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## A Worldwide Crisis: Inappropriate Antibiotic Use and Resistant Bacterial Infections

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## Practice in Action: Improving the Public's Health in Georgia

### A Worldwide Crisis: Inappropriate Antibiotic Use and Resistant Bacterial Infections

#### OBJECTIVES

The GUARD (Georgia United against Antibiotic Resistant Disease) Coalition seeks to reduce the spread of antibiotic-resistant disease and save antibiotic efficacy by decreasing inappropriate antibiotic use throughout the state of Georgia. The GUARD Coalition functions through the collaborative efforts of approximately 148 professional, academic, and community partners.

#### ASSESSMENT OF NEED

Antibiotic resistance is a rapidly growing problem that threatens global health. "Georgia and the Southeast in general have one of highest rates of inappropriate antibiotic use in the nation," reports Dr. Wilde, Medical Director of the pediatric emergency department at the Medical College of Georgia (MCG) Children's Medical Center, and Medical Director of GUARD. "Antibiotics should only be used to treat bacterial illnesses such as pneumonia, urinary tract infections, strep throat, bone infections and some ear infections. Antibiotics kill the bacteria causing these illnesses and prevent them from entering the bloodstream, where they can kill you. However, antibiotics have absolutely no effect on viruses, which cause the overwhelming majority of infections in humans.

#### IMPLICATIONS FOR PRACTITIONERS

Inappropriate prescribing and overuse of antibiotics are important factors in the development of resistance. Multiple factors are known or suspected to contribute to the widespread practice of inappropriate prescribing and overuse. The most common factors are consumer misconceptions about antibiotics and unwarranted provider practices such as prescribing antibiotics for acute bronchitis.

Antibiotics should not be used to treat common viruses such as those that cause the cold and flu, and in fact can be harmful in the long run if they are used inappropriately. Viral infections should simply be treated by over-the-counter medications and old-fashioned TLC.

Even in the case of a bacterial infection, it's important to use an antibiotic designed to fight that particular bacterium, not a "powerful" broad-spectrum antibiotic that kills all the bacteria in your body. When you overuse or misuse antibiotics, you increase the likelihood of developing antibiotic-resistant bacteria within your body. These bacteria are stronger and harder to kill, and can grow and spread to others. While researchers are continuing to search for more effective antibiotics to fight these types of bacteria, resistance is increasing faster than new drugs can be developed. Unless this trend is stopped, one day we might find ourselves without effective antibiotics to fight bacterial illnesses.

PRACTICE IN ACTION

**PROGRAM STRATEGY**

GUARD seeks to increase knowledge and positively change behaviors regarding appropriate antibiotic use via community and clinical practitioner education. To accomplish this goal, GUARD will: 1) develop, implement, and evaluate educational programs for clinical practitioners and the community; and 2) develop and disseminate educational materials to clinicians and the community.


**EVALUATION APPROACH**

Outcome measures for this project will incorporate pre- and posttests for all participants to determine any immediate changes in knowledge and behaviors regarding appropriate antibiotic use following participation in GUARD presentations. Also, additional measures may include monitoring of secular trends in prescribing antibiotics as measured by health insurance providers or the National Ambulatory Medical Care Survey.

**Get Smart. Read the chart.**

Problem	Virus?	Bacteria?	Antibiotic Needed?
Chest cold (bronchitis)	X		No
Cold	X		No
"Flu"	X		No
Green/Yellow runny nose	X		No
Middle Ear Infection	X	X	Sometimes
Sinus Infection	X	X	Sometimes
Strep Throat		X	Yes
Non-Strep Sore Throat	X		No

**In cases of viral illness:**  
rest,  
plenty of fluids,  
and a parent's care  
are the best treatment.



Georgia United Against Antibiotic Resistance Division  
www.guard-ga.org

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This program was established in 2002 by a grant from the Centers for Disease Control and Prevention (CDC), under their "Get Smart: Know When Antibiotics Work" campaign. Until the spring of 2005, the GUARD program was coordinated and administered through the state of Georgia Division of Public Health. As of May 2005, GUARD is under the auspices of the Medical College of Georgia. GUARD is one of 28 Coalitions across the United States.

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