Background: The burden of increasingly resistant bacterial infections strains our health care system and is a major public health challenge, with half of all inpatient prescriptions deemed inappropriate. As a frequent site of antibiotic use, the emergency department provides a unique opportunity for antimicrobial stewardship, or reducing unnecessary and inappropriate use, given that antibiotics are the second-most commonly prescribed medication in the ED. Avoidance of inappropriate therapy is a laudable goal in order to reduce adverse events to patients such as C.difficile colitis, and to improve public health. While some argue that policies such as reducing antibiotics in animal feed and providing incentives for development of new antibiotics will have a greater impact, a recent study by Sun et al. suggests that winter prescribing patterns lead to seasonal changes in pathogen resistance. The ED, however, is a unique care setting, where physicians must make quick treatment decisions about prescribing antibiotics, often with incomplete information and limited opportunity for follow-up. Therefore, ED-tailored strategies that include both providers and patients will likely be necessary to lead to practice change.

CDC Get Smart Campaign and Partnership with SAEM

In order to address the major threat to public health posed by increasing rates of antibiotic resistance, in 1995 the Centers for Disease Control and Prevention (CDC) launched the National Campaign for Appropriate Antibiotic Use in the Community. In addition, the Division of Healthcare Quality Promotion conducts research to identify new strategies to prevent antimicrobial resistance and collaborates with academic and public health partners to implement and improve stewardship efforts in the inpatient setting through its Get Smart for Healthcare campaign.

The national campaign program, renamed Get Smart: Know When Antibiotics Work in 2003, involves media outreach, development of guidelines and educational materials, and support for local appropriate antibiotic use programs. According to CDC, the program is designed to curb rising rates of antibiotic resistance by:

1. Promoting adherence to appropriate prescribing guidelines among providers,
2. Decreasing demand for antibiotics for viral upper respiratory infections among healthy adults and parents of young children, and
3. Increasing adherence to prescribed antibiotics for upper respiratory infections

In 2008, the campaign organized its first national observance, Get Smart About Antibiotics Week. The goal of this annual effort is to raise awareness about antibiotic resistance and the appropriate use of antibiotics. Each year, CDC has made an effort to focus on a different group of health care providers during this week. This year, CDC is focusing on emergency care providers as

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As part of the Get Smart for Healthcare campaign, CDC and the Institute for Healthcare Improvement (IHI) have partnered to develop educational and implementation tools to promote timely and appropriate antibiotic utilization in acute care settings. Knowledge translation and dissemination are key first steps to advancing ED antimicrobial stewardship. Enhancing clinician awareness of appropriate indications for prescribing antibiotics, adherence to evidence-based guidelines for treating infections, and incorporation of institutional antibiograms into decision-making can all serve to better inform selection and duration of antibiotic therapy. Improved collection of culture specimens prior to initiating antibiotics in the ED can facilitate de-escalation of empiric broad spectrum, thereby reducing the selection of resistant organisms in the hospital as well as in the community. Efforts to improve patient education and satisfaction, including follow-up phone calls after an ED visit, also provide invaluable opportunities for reassessing patients with infections (e.g., rhinosinusitis, otitis media) that could in many instances be managed with a “watch and wait” approach. At many institutions, ED clinicians may be able to engage and collaborate with existing inpatient antimicrobial stewardship programs to further promote such initiatives. Clinical decision support systems, rapid point-of-care diagnostics, and dedicated pharmacists in emergency care and quality assurance also hold great promise for optimizing ED antimicrobial use in the not-so-distant future.

Future Directions

ED clinicians play an important role in addressing the growing problem of antimicrobial resistance. There remains a gap in the literature on how to improve antimicrobial stewardship outcomes in the ED. Research is needed to define appropriate metrics for measuring outcomes of interventions aimed at reducing antibiotic use, as well as to determine which strategies are most appropriate and feasible in the ED. Furthermore, researchers and advocates can play an important role in disseminating evidence-based interventions, identifying local barriers to changing practice, and advocating for legislation. On a day-to-day basis, ED clinicians have an important role in following guidelines for appropriate antibiotic use, such as avoiding unnecessary antibiotics for upper respiratory infection and educating patients about appropriate antibiotic use.

For more information on how to reduce inappropriate antibiotic use, visit http://www.cdc.gov/getsmart/.

References