Judicious Use of Antibiotics for Acute Otitis Media

Potential Barriers and Suggested Ideas for Change

Key Activity: Diagnose Infection Accurately—*Acute Otitis Media*

Rationale: In order to achieve judicious antibiotic prescribing for bacterial infections such as acute otitis media, it is important to understand and use stringent and validated clinical diagnostic criteria as established through clinical guidelines. The careful application of these criteria lead to more accurate diagnosing, resulting in the potential to mitigate overuse of antibiotics for common pediatric infections.

Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
Gap: *Acute Otitis Media is not consistently diagnosed accurately (based on strict diagnostic criteria).*		
Practitioners and/or staff may not recognize the importance of using strict criteria to diagnose acute otitis media (AOM).	• Review the guidelines and recommendations that discuss the importance of accurately diagnosing infections to avoid misuse of antibiotics: ✓ Principles of Judicious Antibiotic Prescribing for Bacterial Upper Respiratory Tract Infections ✓ AAP Clinical Practice Guideline: The Diagnosis and Management of Acute Otitis Media ✓ CDC highlights threats posed by antibiotic resistance, calls for action ✓ Antibiotic Resistance Threats in the United States, 2013. Centers for Disease Control and Prevention ✓ Centers for Disease Prevention (CDC) Program. *Get Smart: Know When Antibiotics Work*	• Meet with all staff to review the facts and discuss the importance of accurate diagnoses and stress the following: ✓ Inappropriate diagnosis may lead to inappropriate use of antibiotics. ✓ Antibiotic overuse is a serious health threat. ✓ Adverse effects can result from unnecessary antibiotics. ✓ Accurate diagnoses lead to appropriate treatment and judicious antibiotic use.
Strict diagnostic criteria are not being routinely used because of lack of knowledge of the criteria (signs, symptoms, and severity).	• Review the guidelines and articles that outline the diagnostic criteria to be used to accurately diagnose AOM: ✓ AAP Clinical Practice Guideline: The Diagnosis and Management of Acute Otitis Media ✓ Improving Adherence to Otitis Media Guidelines With Clinical Decision Support and Physician Feedback ✓ Distribute and review the Judicious Use of Antibiotics for Acute Otitis Media Flowchart which summarizes the essential criteria.	• Conduct a “Lunch and Learn” or similar session with fellow clinicians and review the following to ensure all clinicians are aware of the criteria to diagnose AOM. Use the following resources: ✓ AAP Clinical Practice Guideline: The Diagnosis and Management of Acute Otitis Media ✓ Judicious Use of Antibiotics for Acute Otitis Media Flowchart developed for

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Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
		this course, or your practice's diagnostic tool.
The practice does not have a systematic approach for applying known diagnostic criteria. – Lack of a clear tool for diagnosis – Lack of ready access to diagnosis information or a diagnostic tool	• Institute use of an existing diagnostic tool created for this course: ✓ Judicious Use of Antibiotics for Acute Otitis Media Flowchart • Alternately, create your own diagnosis tool for AOM. Consider the following: ✓ The diagnostic tool should have clear criteria for discerning between viral and bacterial infections, with emphasis on the detailed criteria for diagnosing AOM. • Make the diagnostic tool available in each examining room. • Develop a policy for your practice regarding judicious use of antibiotics.	• Survey the practitioners to ensure that every clinician has access to strict diagnostic criteria and a diagnostic tool. • Conduct a Lunch and Learn or similar session with fellow clinicians to review: ✓ Judicious Use of Antibiotics for Acute Otitis Media Flowchart ✓ Improving Adherence to Otitis Media Guidelines With Clinical Decision Support and Physician Feedback
Practitioners have difficulty visualizing the tympanic membrane (TM) of a child in order to accurately diagnose AOM.	• Review appropriate techniques to: – Ensure adequate visualization of the tympanic membrane (TM), which may require cerumen removal. – Perform TM air insufflation to assess mobility. • Make images of tympanic membrane (TM) available in every examination room. Consult the following resources: ✓ AAP Clinical Practice Guideline: The Diagnosis and Management of Acute Otitis Media, Figure 2 presents images displaying differing degrees of TM bulging.	• Identify a clinician who can demonstrate best practice for viewing TM and cleaning cerumen out, and set up times to observe or for a clinic workshop to demonstrate and practice. • Meet with practice staff to discuss and allocate staffing necessary to have exam assistance available when needed.
Practice does not have an effective triage system to optimize an accurate diagnosis.	• Develop and communicate practice policies to ensure a triage system is established and used appropriately. Consider the following policies: ✓ Diagnoses must be based on a physical examination by a physician, NP, or PA. ✓ Do not use nurse-only visits for diagnosis or treatment. ✓ Do not allow prescribing over the phone. ✓ Do not depend on parental reports based on the use of a drugstore otoscope.	• Brainstorm with practice staff for ideas to improve your triage system in order to reduce diagnoses without a physical exam by a physician, NP, or PA. • Establish a practice policy that eliminates nurse-only visits and over-the-phone prescribing.

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Key Activity: Treat Acute Otitis Media (AOM) Effectively with Judicious Use of Antibiotics

Rationale: It is widely documented that antibiotics are frequently prescribed when not required or the incorrect antibiotic is prescribed. Such overuse and misuse of antibiotics causes avoidable drug-related adverse events, unnecessary cost, and contributes to antibiotic resistance, which is a very serious health threat. Judicious use of antibiotic for treating AOM includes assessing and treating pain, considering the option of initial observation when indicated, using antibiotics only when they are needed to treat the infection, choosing the right antibiotics, and administering them in the correct way.

Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
Gap: *Pain assessment is not performed.*		
There is a lack of practitioner knowledge that a pain assessment should be completed and pain relief for otalgia be recommended, whether or not antibiotics are prescribed.	• Practitioners should assess pain and appropriately recommend treatment for pain. Review the following: ✓ AAP Clinical Practice Guideline: The Diagnosis and Management of Acute Otitis Media. *Treatment of Otalgia* topic and Table 3 Treatments of Otalgia in AOM	
Practice does not include pain assessment as part of the sick-visit flow.	• Add pain assessment to the sick-visit flow for patients with suspected AOM.	
Gap: *Pain relief is not recommended when the pain is moderate or severe.*		
Lack of knowledge that pain relief for otalgia is recommended, whether or not antibiotics are prescribed.	• Practitioners should provide pain treatment (whether or not antibiotics are prescribed) based on benefits/risk, patient and family preference. • Review the following: ✓ AAP Clinical Practice Guideline: The Diagnosis and Management of Acute Otitis Media. *Treatment of Otalgia* topic and Table 3 Treatments of Otalgia in AOM	
Gap: *The severity of the symptoms is not assessed to determine appropriate treatment options.*		
Symptom severity assessment is not included as part of the AOM sick-visit flow.	• Add symptom severity assessment to the sick visit flow for patients with suspected or diagnosed AOM. • Make assessment of symptom severity part of your treatment flowchart for AOM.	• Use a tool to prompt assessment of severity for treatment. Consider use of: ✓ Judicious Use of Antibiotics for Acute Otitis Media Flowchart

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	• Review guidelines for treatment based on symptom severity: ✓ AAP Clinical Practice Guideline: The Diagnosis and Management of Acute Otitis Media.	
Gap: ***The option for initial observation (watchful waiting) is not considered or offered to the patient when criteria are met.***		
The initial observation (watchful waiting) option is not presented because it is not understood as an option for selected cases of AOM.	• Review the guidelines and recommendations that outline the options for initial observation (watchful waiting) when determining the treatment for AOM: ✓ AAP Clinical Practice Guideline: The Diagnosis and Management of Acute Otitis Media. – See Table 4: Recommendations for Initial Management for Uncomplicated AOM for where "additional observation" is an option. ✓ Nonsevere acute otitis media: a clinical trial comparing outcomes of watchful waiting versus immediate antibiotic treatment, *Pediatrics*. 2005 Jun;115(6):1455-65. • Make the option of initial observation (watchful waiting) part of your treatment flowchart for AOM as indicated by the guideline.	• Meet with practice clinicians to review the guidance relative to offering initial observation and discuss any concerns they have for offering this option to patients. Consider reviewing the following: ✓ Nonsevere acute otitis media: a clinical trial comparing outcomes of watchful waiting versus immediate antibiotic treatment, *Pediatrics*. 2005 Jun;115(6):1455–1465.
Gap: ***A follow-up plan is not created for patients choosing initial observation (watchful waiting).***		
The practice does not have a protocol for creating a follow-up plan in the patient's chart (eg, appointment, phone call, or "wait-and-see" or "safety-net" prescription) when watchful waiting is chosen.	• Create a clear practice protocol for following up on patients for whom a watchful waiting plan has been determined. Consider the following in the protocol: ✓ Routine discussion and selection of a follow-up plan at the patient visit when observation is selected and there is no improvement within 48–72 hours. ✓ Selection of any preferred mean(s) of follow-up—appointment, phone call, e-mail, wait-and-see or safety-net prescription, etc.—for the practice. ✓ Patient charting to include documentation of a follow-up plan. ✓ Parent guidance to stress importance of following up if there is no improvement.	• Discuss with staff the importance of establishing and documenting a follow-up plan when watchful waiting is determined. • Get agreement on a protocol to achieve follow-up. Identify any issues and adjust the protocol. • Put in place a patient education campaign stressing the importance of following up when their child symptoms do not improve. • Publicize the need for follow-up on your practice Web site. • Create a watchful waiting prescription-like pad that indicates when and how to follow-

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Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
		up or utilize wait-and-see or safety-net prescriptions. • Consider a staff responsibility for following up within 72 hours if the patient/family does not.
Gap: *Diagnosed patients are not prescribed antibiotics although antibiotics are indicated.*		
Lack of awareness of, or access to, the clinical guideline recommendations for the correct treatment of AOM.	• Obtain and review the following guideline: ✓ AAP Clinical Practice Guideline: The Diagnosis and Management of Acute Otitis Media. – Table 4: Recommendations for Initial Management for Uncomplicated AOM. – See Initial Antibiotic Management: Dosage and Course Table created for this course.	
Gap: *Patients are not treated with the correct antibiotic.*		
Lack of awareness of, or access to, the clinical guideline recommendations for the correct treatment of AOM including: • First-line treatment • Treatment if recently treated, history of recurrent AOM unresponsive to amoxicillin, or concurrent purulent conjunctivitis • Treatment if penicillin or amoxicillin allergy • Treatments that should not be prescribed	• Obtain and review the following guideline: ✓ AAP Clinical Practice Guideline: The Diagnosis and Management of Acute Otitis Media in particular: – Table 4: Recommendations for Initial Management for Uncomplicated AOM – Table 5: Recommended Antibiotics for (Initial or Delayed) Treatment and for Patients Who Have Failed Initial Antibiotic Treatment – Initial Antibiotic Management: Dosage and Course Table, created for this course • Review and use a diagnostic and treatment tool for AOM. Create your own or consider use of: – Judicious Use of Antibiotics for Acute Otitis Media Flowchart created for this course • Make the diagnostic and treatment flowchart available in every examination room.	• Conduct an educational session to: ✓ Review a treatment tool that outlines recommended treatment. ✓ Discuss the evidence-based guideline behind it. ✓ Review the consequences of inappropriate antibiotics. ✓ Use the following resources: – AAP Clinical Practice Guideline: The Diagnosis and Management of Acute Otitis Media – Judicious Use of Antibiotics for Acute Otitis Media Flowchart, created for this course – Initial Antibiotic Management Table, created for this course

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		– Principles of Judicious Antibiotic Prescribing for Bacterial Upper Respiratory Tract Infections • Practice antibiotic stewardship in your practice. Use these resources: ✓ Centers for Disease Control: Get Smart for Healthcare ✓ Antimicrobial stewardship in pediatrics: how every pediatrician can be a steward. *JAMA Pediatrics*. 2013 Sep;167(9):859–866 (Pubmed Abstract).
The microbiology of AOM is not known or considered.	• Review the discussion of the *Microbiology* in the Guideline: ✓ AAP Clinical Practice Guideline: The Diagnosis and Management of Acute Otitis Media *Microbiology. pp. e981–e982.*	
Lack of conceptual framework regarding broad-spectrum versus narrow-spectrum antibiotics, especially the role of broad-spectrum antibiotics in promoting resistance and disrupting normal flora.	• Review the following to learn about broad-spectrum versus narrow-spectrum antibiotics: ✓ Principles of Judicious Antibiotic Prescribing for Bacterial Upper Respiratory Tract Infections ✓ Antibiotic Resistance Threats in the United States, 2013. Centers for Disease Control and Prevention ✓ The Human Microbiome and Its Potential Importance to Pediatrics	
Practitioners may not have a clear understanding of true antibiotic allergy and the adverse effects associated with choice of antibiotic.	• Review the following: ✓ True Antibiotic Allergies discussion from this course ✓ Principles of Judicious Antibiotic Prescribing for Bacterial Upper Respiratory Tract Infections ✓ A review of evidence supporting the American Academy of Pediatrics recommendation for prescribing cephalosporin antibiotics for penicillin-allergic patients ✓ Committee on Infectious Diseases: Policy statement: *Clostridium difficile* infection in infants and children	• Conduct a Lunch and Learn or other comparable session to review the concept of *True Antibiotic Allergies* with practice clinicians. • Review the specifics and classify the antibiotic reaction for any child for whom an antibiotic allergy is reported.

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	✓ Why's and how's of judicious antibiotic prescribing for URIs Jackson MA, Hersch AL. *AAP News.* doi: 10.1542/aapnews.20131118-1	
Practitioners may not understand the impact of antibiotics on the course of AOM and on the occurrence of complications.	• Watchful waiting is often indicated because many cases of AOM self-resolve. If antibiotics are deemed necessary, improvement should occur within 48–72 hours, although symptoms of the viral infection may persist. Review the following resource(s) and information for information: ✓ AAP Clinical Practice Guideline: The Diagnosis and Management of Acute Otitis Media ✓ See the Illness Duration Table created for this course. • Persistence symptoms may occur. See these resources: ✓ A. Prevalence Of Various Respiratory Viruses In The Middle Ear During Acute Otitis Media; *NEJM.* 1999;340(4);260–264 ✓ Thompson M. et al. Duration of symptoms of respiratory tract infections in children: Systematic review. *BMJ.* 2013;347:f7027 doi: 10.1136/bmj.f7027 (Published 11 December 2013)	
Patient/family requests that antibiotics or a specific antibiotic should be prescribed.	• Agree on, establish, and communicate a practice policy regarding prescription of recommended antibiotic only, based on AOM clinical guidelines. • Prepare to respond to parents' requests and inquiries with an explanation of the benefits of the recommended antibiotic treatment. • Make part of the visit flow to share with patient/family which antibiotic is recommended for treatment and why it is recommended. • Establish practice policies that eliminate over-the-phone prescribing of antibiotics (ie diagnosis, must be based on a physical examination). • Consult the Antibiotic Guidance and Education Checklist created for this course for a summary of key messages and key information to share with parents.	• Meet with practice staff to: ✓ Discuss the importance of a practice policy for addressing parental pressure and the best way to communicate the policy. ✓ Brainstorm ideas for your specific patient population to address the common concerns and misconceptions practitioners face. ✓ Develop answers to parents' common questions, beliefs, and resistance • Use available resources to educate parents (see below).
Resources to deal with patient/family misconceptions	• Consider using selected resources for discussion with parents. ✓ AAP Parent Education Online (requires subscription).	• Meet with practice staff to: ✓ Brainstorm ideas for your specific patient population to address the

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about antibiotic use are not available or not utilized.	– Antibiotics and Your Child – Common Childhood Infections – Ear Infections – Acute Ear Infections – Middle Ear Fluid and Your Child ✓ HealthyChildren.org articles: – Antibiotic Prescriptions for Children: 10 Common Questions Answered – Choosing Wisely – How Do Antibiotics Work? – Guidelines for Antibiotic Use – Caring for a Child with a Viral Infection – Ear Infection Information ✓ Centers for Disease Prevention (CDC) Program. *Get Smart: Know When Antibiotics Work* • Distribute Patient and Family Antibiotic Information Resource List created for this course. • Make selected resources readily available in every examination room. • Post antibiotic use information and policies in waiting rooms examination rooms, on practice Web site, on patient portal, etc.	common concerns and misconceptions practitioners face. ✓ Develop answers to parents' common questions, beliefs, and resistance.. • Create a Judicious Use portal on your practice Web site with educational resources including information on your practice's approach to common clinical infections. • Appoint an office Judicious Use Champion.
Gap: *A valid reason was not documented for not treating with amoxicillin or amoxicillin-clavulanate.*		
Practice policy does not require documentation of the reason for alternative treatment.	• Establish a practice policy to document in the medical record when and why antibiotics are prescribed that don't conform to the recommended antibiotic (amoxicillin or amoxicillin-clavulanate). For recommended antibiotics, see: ✓ AAP Clinical Practice Guideline: The Diagnosis and Management of Acute Otitis Media – Table 4: Recommendations for Initial Management for Uncomplicated AOM	

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	– Table 5: Recommended Antibiotics for (Initial or Delayed) Treatment and for Patients Who Have Failed Initial Antibiotic Treatment ✓ Principles of Judicious Antibiotic Prescribing for Bacterial Upper Respiratory Tract Infections	
Gap: ***The shortest recommended course of antibiotic therapy is not prescribed.***		
Practitioners may not be aware of the utility of shorter course therapy for nonsevere AOM for certain children.	• Review the following: AAP Clinical Practice Guideline: The Diagnosis and Management of Acute Otitis Media, p.e985., *Duration of Therapy,* which indicates: – Shorter course for nonsevere symptoms and older children: • 5–7 days (nonsevere and ≥6 years) • 7 days (for nonsevere symptoms and 2–5 years) • 10 days (6–23 months and all severe)	

Key Activity: Provide Guidance and Education to Patients and Families

Rationale: It is important for patients and their families to understand how overuse or incorrect use of antibiotics can contribute to avoidable adverse effects, unnecessary costs, and antibiotic resistance. Patients also should understand both the benefits and risks of antibiotic therapy. Parental guidance should address under what conditions they should follow up with the practice. Education can assist the patients and families to engage in shared decision making with their pediatrician.

Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
Gap: ***Risks of antibiotic therapy are not discussed with the patient.***		
Practitioners may not have complete knowledge of the range of risks and adverse events associated with antibiotic use including allergy.	• Side effects and allergic reaction should always be discussed. Antibiotic resistance should be discussed if the patient/family has concerns. • Review the following: ✓ Antibiotic Resistance Threats in the United States, 2013 Antibiotic Resistance Threats in the United States, 2013 ✓ This course's discussion of Drug Related Adverse Effects ✓ Zaoutis, T. CDC highlights threats posed by antibiotic resistance, calls for action	• Make part of your practice policy that all practitioners must understand risks, discuss risks with the patient/family, and document that discussion in the patient's record.

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	✓ A Review of Evidence Supporting the American Academy of Pediatrics Recommendation for Prescribing Cephalosporin Antibiotics for Penicillin-Allergic Patients. ✓ Committee on Infectious Diseases "Policy statement: *Clostridium difficile* infection in infants and children" *Pediatrics* 2013 Jan: 131(1) ✓ Why's and how's of judicious antibiotic prescribing for URIs, *AAP News*, Nov. 18, 2013	
Resources are not available (or not utilized) to guide patient/family discussion of the risks related to antibiotics.	• Make selected resources readily available in every examination room. Consider the following: ✓ Patient and Family Antibiotic Information Resource List, created for this course ✓ HealthyChildren.org articles including: – Antibiotic Prescriptions for Children: 10 Common Questions Answered – Choosing Wisely – How Do Antibiotics Work? – Guidelines for Antibiotic Use ✓ AAP Patient Education Online (requires subscription): – Antibiotics and Your Child – Create and post a Commitment Letter in the practice waiting and/or examination rooms. A Commitment Letter is a poster-size letter to display in the practice's office which should have photographs and signatures of each provider along with their commitment to reduce inappropriate use of antibiotics. See CDC's Get Smart: Poster-based Interventions.	• Utilize information from the HealthyChildren.org articles and this course's summary of Drug-Related Adverse Effects to create your own patient handout or talking points regarding antibiotic use. • Create a Judicious Use portal on your practice Web site with educational resources including information on judicious use of antibiotics. • Appoint an office Judicious Use Champion.
Routine education on antibiotic use and risks are not part of the practice's standard visit flow. There is not enough time in the visit to adequately counsel patients and families regarding	• Consider making discussion and/or brochure about antibiotic use and risks a routine part of sick visits for respiratory conditions. • Consider making antibiotic education a routine part of designated well-child visits as part of well-child care.	• Appoint an office Judicious Use Champion. • Utilize information from the HealthyChildren.org articles and this course's Drug-Related Adverse Effects to create your own patient handout or talking points regarding antibiotic use and risks.

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antibiotic risks and adverse effects.	• Provide a handout to parents during the visit that includes a list of information sources. See this course's Patient and Family Antibiotic Information Resource List. • Post antibiotic use information and policies in waiting rooms and on practice Web site, patient portal, etc. • Create and post a Commitment Letter in the practice waiting and/or examination rooms. A Commitment Letter is a poster-size letter to display in the practice's office which should have photographs and signatures of each provider along with their commitment to reduce inappropriate use of antibiotics. • See CDC's Get Smart: Poster-based Interventions. Reserve spots for same-day sick appointments in your schedule.	• Create a Judicious Use portal on your practice Web site with educational resources including information on your practice's approach to common clinical infections.
Gap: ***Discussion with patients and families regarding risks of antibiotic use was not documented in the medical record.***		
There is no systematic practice to document the discussion of antibiotic risks in the patient's chart.	• Make it part of the visit flow to discuss risk and possible adverse effects and to document that discussion in the patient's medical record.	• Make it a check box on the sick-visit flow for review of risks.
Gap: ***Patients and families are not educated about effective treatment with judicious use of antibiotics.***		
The sick-visit flow does not include informing the patient/family of effective treatment options and judicious use of antibiotics.	• Make it part of the sick-visit flow to inform patient/family of the following: ✓ Option for watchful waiting when appropriate ✓ Recommended antibiotic treatment (if any) and why that treatment is optimal ✓ Antibiotic dose and course ✓ The need to complete entire course. ✓ Benefit of treating otalgia and the analgesics available to treat otalgia ✓ Options for symptom (pain) relief • Consult the Antibiotic Guidance and Education Checklist created for this course for a summary of key information to review with patients and families.	• Use selected resources to educate the patient/family about effective treatment and judicious use of antibiotics. (See below.) • Share with parents an article that stresses the need for adherence. ✓ Guidelines for Antibiotic Use from Healthychildren.org • Review the following: ✓ Policy Statement—Guidance for the Administration of Medication in School. *Pediatric.* 2009;124:1244–1251

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The practice does not have adequate resources to educate parents about effective treatment of AOM and the judicious use of antibiotics.	• Select and utilize resources to educate patents/families: ✓ AAP Patient Education Online (requires subscription): • Antibiotics and Your Child • Common Childhood Infections • Ear Infections • Acute Ear Infections • Middle Ear Fluid and Your Child ✓ HealthyChildren.org articles: • Antibiotic Prescriptions for Children: 10 Common Questions Answered • Choosing Wisely • How Do Antibiotics Work? • Guidelines for Antibiotic Use • Caring for a Child with a Viral Infection • Ear Infection Information ✓ Centers for Disease Prevention (CDC) Program. *Get Smart: Know When Antibiotics Work* • Consult the Antibiotic Guidance and Education Checklist created for this course for a summary of key information to review with patients and families. • Distribute Patient and Family Antibiotic Information Resource List created for this course. • Make selected resources readily available in every examination room. • Create and post a Commitment Letter in the practice waiting and/or examination rooms. See CDC's Get Smart: Poster-based Interventions. • Post judicious antibiotic use information and policies in waiting rooms and on practice Web site, patient portal, etc.	• Create a Judicious Use portal on your practice Web site with educational resources including information on your practice's approach to common clinical infections. • Appoint an office Judicious Use Champion. • Develop answers to parents' common questions, beliefs, and resistance for use by staff. • Provide scripts to address symptomatic care for viral URI. For example: ✓ Get Smart Prescription Pads from the CDC Get Smart materials.(*Page down to Prescription Pads)*
Gap: ***Patients and families are not educated about the expected course of AOM and when to follow up.***		

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Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
The sick visit flow does not include informing the patient/family of expected course of AOM and when to follow up.	• Make part of your visit flow to inform parents of the expected course of the illness and when follow-up is indicated for each condition. • Consult the Antibiotic Guidance and Education Checklist created for this course for a summary of key information to review with patients and families. • Consult the Illness Duration Table created for this course.	
Gap: ***Patient/family is not instructed to follow up with the practice if there is no improvement in 48–72 hours.***		
There is no systematic practice to establish, communicate, and document a follow-up plan in the patient's chart (eg, appointment, phone call) to ensure clinical improvement within 48 to 72 hours of diagnosis.	• Create a clear practice protocol for following up on patients, especially those for whom watchful waiting plan has been determined. Consider the following in the protocol: ✓ Routine discussion and selection of a follow-up plan at the patient visit ✓ Selection of any preferred mean(s) of follow-up: appointment, phone call, e-mail, wait-and-see or safety-net prescription, etc., for the practice ✓ Patient charting to include documentation of the follow-up plan ✓ Parent guidance to stress importance of following-up if no improvement • Consult the Antibiotic Guidance and Education Checklist created for this course for a summary of key information to review with patients and families including when patients/families should follow up.	• Discuss with staff the importance of establishing and documenting a follow-up plan when watch and wait is utilized or in cases where the patient is not improving. Get agreement on a protocol to achieve follow-up. Identify any issues and adjust the protocol. • Put in place a patient education campaign stressing the importance of following up when their child symptoms do not improve. • Publicize the need for follow-up on your practice Web site. • Create a prescription-like pad that indicates when and how to follow up. • Consideration of a staff responsibility for following up within 72 hours if the patient/family does not.
Gap: ***Follow-up conversation with the family (see above) was not documented in the medical record.***		
There is no systematic practice to establish and document a follow-up plan in the patient's chart.	• Create a clear practice protocol for documenting the follow-up plan in the patient's chart. • Make it a check box on the sick-visit flow for communicating the need for follow-up.	

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There is not enough time to document the follow-up plan.		
Gap: *Patients and families are not educated about prevention techniques.*		
The sick-visit flow does not inform the patient/family of prevention techniques.	• Consider making the recommendations below a component of your practice protocols, as appropriate: ✓ Recommend pneumococcal conjugate vaccine to all children based on the schedule of the Advisory Committee on Immunization Practices of the CDC, AAP, and AAFP. ✓ Recommend annual influenza vaccine to all children and families according to schedule of the Advisory Committee on Immunization Practices of the CDC, AAP, and AAFP. ✓ Encourage avoidance of tobacco smoke exposure. ✓ Encourage safe food preparation practices. ✓ Encourage hand washing. ✓ Share an article with your patients that discuss prevention of ear infections: – Ear Infection Information from Healthychildren.org.	