

AN EPIDEMIOLOGY PUBLICATION OF THE OREGON DEPARTMENT OF HUMAN SERVICES

OREGON'S CAMPAIGN TO PROMOTE JUDICIOUS USE OF ANTIBIOTICS

ALTHOUGH RECENT EVENTS may have left you wishing you had stock in ciprofloxacin, at least you can take pride in the fact that you are not personally profiting from a situation that is bound to promote development of antibiotic resistance.* Thoughtful clinicians have been concerned for several years about the more garden-variety problem of the misuse of antibiotics for viral respiratory conditions. With financial assistance from CDC, our Emerging Infections Program (EIP) has developed "Oregon's Campaign to Promote Judicious Use of Antibiotics," which has the goal of improving use of oral antibiotics for respiratory infections.

WHY TARGET RESPIRATORY INFECTIONS?

The focus on respiratory ailments stems from two concerns: the increasing prevalence of resistant *Streptococcus pneumoniae* and the impressive quantity of antibiotics used to "treat" viral respiratory infections. In the United States, the pneumococcus was universally sensitive to penicillin until the 1980s, and high-level resistance (minimal inhibitory concentration $\geq 2.0 \mu\text{g/mL}$) was unknown until the early 1990s.¹ Penicillin resistance among pneumococci has increased in epidemic fashion in the last 10 years, accompanied by increased resistance to macrolides, trimethoprim-sulfamethoxazole, and second- and third-generation cephalosporins.² Concern about this emerging resistance is warranted, given that this pathogen accounts for over 3,000 cases of meningitis in the US each year, 50,000 cases of bacteremia, 125,000 cases of inpatient pneumo-

nia, and 7 million cases of acute otitis media.³

How often are antibiotics given for viral infections? Data from the 1992 National Ambulatory Medical Care Survey suggest an embarrassingly high level of misuse.^{4,5} The study was based on a nationwide statistical sample of records from outpatient physician office visits, and looked at proportions of patients who received antibiotics for different viral respiratory conditions. The news was bad all over: 53% of adults and 46% of kids who were diagnosed with colds (ICD9 codes 460, 465) received a prescription for an antibiotic, and 66% of adults and 73% of kids seen with bronchitis (ICD9 codes 466, 490) were rewarded with antibiotics for seeking medical care. In 1992, a quarter of the antibiotics prescribed nationally for outpatients were given to persons diagnosed with bronchitis and non-specific upper respiratory infections (URIs) — conditions for which antibiotics are seldom indicated. Five conditions accounted for 75% of antibiotic prescriptions: otitis media, sinusitis, bronchitis, pharyngitis and URIs. Extrapolations from this study suggest that more judicious use of antibiotics for these respiratory conditions could result in over 50 million fewer antibiotic prescriptions nationally (see table).

OREGON'S CAMPAIGN

Judicious use means more than "Just Say No" to every patient who presents with a cough and runny nose. There are certainly situations where antibiotics are

warranted, and one of our goals is to promote guidelines that clearly outline these situations and suggest the appropriate antibiotics to use. The guidelines we are promoting were developed by CDC in collaboration with practicing pediatricians, family physicians and internists, academicians, and public-health practitioners. These include the "Principles of Judicious Use of Antimicrobial Agents for Pediatric Respiratory Infections" published in *Pediatrics* in 1998, and the more recent "Principles of Appropriate Antibiotic Use for Treatment of Acute Respiratory Tract Infections in Adults" published in *Archives of Internal Medicine* this past March.⁶⁻⁷ In addition, clinicians from the Infectious Diseases Society of Oregon have created a one-page synopsis of treatment recommendations for each of the clinical entities we have targeted. Starting in December, these will be mailed to every physician, doctor of osteopathy, physician assistant and nurse practitioner licensed in Oregon in the fields of pediatrics, family medicine and internal medicine. These one-page algorithms, along with the full guidelines, will also be available on our new Health Division "Campaign to Promote Judicious Use" web site: www.healthoregon.org/acd/antibiotics/home.htm.

We recognize, however, that gaps in knowledge are not the main problem. The factors leading to overuse of antibiotics are complex, involving interplay between physicians' perceptions about patients' expectations, and some patients' beliefs that viral infections are amenable to treatment with antibiotics.⁸ Pressure to see

patients quickly also figures in the equation. In order to help educate patients, a second goal of our campaign is to provide clinicians with materials to use with patients. These will include: the CDC brochure

* We missed the boat, too.

Potential antimicrobial use reductions, estimated from NAMCS data, United States, 1992

Diagnosis	Message	Potential Reduction (%)	Potential Reduction (#)
Otitis Media	No antibiotics for otitis media with effusion	30	7,094,400
Pharyngitis	No antibiotics unless Strep +	50	6,555,000
Bronchitis	No antibiotics unless specific infection or lung disease	80	13,059,200
Sinusitis	No antibiotics unless >10-14d of symptoms	50	6,480,500
Common Cold	No antibiotics	100	17,922,000
		Total	51,111,100



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HIGHLIGHTS OF THE JUDICIOUS USE OF ANTIBIOTICS WEB SITE

- Full text of adult and pediatric judicious use guidelines
 - One-page treatment algorithms
 - Links to other antibiotic resistance sites
 - Information for patients
- Ordering information
- *Antibiotics Are Not the Answer* brochures in English and Spanish
 - Ear Infection Q & A sheet for patients
 - Runny Nose Q & A sheet for patients
 - Patient care prescription pads
 - Advice letter for day-care providers

Your Child and Antibiotics; a similar brochure that we developed written at eighth-grade reading level; posters for waiting rooms; question-and-answer sheets about otitis media and cough illnesses for parents; prescription pads giving advice for non-antibiotic remedies for viral illnesses; and letters to accompany children back to day-care. We will mail samples of these items to clinicians; larger quantities can be ordered through our web site. We are planning to mail brochures to all of the licensed group homes and day-care centers in the state.

DO WE REALLY THINK THIS WILL WORK?

Studies here and abroad have shown the benefits of educational efforts to promote judicious use of antibiotics. Campaigns in both Finland and Iceland have dramatically reduced inappropriate use of antibiotics: Finland reduced the

prevalence of erythromycin-resistant Group A streptococcus, and Iceland managed to lower the prevalence of pneumococcus resistant to penicillin.^{9,10} Closer to home, a controlled study at Kaiser Permanente in Denver evaluated the impact of a combined approach of clinician education, the mailing of brochures and refrigerator magnets to patients, and office education (waiting room fact sheets and posters) on prescribing rates for adults with bronchitis.¹¹ Compared to the control clinics that received usual care, rates of antibiotic prescriptions at the clinic receiving the intervention were significantly lower, and patients interviewed 2–3 weeks after their visit at the intervention clinic did not report any differences in duration of symptoms, return visits, or satisfaction with the visit compared to patients seen at control clinics. The success of the program was publicized throughout the Kaiser system the following fall, and at a single staff meeting at the intervention clinic. That following winter, not only did antibiotic prescription rates for acute bronchitis remain low at the intervention clinic compared to the control clinics, but patients seen for acute bronchitis the first winter at the intervention clinic were less likely to seek care the following winter than patients seen in the control clinic.

So what can clinicians do to promote judicious use of antibiotics? Visit our web site, put up those posters we send you, maybe even volunteer to give a talk promoting judicious use for your practice colleagues or local medical society (or invite one of our staff to do it—we're always happy to get out of the office).

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New Vaccine Guidelines

PREVNAR AND OTHER VACCINES remain in short supply. To assure that those most in need have access to vaccines, Oregon has issued new guidelines for immediate implementation. Go to our web site, www.healthoregon.org/imm, or call Immunization at 503/731-4020