Urgent Care Antibiotic Stewardship Toolkit

COLLEGE OF URGENT CARE MEDICINE

Inspiring Excellence, Advancing the Specialty

College of Urgent Care Medicine
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Summary

Antibiotic stewardship is a public health issue that needs to be addressed in all medical setting, including urgent care centers. Urgent care clinicians and facilities see a large number of patients that present with conditions requiring clinicians to make decisions regarding the use of antibiotics. These decisions are multifactorial and need considerations for quality and safety issues, as well as patient experience. Having the proper set of tools is important in order to have a meaningful impact on the appropriate use of antibiotics.

The Core Elements of Outpatient Antibiotic Stewardship developed by the CDC provide a framework for outpatient clinics and facilities that routinely provide antibiotic treatment. These core elements of commitment, action, tracking and reporting, and, education and expertise provide a framework for these tools to be applied in outpatient clinical settings like the urgent care centers. Tools such as evidence-based clinical protocols, clinical and patient education, communication tools, etc., can help drive the appropriate use of antibiotics and help improve clinical outcomes.

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Introduction

Antibiotic stewardship is among the current hot topics about which we are hearing from experts, colleagues, and even politicians. According to the Center for Disease Control and Prevention (CDC), antibiotic stewardship is the effort to measure and improve how antibiotics are prescribed by clinicians and used by patients. The issue of antibiotic resistance poses a genuine public health concern, and for good reason. According to the CDC, at least 30% of antibiotic courses prescribed in the outpatient setting are unnecessary, meaning that no antibiotic is needed at all. Most of this unnecessary use is for acute respiratory conditions, such as colds, bronchitis, sore throats caused by viruses, and even some sinus and ear infections. Also, according to the CDC, total inappropriate antibiotic use (which includes unnecessary antibiotic use plus inappropriate antibiotic selection, dosing, and duration) may approach 50% of all outpatient antibiotic use.

These trends in antibiotic use have come with a heavy cost. Antibiotics cause 1 out of 5 emergency department visits for adverse drug events (ADEs) and are the most frequent cause of ADEs leading to emergency department visits in children. Seven of the top ten drugs involved in ADEs leading to emergency room visits are antibiotics. Stated in terms of cost, $10.7 billion were spent on antibiotics in the United States in 2009, including $6.5 billion among patients who visit physician offices.

What does this mean for urgent care clinicians and facilities? Most of us feel we are already completely appropriate with our prescriptions for antimicrobials. There is evidence, however, that as a group, we could do quite a bit better. Antibiotics are prescribed sometimes when they are not needed, and broad-spectrum antibiotics are prescribed sometimes when narrow-spectrum agents would be recommended. Reasons for such behaviors could include patients explicitly requesting antibiotics, clinician perception that patients want antibiotics, patient satisfaction concerns. Some other reasons include practicing defensive medicine, or, covering for an infection that might be worse than it appears, etc. Unfortunately, even completely appropriate antibiotic prescribing will harm some patients (allergic reactions, diarrhea, commensal overgrowth, *Clostridium difficile* infections) and lead to antibiotics being less useful over time. This is an accepted cost for treating infections the right way, however, over-prescribing and inappropriate prescribing have all the negatives with absolutely no clinical upside.

Urgent Care is on the front lines, seeing the largest group of patients of any specialty where the decision to treat with antibiotics or not and which antibiotic to use is made so many times a day it's almost impossible to count. The College of Urgent Care Medicine (CUCM) has developed a toolkit to help urgent care clinicians and facilities develop and implement strategies that will help them promote antibiotic stewardship at their levels. This document provides this toolkit.

There are, of course, special situations such as higher-risk patients who are immunosuppressed, those with poor follow-up, etc. As scientists, we also need to understand that a high pretest probability may outweigh an initial negative test while awaiting culture results. But these should be

the exceptions to the rule of appropriate prescribing. What if it seems like a patient really wants antibiotics? We just need to be honest with patients. It will take time – one patient at a time in the exam room and, over time, in the heart, minds, and expectations of all patients the next time they have fever, cough, congestion, or sore throat.

Core Elements of Outpatient Antibiotic Stewardship

The Core Elements of Outpatient Antibiotic Stewardship developed by the CDC provide a framework for outpatient clinics and facilities that routinely provide antibiotic treatment. This model can help urgent care clinicians and facilities implement effective strategies to modify prescribing practices to align them with evidence-based recommendations for diagnosis and management. The core elements of outpatient antibiotic stewardship include commitment, action for policy and practice, tracking and reporting, and, education and expertise.

Commitment

The first and perhaps the most critical step to implementing an antibiotic stewardship program is commitment to the program. It is important that this commitment is demonstrated at both the clinician and facility level. Certain measures through which this commitment can be demonstrated in urgent care include:

Clinicians:

1. Letter in support of antibiotic stewardship:
Clinicians should have a poster in the exam rooms showing a letter from them to their patients stating their commitment to prescribing antibiotics appropriately. As shown in Appendix A, the letter can be a simple statement demonstrating this commitment.

Facilities:

1. Single dedicated leadership: There should be one leader in place with leadership and administrative support who should oversee antibiotic stewardship and be accountable to the senior leadership.

2. Support for the clinicians: CUCM recommends that the senior facility leadership should provide a letter or a written statement to the clinicians and the staff to inform them that they will be supported when following evidenced based guidelines when prescribing antibiotics. In this era of weighted patient satisfaction scores and emphasis on customer experience and ratings, many providers are hesitant to not prescribe antibiotics for fear of poor scores. Once these clinicians know they have the leadership and administrative support, they are more likely to appropriately prescribe antibiotics. Appendix B provides an overview of such a statement.

Action

We recommend that clinicians and facilities begin by developing a plan in order to focus on a few top diagnoses where antibiotic stewardship would be useful. A few common conditions where antibiotics are overprescribed typically include upper respiratory infections, pharyngitis, sinusitis and bronchitis. Through the use of electronic medical records and chart reviews, parameters can be set up to monitor prescribing habits for one or more of the previously mentioned conditions. Policies can be created to support evidence based medical guidelines regarding antibiotic usage and prescribing. A plan stating the mission and outcomes of Antibiotics Stewardship can also be created and distributed to staff. Goals may also be identified during this step.

Certain actions that clinicians and facilities can perform in order to promote antibiotic stewardship include:

1. Use evidence-based diagnostic criteria and treatment recommendations.

   We should all routinely avoid prescribing antibiotics for those with:

   i. Acute pharyngitis without a positive objective test for *Strep*
   ii. Acute bronchitis, without pneumonia, when there is no comorbidity of COPD, pulmonary fibrosis, or other chronic lung disease (other than asthma)
   iii. Viral upper respiratory infections
   iv. Asthma exacerbation without pneumonia
   v. Non-severe sinusitis of less than 10 days duration

   In situations where patients do have a positive objective test for *Strep*, have Bronchitis with chronic lung disease, or non-severe sinusitis for longer than 10 days, narrow-spectrum antibiotics typically work fine and conform to current evidence-based guidelines[4, 5, 6].

   Tools that can be used include:
   https://www.cdc.gov/antibiotic-use/community/for-hcp/outpatient-hcp/adult-treatment-rec.html

   https://academic.oup.com/cid/article/55/10/e86/321183

2. Use delayed prescribing practices or watchful waiting, when appropriate.
   Tools that could be used include:

   Delayed Prescribing:
   https://www.cdc.gov/antibiotic-use/community/downloads/What-is-Delayed-Prescribing.pdf

Watchful Waiting:
https://www.cdc.gov/antibiotic-use/community/downloads/What-is-Watchful-Waiting.pdf

3. Provide communications skills training for clinicians.

   Clinicians need to work with the patients to collectively acknowledge that antibiotic "non-treatment" may indeed be a change from what the patient had experienced in the past, but it is informed by the newest science of benefits and harms of antibiotics.

   Tools that could be used include:
   https://www.aafp.org/afp/2016/0801/p200.html

   https://www.youtube.com/watch?v=YHYmb2OKoMU&feature=youtu.be

   Certain other communication tools that can help clinicians with these tough communications include:
   i.   Refer to bronchitis as a "chest cold" or viral URIs/sinus symptoms as a "head cold" with "sinus pressure".
   ii. Leave the door open for easy follow-up if symptoms worsen or do not improve.
   iii. When prescribing an antibiotic, explain the possible patient harm associated with antibiotics. These include an increase in antibiotic resistance for a person, their family and friends, and society in general; yeast infections, diarrhea and more severe *Clostridium difficile* colitis; allergic reactions, etc. It is anyways a good practice to explain and discuss with patients the side effects and adverse events associated with antibiotic use in every situation where an antibiotic is prescribed.
   iv. When an antibiotic is appropriately prescribed, specifically explain to the patient why they need it and that it might not be needed each time they feel similarly ill.

4. Require explicit written justification in the medical record for non-recommended antibiotic prescribing.

   CUCM recommends that practices work with their respective EMR vendors to develop mechanisms to incorporate hard stops in the EMR or require a written justification for non-evidence-based medicine practices regarding antibiotic prescribing.

5. Provide support for clinical decisions.

   The EMRs can be a great resource to provide "decision support" mechanisms which would help clinicians in making better decisions with regards to the antibiotic prescriptions. Examples of such features within the EMR would include the addition of "popup" boxes with acknowledgement by the clinician. These could be simple "yes/no" acknowledgements (more educational in nature) or include the need to write-in a reason (a minor impediment to doing the "wrong" thing). As well, data on clinician responses could be followed to assess individual's practice for ongoing feedback. Here are some ideas:

   i. Anytime an antibiotic is prescribed when the only diagnosis is "viral upper respiratory infection", "viral pharyngitis" or the varying ICD10 diagnoses that go with "acute bronchitis", "asthma exacerbation" "serous otitis media", "sinusitis" (other than the ICD10

diagnosis that indicates that symptoms have persisted for more than 10 days) or similar (we need a reasonable list), have a popup that says "Antibiotics are not needed for the diagnosis(es) listed. Please provide a rationale for this prescription." and have the clinician type-in a response. If, after the rationale, the clinician still prescribes an antibiotic, then another popup can come up with "Have you considered the option of delayed or post-dated antibiotic treatment in this case?"

ii. Anytime an antibiotic is prescribed for any of the suppurative otitis media diagnoses, have another popup that says "Have you considered the option of watchful waiting or delayed or post-dated antibiotic treatment in this case?"

iii. Anytime an oral antibiotic is prescribed for otitis externa, have a popup that says "This condition usually responds to topical therapy alone. Please provide a rationale for this prescription."

iv. Anytime an antibiotic is prescribed for "Strep pharyngitis" have a popup that says "A positive objective test for Strep is recommended prior to antibiotic prescription." and leave it at that, or have some part of the programming that can tell that the test was done, or require more explanation based on an initial yes/no response as to whether one was done or not.

v. Anytime amoxicillin/clavulanate, levofloxacin, ciprofloxacin (others?) is prescribed, have a popup that says "A narrower-spectrum antibiotic may be more appropriate. Please provide a rationale for this prescription."

vi. Anytime anything other than nitrofurantoin, TMP/SMX, or cephalexin is prescribed for "acute cystitis" have a popup that says "Evidence supports the use of other antibiotics in this case. Please provide a rationale for this prescription."

vii. Anytime any antibiotic is prescribed, have a pop-up that says something to the effect "Have you advised the patient of the true need for this medication for his/her infection and the potential side-effects and harms?"

Tracking and Reporting

CUCM recommends that urgent care centers perform regular audits and provide feedback in order to guide changes in practice and to assess improvement in antibiotic prescribing trends. The following tools can be used by clinicians and facilities for tracking and reporting:

Clinicians:
1. Self-evaluate antibiotic prescribing practices.

This step is one of the most important for antibiotic stewardship. Clinicians can and should play an extremely important role in performing self-assessments in order to develop a feedback loop for self-improvement. Self-assessments can be performed by reviewing individual reports on antibiotic use and noting continued improvement. Another important avenue for doing self-assessments is performing peer reviews. CUCM strongly suggest developing peer review committees and having them cases on a regularly scheduled basis in order to monitor for outliers and improvement.

2. Participate in continuing medical education and quality improvement activities to track and improve antibiotic prescribing.

   https://www.cdc.gov/antibiotic-use/community/for-hcp/continuing-education.html

Facilities:

3. Implement at least one antibiotic prescribing tracking and reporting system.

4. Assess and share performance on quality measures and established reduction goals addressing appropriate antibiotic prescribing from health care plans and payers.

Education and Expertise

Both clinician and patient education is essential in order to operationalize changes in behaviors that are associated with antibiotic use. Here is a list of certain tools that can be used:

Clinician Education Tools:

https://www.train.org/cdctrain/course/1075730/compilation

https://med.stanford.edu/cme/courses/online/improving-antibiotics-pcs.html

https://stanfordhealthcare.org/content/dam/SHC/health-care-professionals/medical-staff/medstaff-weekly/20160603-fda-fluoroquinolones.pdf

https://www.youtube.com/watch?v=A0fe2pz-5vE

https://www.cdc.gov/antibiotic-use/community/pdfs/penicillin-factsheet.pdf

Patient Education Tools:

https://www.cdc.gov/antibiotic-use/community/pdfs/Viruses-or-Bacteria-Factsheet-Eng.pdf

http://professionals.site.apic.org/files/2013/10/AntibioticInfographic14-FINAL.pdf

https://www.cdc.gov/antibiotic-use/community/downloads/Systematic-Relief-for-Viral-Illness.pdf

Conclusions

Antibiotic stewardship is a journey of gaining continuous improvement in the core understanding of the role of antibiotics in treating conditions through the use of evidence-based medicine. A better understanding of the role of the antibiotics in treating relevant conditions, and their avoidance for conditions that do not necessitate their use will help in improving the clinical decision-making processes and operations that we have set up in urgent care centers. Recognizing the need for antibiotic stewardship and applying the correct tools to help urgent care centers achieve this goal are the responsibility of all clinicians and practices that help patients in an urgent care model of healthcare delivery. Establishing and implementing a good antibiotic stewardship in urgent care centers can help protect patients from unnecessary antibiotic use and their unintended consequences. This can also help improve clinical outcomes in urgent care centers. Educating our colleagues in order to be consistent not sending mixed messages to patients will help improve the process. Things will not change overnight, but a dedicated effort is absolutely necessary – for patients and for future effectiveness of antimicrobials.

Appendix A:

Title of Appendix A

Sample Letter:

To: _____ Clinical Employees
Subject: _____Antibiotic Stewardship Program

This letter is to inform Health-System providers, leaders and employees that _____ Antibiotic Stewardship Program (ASP) is a key initiative of highest priority. The prudent use of antimicrobials within the hospital and other healthcare facilities is clinically vital to the health of our community.

As you may be aware, up to 50% of antimicrobials prescribed in US acute care hospitals are estimated to be either unnecessary or inappropriate. There is a causal relationship between inappropriate antimicrobial use and antimicrobial drug resistance. Globally, the dramatic rise in resistant microorganisms and the slow development of new antimicrobial drugs has prompted various agencies to focus on optimizing usage.
The priority of this effort is evidenced by the President's National Plan to Combat Antibiotic Resistance and The Joint Commission (TJC) standards for Antibiotic Stewardship.

_____ has created an interdisciplinary team to implement and oversee our Antibiotic Stewardship Program. Dr. _____ from Infectious Disease Services will serve as lead for the ASP along with Dr. _____ from Pharmacy Services and Dr _____ ,Chief of Medical Quality. The team operates in collaboration between Infection Preventionists, Nursing representatives, Pharmacists, and Providers. Members will be responsible for clinical reporting, developing antimicrobial policies, ensuring utilization of our antibiogram, providing staff education on the prudent use of antimicrobials, and other related responsibilities.

_____ supports its Ambulatory team at _____ providing Urgent Care, Primary Care and Specialty Services. _____ leadership has committed in all outpatient settings to the Antibiotic Stewardship program. The team consists of the Ambulatory medical leadership, Dr. _____ from Primary Care, Dr. _____from Urgent Care and Dr. _____ from Ambulatory Medical Quality as well as all the Nursing Directors in each center. The team will work in conjunction with _____ hospital team for collaboration and continuity of care. Providers and staff have been educated on evidenced based management of illness, alternatives and microbial resistance. Members of the Ambulatory Antibiotic Stewardship program are responsible for tracking and reporting, education and evaluation of the programs efficacy.

Information and educational materials on Antimicrobial Stewardship will be available on the Pharmacy Webpage under Infectious Disease – Antimicrobial Stewardship.

My signature below represents my understanding of the importance of this national priority, as well as my commitment to supporting the initiatives at my organization.

Recipient: (print and sign) _____

Appendix B:

Title of Appendix B

Sample Letter:

Dear Urgent Care Physicians, Nurse Practitioners and Physician Assistants,

_____ Urgent Care has committed to implementing an Antimicrobial Stewardship Program in all of our Urgent Care Centers. The initiation of the program is to mirror what is being implemented on the inpatient facilities within the _____ System. The Antimicrobial Stewardship Program has been created due to the increasing burden of healthcare spending, adverse outcomes and health of the community we serve.

This program involves appropriately prescribing antibiotics the right dose, type and duration for the patient. Guidance and assistance are offered through Urgent Care leadership as well as through the _____ pharmacy team and the Infectious Disease Department. Education will be continuously provided throughout to the providers. Our patients will be given literature and other forms of education regarding correct antibiotic prescribing. Administration will support providers when patients are displeased with this initiative supported by evidence based medicine.

Please continue the great and important work performed in our Urgent Care centers knowing you will be supported. We are all appreciative of the excellent care you provide to the patients and community of _____ .

Best,

CMO

References

Grijalva CG, Nuorti JP, Griffin MR. Antibiotic prescription rates for acute respiratory tract infections in US ambulatory settings . JAMA. 2009;302(7):758-766.

Barnett ML, Linder JA. Antibiotic prescribing for adults with acute bronchitis in the United States, 1996-2010 . JAMA. 2014;311(19):2020-2022.

Harris AM, Hicks LA, Qaseem A; High Value Care Task Force of the American College of Physicians and for the Centers for Disease Control and Prevention. Appropriate Antibiotic Use for Acute Respiratory Tract Infection in Adults: Advice for High-Value Care From the American College of Physicians and the Centers for Disease Control and Prevention. Ann Intern Med. 2016 Mar 15;164(6):425-34.

Global Strategy for the Diagnosis, Management, and Prevention of COPD. Global Initiative for Chronic Obstructive Lung Disease. 2017.

Centers for Disease Control and Prevention.(CDC).(2013). Antibiotic Resistance Threats in the United States. Retrieved from https://www.cdc.gov/drugresistance/pdf/ar-threats-2013-508.pdf

Centers for Disease Control and Prevention (CDC). (2017) Antibiotic use in the United States: Progress and opportunities, 2017. https://www.cdc.gov/getsmart/pdf/stewardship-report.pdf

Center for Disease Control and Prevention.(CDC).(2017). Outpatient Antibiotic Stewardship.
 Retrieved from https://www.cdc.gov/antibiotic-use/community/improving-prescribing/outpatient-stewardship.html

Dellit,T.H.,Owens,R.C., McGowan,J.E., Gerding , G.N., Weinstein R.A., Burke,J.P., Hooton, T.M. (2007) Infectious Disease Society of America and the Society for Healthcare Epidemiology of America Guidelines for Developing an Institutional Program to Enhance Antimicrobial Stewardship. Clinical Infectious Diseases,44(2), 159-177.

Ellison III,R. (2012) Cost Effectiveness of Antimicrobial Stewardship. New England Journal of Medicine Watch. Retrieved from
 http://www.journalwatch.org/id201203210000001/2012/03/21/cost-effectiveness-antimicrobial-stewardship

Geisinger. (2017). Make It the Best Antibiotic: The Geisinger Antimicrobial Stewardship Program Handbook. Retrieved from
https://www.geisingermedicallabs.com/how/Antimicrobial%20Stewardship%20Handbook%202017.pdf

Griffith,M.,POstelnick,M.,Scheetz,M. (2012). Antimicrobial Stewardship Programs: Methods of Operation and Suggested Outcomes. Expert Review of Anti-Infective Therapy,10 (1), 63.

Fleming-Dutra, K., et al. (2016). "Prevalence of Inappropriate Antibiotic Prescriptions Among US Ambulatory Care Visits, 2010-2011." JAMA: the Journal of the American Medical Association 315(17): 1864-1873.

Lohr,G.,& Freedman,S, (2016). Are You Seeing Cost Savings from Antibiotic Stewardship? The Advisory Board Company. Retrieved from https://www.advisory.com/research/physician-executive-council/prescription-for-change/2016/05/pef-antibiotic-stewardship

Pew Charitable Trusts (2016). Antibiotic Use in Outpatient Settings: Health experts create national targets to reduce unnecessary antibiotic prescriptions. Retrieved from http://www.pewtrusts.org/en/research-and-analysis/reports/2016/05/antibiotic-use-in-outpatient-settings

Pew Charitable Trusts (2016). Unnecessary Antibiotic Use and Patient Safety: The Role of Antibiotic Stewardship. Retrieved from http://www.pewtrusts.org/en/research-and-analysis/fact-sheets/2016/01/unnecessary-antibiotic-use-and-patient-safety-the-role-of-antibiotic-stewardship

The Joint Commission. (2016). New Antibiotic Stewardship Standard. Retrieved from

https://www.jointcommission.org/assets/1/6/New_Antimicrobial_Stewardship_Standard.pdf

The White House (2014). National Strategy for Combating Antibiotic Resistant Bacteria. Retrieved from https://www.cdc.gov/drugresistance/pdf/carb_national_strategy.pdf

Timbrook,T.T., Hurst,J.M., & Bosso, J.A.(2016). Impact of Antimicrobial Stewardship Programs on Antimicrobial Utilization, Bacterial Susceptibilities and Financial Expenditures at an Academic Medical Center. Hospital Pharmacy, 51 (9), 703-711. Doi: 10.1310/hpj5109-703.

World Health Organization (2018). Antimicrobial Resistance. Retrieved from http://www.who.int/antimicrobial-resistance/en/