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AAP News

Antibiotic stewardship policy offers strategies for inpatient, outpatient pediatrics

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Antibiotics are among the most commonly used medications in pediatric inpatient and outpatient settings, with a significant proportion of antibiotic use considered unnecessary.

Antibiotic stewardship is dedicated to using antibiotics only when necessary, and using the appropriate spectrum of activity, dose, route and duration of therapy to optimize clinical outcomes while minimizing harm. Growing evidence demonstrates that antibiotic stewardship programs (ASPs) reduce antibiotic overuse while improving patient outcomes.

A new policy statement from the AAP Committee on Infectious Diseases and Pediatric Infectious Diseases Society discusses the rationale for inpatient and outpatient ASPs; personnel, infrastructure and activities required; approaches to evaluating effectiveness; and gaps in knowledge that require further investigation. The policy, *Antibiotic Stewardship in Pediatrics*, is available at <https://doi.org/10.1542/peds.2020-040295> and will be published in the January issue of *Pediatrics*.

Inpatient programs

The Centers for Disease Control and Prevention compiled the [Core Elements of Hospital Antibiotic Stewardship Programs](#), which includes support from leadership; a physician leader or co-leaders, such as a physician and pharmacist; and support from other stakeholders.

The Joint Commission's antimicrobial stewardship standard also emphasizes the need for all acute care facilities to have ASPs. Strategies for conducting antibiotic stewardship in the inpatient setting include local guidelines, prior approval, post-prescription review with feedback, syndrome-specific stewardship and use of rapid diagnostic tests.

Outpatient programs

The vast majority of antibiotic prescribing occurs in the outpatient setting, and at least half of these prescriptions



are considered inappropriate. Although most outpatient pediatric antibiotic prescriptions come from primary care encounters, subspecialty practices, emergency departments (EDs), urgent care clinics, retail clinics and dentists' offices also are important settings for outpatient antibiotic stewardship.

Strategies for conducting antibiotic stewardship in the outpatient setting included reducing unnecessary prescribing, judicious diagnosis, and optimizing antibiotic choice, duration and route of therapy.

Key recommendations

- Those governing antibiotic use for children should include specialists with pediatric expertise.
- Inpatient ASPs ideally are comprised of a medical director and a clinical pharmacist(s), both with expertise in pediatric infectious diseases and/or antibiotic stewardship. They can utilize clinical guidelines, prior approval and post-prescription review and feedback as core interventions.
- Inpatient ASPs can include pharmacy-driven interventions such as dose optimization, therapeutic drug monitoring, automatic conversion of intravenous to oral antibiotic therapy or dose adjustments in cases of organ dysfunction. These programs can consider auditing, analyzing and reporting local unit-specific antibiotic prescribing data periodically to stakeholders.
- Outpatient primary care practices, urgent care clinics and EDs could establish standardized approaches for antibiotic prescribing, including clinical guidelines and/or decision support.
- Outpatient stewardship can focus on judicious use of antibiotics for acute respiratory tract infections, including avoidance of antibiotic prescribing for undifferentiated upper respiratory tract infection, bronchiolitis, acute bronchitis and nonstreptococcal pharyngitis; refraining from prescribing antibiotics for urinary tract infections in the absence of a urinalysis and urine culture; and judicious diagnosis of acute otitis media, acute sinusitis and group A streptococcal pharyngitis.
- Outpatient efforts can emphasize use of the narrowest-spectrum antibiotics for the shortest duration of therapy that will treat bacterial infections adequately.

Dr. Gerber, a lead author of the policy statement, is a member of the AAP Committee on Infectious Diseases.

Resources

- [AAP News article "How to optimize pediatric antibiotic use during COVID-19 pandemic"](#)
- [AAP pediatric antibiotic safety webpage](#)
- [Red Book chapter on antimicrobial stewardship](#)
- [Pediatric antibiotic stewardship program toolkit](#)