



Inland Empire Health Plan Outpatient and Emergency Department Antimicrobial Stewardship Toolkit

The Case for Antimicrobial Stewardship in Outpatient and Emergency Settings

In the United States, nearly half of outpatient antimicrobial prescriptions may be inappropriate (e.g., selection, dosing, or duration), and at least 30% of outpatient antimicrobial prescriptions are unnecessary.¹⁻² For instance, up to 70% of patients diagnosed with acute bronchitis are inappropriately prescribed antibiotics, despite evidence that antibiotics do not improve patient outcomes or reduce subsequent emergency department visits.³⁻⁴

Antimicrobial stewardship not only aims to limit the spread of antimicrobial resistance but also aims to improve patient-level outcomes, including *Clostridioides difficile* colitis and adverse drug reactions. For example, antimicrobials are responsible for almost 20% of emergency room visits for adverse drug reactions and are the most common cause of such visits in pediatric patients.⁵ Recognizing the importance of antimicrobial stewardship, The Joint Commission now requires outpatient facilities to have an antimicrobial stewardship program for accreditation.⁶

The following toolkit provides a framework for using Healthcare Effectiveness Data and Information Set (HEDIS) metrics, with a special focus on the avoidance of antibiotic treatment for acute bronchitis/bronchiolitis (AAB) metric, to track and improve outpatient, urgent care, and emergency department antimicrobial use in the Inland Empire Health Plan (IEHP) network.⁷ This toolkit is based on the CDC's Core Elements of Outpatient Antimicrobial Stewardship and provides step-by-step guidance, tools, and suggestions to create an effective stewardship program adherent to each core element (i.e., commitment, action, tracking and reporting, and education).¹⁻²

Toolkit Overview

This toolkit includes multiple options for outpatient clinics, urgent care clinics, and emergency departments to adhere to each of the CDC's four core elements of outpatient antimicrobial stewardship.¹⁻² Facilities are not expected to implement every intervention, and we appreciate that not every intervention is appropriate at all locations. Instead, our hope is that facilities perform at least one intervention for each core element, with selections based on each facility's unique needs and resources. **Interventions recommended for all facilities are highlighted in bold.**

Additional resources are provided in the accompanying supplement, including:

- 1) A template for a brief stewardship plan
- 2) A template stewardship commitment statement for use within the organization
- 3) Stewardship education resources for patients and providers

For questions, concerns, or feedback about the toolkit, please email the Inland Empire Health Plan Regional Quality Team at DGRegionalQuality@iehp.org and/or the California Department of Public Health Antimicrobial Stewardship Team at HAI_AS@cdph.ca.gov. We welcome your suggestions. The California Department of Public Health Antimicrobial Stewardship Team also offers [one-on-one stewardship consultations](#) upon request.⁸

Framework and Tools

Commitment

- **Identify a champion to lead stewardship efforts. Ideally this champion has a clinical background or has the support of clinical leadership.**
- **Obtain support for the stewardship program from facility leadership.**
- **Communicate stewardship efforts to staff to keep patient messaging consistent.**
- **Create a written stewardship plan.**
- Display patient-facing evidence of stewardship commitment throughout the facility, such as with commitment posters, screensavers, pens, badges, etc. (examples: [CDC Commitment Poster \(PDF\)](#) ([Spanish \(PDF\)](#)) and [AHRO Resources](#) included in the supplement).^{9,10}
- During virtual visits, display stewardship-related screensavers and backgrounds.
- Include stewardship duties in job descriptions and performance reviews.
- Dedicate resources to support stewardship efforts, ensuring key support staff (e.g., information technology) contribute as appropriate.

Action

- Publicize evidence-based treatment guidelines for common conditions and create facility-specific guidelines as feasible (examples: [CDC adult guidelines](#), [CDC pediatric guidelines](#), [Stanford guidelines](#), [UCSF guidelines](#)).^{11–14}
- Use delayed prescribing for diagnoses that may resolve without antimicrobials, such as acute uncomplicated sinusitis or pediatric otitis media (example: [CDC delayed prescribing education \(PDF\)](#) ([Spanish \(PDF\)](#)) in the supplement).¹⁵
- Provide education on watchful waiting and symptom management for patients with diagnoses that do not require antibiotics (examples: [CDC viral symptom prescription \(PDF\)](#) ([Spanish \(PDF\)](#)), [CDC watchful waiting prescription \(PDF\)](#) ([Spanish \(PDF\)](#)), [other CDC resources](#), selections in the supplement).^{16–18}
- Consider creating symptom relief packages for patients as appropriate (e.g., antipyretics, lozenges, saline nasal spray).
- Use call centers, nurse hotlines, or pharmacist consultations as triage systems to prevent unnecessary visits.
- Use the electronic medical record (EMR) to encourage best practices and provide clinical decision support (e.g., standardized order sets with pre-selected orders, diagnostic and therapeutic nudges, templated notes, justification requirement if an antimicrobial prescription is written for an unsupported diagnosis).
- Promote appropriate diagnostic testing (e.g., strep testing prior to treating strep pharyngitis and avoiding strep testing in patients with viral symptoms).

- Consider point-of-care tests to rule in diagnoses for which antibiotics are not indicated (e.g., influenza, COVID-19, respiratory syncytial virus).
- Provide communication and other stewardship training. Continuing education credit is available through [CDC's antibiotic stewardship course](#) and [Stanford's stewardship course](#). See also [Dialogue Around Respiratory Illness Treatment \(DART\)](#) (overview video is one minute) and [additional Stanford resources](#).^{19–22}
- For virtual visits, create guidance for when to refer patients for in-person examinations or laboratory studies (e.g., otitis exam or rapid strep testing) and create standards for appropriate antimicrobial prescribing.

Tracking and Reporting

- **Monitor your facility's HEDIS AAB metric quarterly.⁷**
- Consider tracking other HEDIS metrics. For instance, the antibiotic utilization for respiratory conditions (AXR) metric can be used as a balancing measure to help assess if improved AAB is due to better prescribing versus recoding diagnoses.
- Track the proportion of total visits and/or total visits with an infectious diagnosis that result in an antibiotic prescription. These can also serve as AAB balancing measures.
- Track guideline adherence for common conditions (e.g., pediatric otitis media and urinary tract infections). Tracked data may include the proportion of visits leading to an antibiotic; antibiotic selection, dosing, and duration; and other quality indicators.
- When available, work with information technology to create provider-level prescribing reports with peer comparison (e.g., comparison with the top 10% of providers in the facility) and feedback (examples: [CMMS MITIGATE toolkit pp. 23–24](#), [Meeker et al. supplement 1 pp. 102–103](#), [CDC payer toolkit pg. 21 \(PDF\)](#), [CDC letter for adaptation \(PDF\)](#)).^{23–26}
- Track antibiotic-associated *Clostridioides difficile* colitis and other adverse events.
- **Review programmatic feedback and barriers; adapt interventions as appropriate.**
- **Regularly update staff and leadership on stewardship progress.**

Additional Education

- Participate in [Antibiotic Awareness Week](#).²⁷
- Educate providers on appropriate antimicrobial use.
 - Provide [prescriber education resources from the CDC](#).¹⁸
 - Collaborate with a larger facility or system (e.g., an academic institution or a local public health department).
 - Coordinate on-site stewardship education from experts.
 - Ensure timely access to consultants with antimicrobial prescribing expertise.
- Educate patients on appropriate antimicrobial use.
 - Display [patient education](#) materials throughout the facility.²⁸

- Display waiting room posters and handouts (examples: [CDC virus vs. bacteria \(PDF\)](#), [IEHP member handout \(PDF\)](#), [CDC antibiotics aren't always the answer \(PDF\)](#), included in the supplement).^{29–31}
- Provide after-visit diagnosis education (example: [CDC bronchitis \(PDF\)](#) included in the supplement).³²
- Communicate antimicrobial indications and risks with patients ([CDC talking points](#), [CDC side effects handout \(PDF\)](#), [AAFP editorial](#), included in the supplement).^{33–35}
- Use the [Dialogue Around Respiratory Illness Treatment \(DART\)](#) communication framework (overview video is one minute).²⁰
- Consider using social media and other methods to communicate stewardship efforts with patients (example: [CDC common respiratory infections \(JPG\)](#)).³⁶

Additional Resources

Please see the accompanying [supplement](#) for additional resources including:

- 1) A template for a brief stewardship plan
- 2) A template stewardship commitment statement for use within the organization
- 3) Stewardship education resources for patients and providers

References and Resources

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6. [R3 Report Issue 23: Antimicrobial Stewardship in Ambulatory Health Care | The Joint Commission](https://www.jointcommission.org/standards/r3-report/r3-report-issue-23-antimicrobial-stewardship-in-ambulatory-health-care/) (www.jointcommission.org/standards/r3-report/r3-report-issue-23-antimicrobial-stewardship-in-ambulatory-health-care/)
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9. [A Commitment to Improving Antibiotic Use \(PDF\) | CDC](https://www.cdc.gov/antibiotic-use/media/pdfs/Commitment-Poster-P.pdf) (www.cdc.gov/antibiotic-use/media/pdfs/Commitment-Poster-P.pdf)
 - Spanish: [Un compromiso para mejorar el uso de antibióticos \(PDF\) | CDC](https://www.cdc.gov/antibiotic-use/media/pdfs/es/CommitmentLetter-11by17-ES-P.pdf) (www.cdc.gov/antibiotic-use/media/pdfs/es/CommitmentLetter-11by17-ES-P.pdf)
10. [Learn Strategies for Communicating With Colleagues, Patients, and Families About Antibiotic Prescribing | Agency for Healthcare Research and Quality | AHRQ](https://www.ahrq.gov/antibiotic-use/ambulatory-care/strategies/index.html) (www.ahrq.gov/antibiotic-use/ambulatory-care/strategies/index.html)
11. [Outpatient Clinical Care for Adults | Antibiotic Prescribing and Use | CDC](https://www.cdc.gov/antibiotic-use/hcp/clinical-care/adult-outpatient.html) (www.cdc.gov/antibiotic-use/hcp/clinical-care/adult-outpatient.html)
12. [Outpatient Clinical Care for Pediatric Populations | Antibiotic Prescribing and Use | CDC](https://www.cdc.gov/antibiotic-use/hcp/clinical-care/pediatric-outpatient.html) (www.cdc.gov/antibiotic-use/hcp/clinical-care/pediatric-outpatient.html)
13. [Stanford Stewardship Resources | Stanford](https://med.stanford.edu/bugsanddrugs/outpatientabx.html) (med.stanford.edu/bugsanddrugs/outpatientabx.html)
14. [Guidelines for Empiric Antimicrobial Therapy | Infectious Diseases Management Program at UCSF](https://idmp.ucsf.edu/guidelines-empiric-antimicrobial-therapy) (idmp.ucsf.edu/guidelines-empiric-antimicrobial-therapy)

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16. [Symptom Relief for Viral Illnesses \(PDF\) | CDC](https://www.cdc.gov/antibiotic-use/media/pdfs/RCx-Relief-Viral-Illness-Ig-v8-508.pdf) (www.cdc.gov/antibiotic-use/media/pdfs/RCx-Relief-Viral-Illness-Ig-v8-508.pdf)
 - Spanish: [Alivio de los síntomas de enfermedades virales \(PDF\) | CDC](https://www.cdc.gov/antibiotic-use/media/pdfs/es/RX-Pad-ReliefViral-L-ES-P.pdf) (www.cdc.gov/antibiotic-use/media/pdfs/es/RX-Pad-ReliefViral-L-ES-P.pdf)
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19. [CDC Stewardship CE Course | CDC](https://www.train.org/cdctrain/training_plan/3697) (www.train.org/cdctrain/training_plan/3697)
20. [Antimicrobial Stewardship: Optimizing Antibiotic Practices | Stanford Online CME Course](https://online.stanford.edu/courses/som-ycme0001-antimicrobial-stewardship-improving-clinical-outcomes-optimization-antibiotic) (online.stanford.edu/courses/som-ycme0001-antimicrobial-stewardship-improving-clinical-outcomes-optimization-antibiotic)
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22. [Education | Stanford Antimicrobial Safety & Sustainability Program | Stanford Medicine](https://med.stanford.edu/bugsanddrugs/education.html) (med.stanford.edu/bugsanddrugs/education.html)
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