Get Smart: Preventing Antimicrobial Resistance through Community Action

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National Center for Immunization and Respiratory Diseases, Respiratory Diseases Branch
Poll Question

How would you best identify your affiliation?

A. Clinic/Hospital
B. State or Local Health Department
C. University Representative
D. CBO (Community Based Organization)

Click on the down arrow if you can’t see the response choices.
Overview and Objectives

Overview

• The science behind resistance
• From research to campaign planning
• The Get Smart Campaign and community outreach

Learning Objectives

By the end of this session participants will be able to:

• Describe the factors that influence antimicrobial resistance
• Explain why it is important to educate both providers and patients about appropriate antimicrobial use
• Discuss the steps that can be taken in the community to prevent inappropriate antibiotic use
Addressing the Threats

- Vaccine development and production
- Need for new antimicrobial drugs
- **Inappropriate use of antimicrobials**
- Vector-borne and zoonotic disease control
- Comprehensive infectious disease research agenda
- Interdisciplinary infectious disease centers
Selection for Antimicrobial-Resistant Strains in the Community

Levin BR, Clin Infect Dis 2001
Relationship Between Antimicrobial Use and Antimicrobial Resistance in Europe

Bronzwaer et al. Emerging Infectious Diseases 2002

\[ \ln \left( \frac{R}{1-R} \right) \]

DDD beta-lactam antibiotics/1000

IE, LU, BE, IT, PT, ES, NL, SE, DE, FI
Outpatient Antimicrobial Therapy, U.S. (percentage of courses in 1992)

- Otitis media: 24%
- All other diagnoses: 24%
- URI (non-specific): 16%
- Sinusitis: 12%
- Pharyngitis: 12%
- Bronchitis: 13%

McCaig, JAMA 1995;273:214
Economic Burden: Overview

• $1.1 billion spent annually on unnecessary adult URI antibiotic prescriptions

• 1995: Estimated direct cost of acute otitis media was $1.96 billion
  • Indirect cost estimated to be $1.02 billion

• A four-month local level mass media campaign, Get Smart Colorado, saved two managed care organizations $815,000
  • Decline in prescribing
  • Decline in visits for URI

Pediatrics, Vol. 113 No. 5 May 2004
Gonzales, et al, Med Care, 2008
Total Outpatient Antibacterial Use in the U.S. and Europe in 2004

Adapted from Goossens et al. CID 2007;44:1091
CDC Programs

Get Smart
Division of Bacterial Diseases

Get Smart in Healthcare Settings
Division of Healthcare Quality Promotion

Reduce the spread of antimicrobial resistance

National Antimicrobial Resistance Monitoring System – EB
Division of Foodborne, Bacterial, and Mycotic Diseases
Get Smart: Know When Antibiotics Work

Goals
• Decrease unnecessary antimicrobial use in the community
• Reduce the spread of resistance

Objectives
• Promote appropriate prescribing among providers
• Decrease the demand for antibiotics by the public
• Promote adherence

Focus
• Otitis media, sinusitis, pharyngitis, bronchitis, cold
Reasons for Antibiotic Overuse: Conclusions from Eight Focus Groups

Patient concerns
- Want clear explanation
- Green nasal discharge
- Need to return to work

Physician concerns
- Patient expects antibiotic
- Diagnostic uncertainty
- Time pressure

Patient Pressure

- Antibiotics prescribed in 68% of acute respiratory tract visits
  - 80% unnecessary according to CDC guidelines
- Patients apply pressure several ways
- Clinicians observed rationalizing their antibiotic prescriptions
- Physicians should be shown techniques for responding to these pressures without prescribing

Scott, JG, Fam Pract. 2001
## Intervention Trials

<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
<th>Location</th>
<th>Year</th>
<th>Result Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gonzales</td>
<td>Acute bronchitis, CO</td>
<td>JAMA, 1999</td>
<td></td>
<td>26% ↓ in Rx rates</td>
</tr>
<tr>
<td>Finkelstein</td>
<td>Antibiotic dispensing in children, MA</td>
<td>Pediatrics, 2001</td>
<td></td>
<td>18.6% ↓ intervention vs 11.5% ↓ in control</td>
</tr>
<tr>
<td>Belongia</td>
<td>Rxs per clinician, WI</td>
<td>Pediatrics, 2001</td>
<td></td>
<td>19% vs 8% ↓ solids 11% ↓ vs 12% ↑ liquids</td>
</tr>
<tr>
<td>Perz</td>
<td>Rx rates, TN</td>
<td>JAMA, 2002</td>
<td></td>
<td>11% attributable ↓</td>
</tr>
</tbody>
</table>
Campaign Activities: Overview

Activities

- Guidelines/educational materials
- Local level intervention programs
- Medical education curricula
- Quality performance measures
- National media campaign
- Partnerships

Target audiences

- Patients
- Providers
- Health systems

Multifaceted
Treatment Guidelines and Detailing Sheets

Pediatrics, 1998
• CDC
• American Academy of Pediatrics
• American Academy of Family Physicians

Adults, 2001
• CDC
• American Academy of Family Physicians
• American College of Physicians
• Infectious Diseases Society of America
• American College of Emergency Physicians
Medical Education

Available

• Continuing education (CE) course for enhancing proficiency in otitis media
• Articles for CE credits in American Journal of Nursing

Under Development

• CE course—Colorado’s Get Smart program
• Curriculum for medical students
• Articles for CE credits in physician assistant journal
• CE course for hospital pharmacists
Poll Question

Which audience would you most likely target for an AR campaign?

A. Healthcare providers
B. Parents
C. General public (including parents)
D. Ethnic audiences

Click on the down arrow if you can’t see the response choices.
A GUIDE FOR PARENTS

QUESTIONS AND ANSWERS

Fluid in the Middle Ear (Otitis Media with Effusion)

A doctor said your child has fluid in the middle ear, also called swim (otitis media with effusions (OME)). Fluid usually does not bother children, and it almost always goes away on its own. This does not have to be treated with antibiotics, unless it lasts for a few months. Here are some facts about OME and ear infections.

What are the main kinds of ear infections?

What should I do?

• The best treatment is to wait and watch your child. Since fluid in the middle ear usually bothers children, it is best to let it go away on its own.

• Your child needs to see a doctor if:
  - The fluid does not go away in a few months or
  - The fluid is causing discomfort.

Why is OME important to know about?

You have been diagnosed with an illness caused by a virus. Antibiotics do not cure viral infections. If given when not needed, antibiotics can be harmful. The treatments prescribed below will help you feel better while your body's own defenses are fighting the virus.

General Instructions:

- Drink extra water and juice.
- Use cool mist vaporizer or saline nasal spray to relieve congestion.
- For sore throats, use ice chips or sore throat spray, lozenges for older children and adults.

Specific medicines:

- Fever or aches:
  - 

Use medicines according to the package instructions or as directed by your doctor. Stop the medication when the symptoms get better.

Follow up:

- If not improved in ___ days, if new symptoms occur, or if you have other concerns, please call or return to the office for a recheck.

Signed:

www.cdc.gov/drugresistance/community
Get Smart: Know When Antibiotics Work

Cold or Flu. Antibiotics Don’t Work For You.
Are you aware that colds, flu, most sore throats, and bronchitis are caused by viruses? Did you know that antibiotics do not help fight viruses? It’s true. Plus, taking antibiotics when you have a virus may do more harm than good. Learn more about antibiotic use.

Get Smart About Antibiotics Week NEW
Would you like to participate in the first ever Get Smart about Antibiotics Week being held October 6-10, 2008? If you or your organization is interested in getting involved, view the Program Planners Toolkit.

Information for Specific Groups & Settings

What Everyone Should Know & Do
Only have 5 minutes? Read this page.

Healthcare Providers
Detailing sheets, patient education tools...

Partners
List of partners, how/why to partner...

Program Planners
Program planning tools, resources, funding.

Media
Press kit, PSAs, press releases...

Specific Topics

About Antibiotic Resistance
What is it? Why is it a problem?...

Get Smart Campaign Info
Overview, activities...

Campaign Materials
Posters, brochures, fact sheets...

Related CDC Programs
More programs, research...

References & Resources
Websites, recommended readings...

Related Links

CDC Antibiotic/Antimicrobial Resistance Website
Campaign to Prevent AR in Healthcare Settings
Get Smart: Know When Antibiotics Work on the Farm

Contact Info

English and Spanish
(800) CDC-INFO
Local Activities

Montana
- “Don’t Share the Germs”

Washington
- Physician report cards

Oregon
- Spanish language focus groups

California
- Promotora project

Wyoming
- Pediatrician survey
Latinas and Antibiotics

Results: focus groups in four cities

• Cultural influences affect understanding and choices around antibiotic use
• Self-medicating with antibiotics commonplace and culturally accepted
• Easy access to antibiotics from Mexico

• Print PSA
• Poster
• Bus Signage
• Brochure
• Radio PSA
American Indian Outreach

- Radio is a preferred outreach tool
- View of owl
- Many participants avoid medication and prefer holistic approaches to healing
- Some distrust of government
- CDC viewed as a trusted source
Get Smart About Antibiotics Week
October 6th – 10th, 2008

Primary Messages to Clinicians

• Sharpen diagnostic skills
• Identify and validate patient concerns
• Recommend symptomatic therapy for viral illnesses

Primary Messages to Parents

• Antibiotics do not fight viral illnesses like colds.
• Work with your healthcare provider to understand the best treatment for your child’s illness.
Evaluation

Data Sources

- National data sets—National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS)
- Utilization data (e.g., Intercontinental Marketing Services—IMS)
- KAP surveys and formative research
- Intervention studies
- Healthcare Effectiveness Data and Information Set (HEDIS) performance measures
## Antibiotic Prescribing Objective
### Healthy People 2010

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<tbody>
<tr>
<td>Reduce antibiotics for ear infections for children &lt;5</td>
<td>69*</td>
<td>47</td>
<td>51</td>
<td>57</td>
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*(Courses/100 children)

CDC/NCHS, NAMCS/NHAMCS, 1996–2006
Percent of Physician Office Visits Where an Antimicrobial Was Prescribed by Year

All trends shown are significant (p<.05)

National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey
Current Topics
Get Smart about new trends

• Retail health clinics
• Discount prescriptions at pharmacy chains
• Adverse drug events
• Cough and cold medicines
• Antibiotic choice

“Retail health clinics are rolling your way.”
Poll Question
Which national trend or antibiotic use issue would be most important for the Get Smart campaign to address?

A. Low cost prescription
B. Retail clinics
C. Adverse drug events
D. Antibiotic choice

Click on the down arrow if you can’t see the response choices.
Lessons Learned

Don’t
• Use poorly designed materials that have not been tested
• Expand program without necessary staffing in place
• Wait to include an evaluation component

Do
• Use science and research as a foundation
• Foster partnership network and leverage significant support
• Disseminate materials widely
• Target multiple audiences
• Fund intervention projects
• Bundle messages with other CDC campaigns
Our Partners

- Community organizations
- State and local health departments
- Managed care organizations
- Medical practices and professional organizations
- Private industries
- Government agencies
- Universities and schools
How to Get Started

- Visit www.cdc.gov/gets股本
- Become familiar with current efforts in your state/region
- Develop partnerships
  - Internal (immunization, flu, hand washing, and school health)
  - External (professional organizations, business groups, and non-profits)
- Use existing Get Smart Materials
  - Download and print from the Get Smart Web site — $0
  - Distribute electronically — $0
  - Order from the Public Health Foundation — low cost
Opportunities to Reach Your Target Audience

- Local presentation
- Hand out materials
- Speakers bureau
- Conference exhibit
- Health fair
- Local medical practices

- Mass mailing
- Newspaper article
- Web page
- Email blast
- Health plans
- Pharmacies
Questions?

The findings and conclusions in this presentation are those of the author and do not necessarily represent the views of the Centers for Disease Control and Prevention.