

Educational Pearl

Who is the Antimicrobial Stewardship Team in the Community and Beyond?

Everyone who utilizes antibiotics is responsible for antimicrobial stewardship and helping to combat inappropriate use of antibiotics. Read more about antimicrobial stewardship in various settings below:

Antimicrobial Stewardship in the Community

There are typically fewer parties involved in antimicrobial stewardship in the community relative to the hospital, but it is just as important to prioritize appropriate antibiotic use in the outpatient setting. Read on to learn about community practitioners' role in antimicrobial stewardship:

- Prescriber: identifies the right diagnosis, selects the most narrow spectrum anti-infective medication if needed, prescribes
 any non-antibiotic treatments to manage symptoms, educates patient on disease course expectations on duration of
 symptoms, follow up, or when to go to the hospital
- Pharmacist: ensures the patient receives their prescribed medication, educates patient on possible side effects, evaluates drug interactions, clarifies any issues with prescriber (e.g. incorrect dose, drug interactions, etc.)
- Patient: takes treatment as recommended, follows up if needed, does not save antibiotics for future or share with others
- Clinic Staff & Pharmacy Technicians: helps provide consistent messaging that antibiotics are not always necessary, posts patient education materials and antimicrobial stewardship commitments

Antimicrobial Stewardship Everywhere

Hospitals, outpatient clinics and pharmacies are not the only ones who handle antibiotics or have a vested interest in antimicrobial stewardship. In order to maintain antibiotics' efficacy, judicious use must be considered in all settings.

- Nursing Homes & Long-Term Care Facilities: dedicate resources to antimicrobial stewardship, educate on management of infections (e.g. asymptomatic bacteriuria), develop targeted improvement initiatives
- Dentists: utilize antibiotics only when recommended, learn about which antibiotics have the lowest risk of *C. difficile* and educate patients regarding risk
- Veterinary and Farming: minimize animal risk for infection (appropriate vaccination, isolate any sick animals from others, maintain clean facilities), do not utilize antibiotics outside of treatment of infection, avoid feeds which contain antibiotics
- Government & Global Health entities: fund and advocate for research to develop new antimicrobials, promote vaccinations, educate public regarding threat of antimicrobial resistance, invest in public health infrastructure including data on antibiotic use and resistance
- General Public: follow prescriber advice regarding when antibiotics are unnecessary, cut down on the spread of germs (handwashing, covering coughs), get recommended vaccines to prevent infections

<u>Key Takeaway:</u> Antibiotic stewardship is a shared responsibility and principles don't apply to the hospital alone. Antimicrobial stewardship looks different in different care settings.

References:

- 1. Sanchez, G.V., Fleming-Dutra, K.E., Roberts, R.M., Hicks, L.A. Core Elements of Outpatient Antibiotic Stewardship. MMWR Recomm Rep 2016;65(No. RR-6):1–12.
- 2. Goff DA, Mangino JE, Glassman AH, Goff D, Larsen P, Scheetz R. Review of Guidelines for Dental Antibiotic Prophylaxis for Prevention of Endocarditis and Prosthetic Joint Infections and Need for Dental Stewardship. Clin Infect Dis. 2020;71(2):455-462. doi:10.1093/cid/ciz1118
- 3. Lloyd DH, Page SW. Antimicrobial Stewardship in Veterinary Medicine. Microbiol Spectr. 2018;6(3):10.1128/microbiolspec.ARBA-0023-2017. doi:10.1128/microbiolspec.ARBA-0023-2017
- 4. Aliyu S, Travers JL, Heimlich SL, Ifill J, Smaldone A. Antimicrobial Stewardship Interventions to Optimize Treatment of Infections in Nursing Home Residents: A Systematic Review and Meta-Analysis. J Appl Gerontol. 2022;41(3):892-901. doi:10.1177/07334648211018299
- 5. Anderson M, Schulze K, Cassini A, Plachouras D, Mossialos E. A governance framework for development and assessment of national action plans on antimicrobial resistance. *Lancet Infect Dis.* 2019;19(11):e371-e384. doi:10.1016/S1473-3099(19)30415-3
- 6. Be Antibiotics Aware: Smart Use, Best Care. Centers for Disease Control and Prevention. Updated Nov 2021. Accessed Oct 2022. Available at: Be Antibiotics Aware: Smart Use, Best Care | Patient Safety | CDC
- 7. WHO policy guidance on integrated antimicrobial stewardship activities. Geneva: World Health Organization; 2021. Licence: CC BY-NC-SA 3.0 IGO.