing Advice for Upper Respiratory Infection Symptoms

Rosalind Harper, PhD, RN; Tanya Temkin, MPH; and Reena Bhargava, MD

- Self-care advice was sufficient for 88% of index advice calls

Harper, AJMC, 2015.

Communication is Key!

Check-in at front desk



CLINIC RECEPTION

"Don't worry, Dr. Smith will get Johnny something to make him feel better right away!"

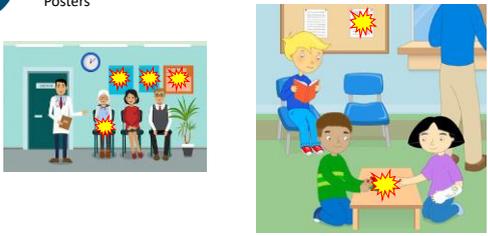
"Yeah, there is a lot of strep going around."

"I'm so sorry he's not feeling well, I'm sure you and Dr. Smith will come up with a plan of what's best for him."

Waiting room

TV Screen graphics
Videos
Handouts
Posters

Kids activity book
Stickers



Waiting room

Kentucky ANTIBIOTIC Awareness
Working together to keep the virus out of the blues!

Viruses or Bacteria
What's got you sick?

AN ANTIBIOTIC IS THE WRONG TOOL TO TREAT A VIRUS

Don't get small!
ANTIBIOTIC RESISTANCE

Get Smart About Antibiotics

Be an ANTIBIOTIC GUARDIAN

<https://www.youtube.com/watch?v=dETK7Jc-XWA>

<https://www.youtube.com/watch?v=ZG97b1bZBQ>

Exam room

Assistant takes vitals

Communication is key!



Commitment Posters

- Along with other educational interventions, have been shown to reduce antibiotic use
- ✓ Easy
- ✓ Saves time
- ✓ Free while supplies last!

uofl.edu/ky-antibiotic-awareness



A Commitment to Our Patients About Antibiotics

Did you know that Kentucky has the highest rate of antibiotic prescriptions in the country?

- Antibiotics only work for infections caused by bacteria.
- Antibiotics will NOT help you feel better for viral infections such as:
 - Cold or flu-like illness
 - Sore throat or chest pain
 - Strep
- Taking antibiotics when you don't need them can cause harm:
 - Resistances with some antibiotic classes.
 - Antibiotics sometimes can cause allergic reactions to not work when you need them.

Your child's health is important to us.

We promise to provide the best treatment for your child. If an antibiotic is not needed, we will offer an alternative treatment option that will help. We are dedicated to prescribing antibiotics only when they are needed.

If you have any questions, please ask.

Provider visit

Communication is key!

Guidelines, protocols



Provider visit

Communication Training

- ✓ Avoid inappropriate prescribing
- ✓ Increase patient satisfaction
- ✓ Decrease visit length

Dialogue Around Respiratory Illness Treatment (DART)

- Communication training in Module 6 of CDC Training on Antibiotic Stewardship

Mangione-Smith Ann Fam Med 2015.

Provider visit

Communication Training

Use a 2-part negative/positive treatment recommendation

“This is a cold, which antibiotics won’t work against”

“Raising the head of her bed will help with the drainage from her nose so she won’t cough so much”

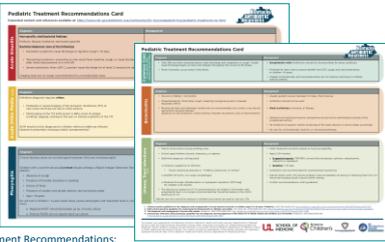
Note: Patients/parents tend to question the treatment plan after a negative recommendation. Avoid this by using the following structure:

- “On the one hand, antibiotics won’t help...” [negative recommendation]
- “On the other hand, there are things you can do...” [positive recommendation]

Mangione-Smith Ann Fam Med 2015.

Provider visit

Follow Protocols/Guidelines

IDSA
Infectious Diseases Society of America

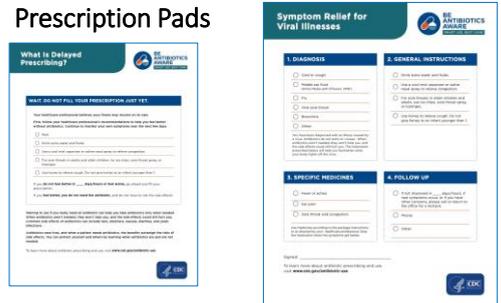
American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

CDC

CDC Treatment Adult and Pediatric Treatment Recommendations:
<https://www.cdc.gov/antibiotic-use/community-for-hcp/outpatient-hcp/index.html>

Provider visit

Prescription Pads



What is Delayed Prescribing?

Symptom Relief for Viral Illnesses

https://www.cdc.gov/antibiotic-use/week/toolkit.html

Pharmacy

- ✓ OTC recommendations
- ✓ Antibiotic counseling
- ✓ Posters
- ✓ Handouts
- ✓ Vaccinations



Pt goes to Pharmacy



Taking Your Antibiotics

Talk to your Pharmacist about antibiotics

Do I really need antibiotics?

Do antibiotics have side effects?

1 out of 5

Antibiotic Stewardship for Office Staff

Penicillin Allergies

Culture/Test Follow-up

Patient Education

Antibiotic Stewardship for Office Staff

- New literature to support integration of inpatient nurses
 - ✓ Antibiotic first responders
 - ✓ Central communicators
 - ✓ Coordinators of care
 - ✓ 24-hour monitors
- Outpatient setting
 - Presence of nurses is primary care is variable
 - AMS activities could expand roles of nurses or other office staff

Dhans R. CID. 2016

Table 1. Overlap of Nursing Activities With Function Attribution in Current Antimicrobial Stewardship Models

	Nursing	Microbiology	Case Management	Pharmacy	Infectious Diseases	Infection Control	Inpatient Physician	Administration
Patient admission								
Triage and appropriate isolation	• ✓							
Accurate allergy history	• ✓							
Early and appropriate cultures	• ✓							
Timely antibiotic initiation	•							
Medication reconciliation	•							
Daily/24-hr clinical progress monitoring								
Progress monitor and report	•							
Preliminary micro results and antibiotic adjustment	•	•						
Antibiotic dosing and de-escalation	•							
Patient safety & quality monitoring								
Adverse events	• ✓							
Change in patient condition	•							
Final culture report and antibiotic adjustment	• ✓							
Antibiotic resistance identification	•	•						
Clinical progress/patient education/discharge								
IV to PO antibiotic, outpatient antibiotic therapy	•		•	•	•		•	•
Patient education	• ✓							
Length of stay	•		•	•	•		•	•
Outpatient management, long-term care, readmission	•		•	•	•		•	•

- ✓ Triage
- ✓ Allergy history
- ✓ Cultures
- ✓ Adverse events
- ✓ Culture/test follow-up
- ✓ Patient education

Dhans R. CID. 2016

Penicillin Allergies

- Reported in up to 10% of the population
 - ~10% of these are true allergies
- Reasons for misdiagnosis
 - Reaction attributable to infection (ex: viral rash)
 - Medication side effects (ex: diarrhea)
- Inappropriate labeling is associated with negative outcomes
 - Exposure to suboptimal antibiotics → increased cost, side effects, antimicrobial resistance
- Ideal history: time to onset, symptom, and when reaction occurred
 - E.g. immediate tongue swelling, 5 years ago

www.cdc.gov/antibiotic-use/community/for-hcp/penicillin-allergy.html

Culture/Test Follow-up

Urine Culture Follow-up and Antimicrobial Stewardship in a Pediatric Urgent Care Network

Dipanwita Saha, MD,* Jimisha Patel, MD,* Don Buckingham, MBOE,† David Thornton, PhD, DABCC,† Terry Barber, MD,* Joshua R. Watson, MD*

- Routine nurse and clinician follow-up of urine culture results
- Antibiotic discontinuation rate increased from 4% to 84%

Saha, Pediatrics. 2017

Patient Education

Checklist

Print this worksheet checklist to follow along throughout the workbook.

- Complete (Required)
- Identify Resources (Antibiotic Stewardship, Patient Education)
- Get the Story (Antibiotic Stewardship, Patient Education)
- Offer Compliance Training
- Educate and Empower (Required)
- Provide Education (What can you do by Physician, Pharmacist)
- Patient Education (Minimum of 2) (Date and Activity)
- Patient Education (Minimum of 2) (Date and Activity)
- Act on feedback and practice (Optional)
- Report on Best Practices (Information, or describe your own experience)
- Track and Reporting (Optional)
- Evaluate
- Measure
- Plan for continued monitoring/improvement

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