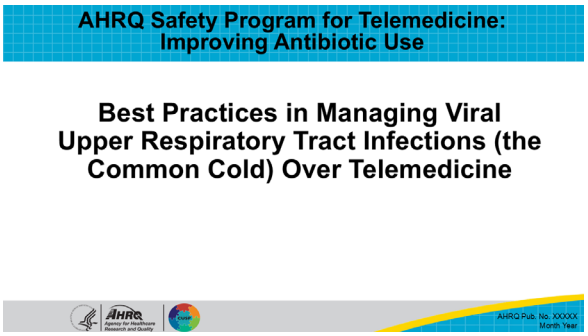
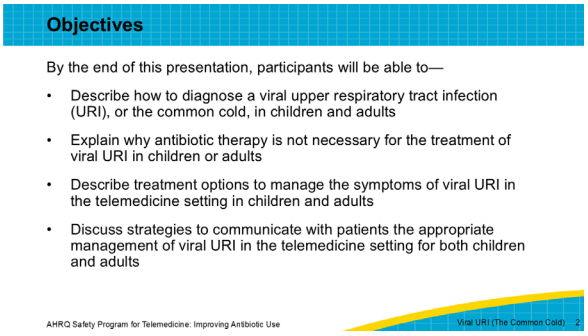
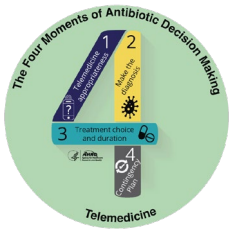
Best Practices in Managing Viral Upper Respiratory Tract Infections (the Common Cold) Over Telemedicine

Slide Title and Commentary	Slide Number and Slide
Best Practices in Managing Viral Upper Respiratory Tract Infections (the Common Cold) Over Telemedicine SAY: Welcome to the presentation titled, “Best Practices in Managing Viral Upper Respiratory Tract Infections (the Common Cold) Over Telemedicine.”	**Slide 1** 
Objectives SAY: We will be using a clinical case–based format to discuss the approach to managing viral upper respiratory infections over telemedicine. By the end of this presentation, participants will be able to: • Describe how to diagnose a viral upper respiratory tract infection (URI), or the common cold, in children and adults • Explain why antibiotic therapy is not necessary for the treatment of viral URI in children or adults • Describe treatment options to manage the symptoms of viral URI in the telemedicine setting in children and adults • Discuss strategies to communicate with patients the appropriate management of viral URI in the telemedicine setting for children and adults	**Slide 2** 

Slide Title and Commentary	Slide Number and Slide
Background SAY: It is estimated that there are about 12.8 billion viral URIs each year worldwide. In the United States, every year, there are 25 million clinic visits for a viral URI. Viral URIs make up about 20 percent of telemedicine visits where there are concerns for respiratory bacterial infections.	**Slide 3** **Background[1-5]** • Approximately 12.8 billion viral URIs occur globally yearly • Every year, 25 million people in the United States will have a clinic visit for a viral URI • Viral URIs are responsible for about 20 percent of telemedicine visits for infectious concerns AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Viral URI (The Common Cold) 3
The Four Moments of Antibiotic Decision Making SAY: We will review a clinical case using the Four Moments of Antibiotic Decision Making framework. Briefly, this framework consists of the following moments: Moment 1: Is my patient an appropriate candidate for a telemedicine visit? Moment 2: Does my patient have signs and symptoms indicating an infection that may require antibiotics? Is a diagnostic test needed? Moment 3: If antibiotics are indicated, what is the narrowest, safest, and shortest regimen I can prescribe? Moment 4: What symptomatic relief should I offer or prescribe to my patient? What should I tell my patient about the expected course and the followup plan?	**Slide 4** **The Four Moments of Antibiotic Decision Making**  1. Is my patient an appropriate candidate for a telemedicine visit? 2. Does my patient have signs and symptoms indicating an infection that may require antibiotics? Is a diagnostic test needed? 3. If antibiotics are indicated, what is the narrowest, safest, and shortest regimen I can prescribe? 4. What symptomatic relief should I offer or prescribe to my patient? What should I tell my patient about the expected course and the followup plan? AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Viral URI (The Common Cold) 4
Case Presentation SAY: Let's review a clinical case. The triage note mentions that your next patient is a 45-year-old generally healthy male presenting via telemedicine with 3 days of rhinorrhea, sore throat, a mild headache, and a productive cough. The patient does not think he has a fever. He has been able to drink fluids and eat—although his appetite is not as good as usual. He has not had vomiting or diarrhea but maybe a few loose stools. He made the appointment seeking a prescription for azithromycin as it has helped him in the past when he has similar respiratory symptoms.	**Slide 5** **Case Presentation** • A 45-year-old healthy male presents via telemedicine with 3 days of rhinorrhea, sore throat, a mild headache, and a productive cough • Able to eat and drink, decreased appetite • No vomiting or diarrhea • He is seeking an antibiotic prescription  AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Viral URI (The Common Cold) 5

Slide Title and Commentary	Slide Number and Slide
Moment 1: Telemedicine Appropriateness SAY: Moment 1 asks, “Is my patient an appropriate candidate for a telemedicine visit?” Based on the initial triage note provided to you, there is no mention of the patient appearing ill with high fevers, altered mental status, or difficulty breathing. He reports being able to drink and keep down fluids without having diarrhea or vomiting, so it is unlikely that he has severe dehydration. He does not have other concerning signs or symptoms, so it is reasonable for this patient to be evaluated further via telemedicine.	**Slide 6** **Moment 1: Telemedicine Appropriateness** **Is my patient an appropriate candidate for a telemedicine visit?** • No concerning signs or symptoms suggesting an immediate need for an in-person visit (e.g., high fevers, altered mental status, difficulty breathing, severe dehydration) • You can proceed with a telemedicine evaluation  AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Viral URI (The Common Cold) 6
Moment 2: Patient History SAY: Moment 2 asks, “Does my patient have signs and symptoms indicating an infection that may require antibiotics? Is a diagnostic test needed?” To appropriately address these questions, you will have to rely on a patient history and physical examination. After you ask the patient what is concerning him, he states that he has a really bad cold and generally just feels lousy. He has had a few days of a runny nose, it hurts a little when he swallows, he has a mild headache, and he has been occasionally coughing. In the past, azithromycin has helped him with these symptoms, and he would like a prescription for it as he has an important work meeting in 2 days. You confirm that he has been well until about 3 days ago and is otherwise generally in good health. He has no underlying medical conditions except for a prior knee surgery. Although he does not have a thermometer, he does not believe he has a fever. He works from home and has been able to complete his usual activities like cooking, doing laundry, and logging into work meetings.	**Slide 7** **Moment 2: Patient History** **Does my patient have signs and symptoms indicating an infection that may require antibiotics? Is a diagnostic test needed?** • Patient reports having a “really bad cold,” a few days of runny nose, hurts when he swallows, mild headache, occasional cough • Well until 3 days ago • No known fever • Able to complete usual daily activities  AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Viral URI (The Common Cold) 7

Slide Title and Commentary	Slide Number and Slide
Moment 2: Physical Examination 1 SAY: On the virtual examination, you note that his mental status is appropriate as he is able to answer questions appropriately. He does not appear flushed nor does he appear to be shivering. Although he is unable to check his temperature, you ask him to put the back of his hand on his forehead and he mentions he does not feel unusually warm. You ask him if he has been sweating or feeling flushed more than his baseline. He says no. You ask him if he has been shivering. He also says no. His responses suggest that he has not been having major issues with temperature instability such as fevers or hypothermia. You ask him to check his heart rate by placing the tips of his index and middle finger on the inside of his wrist, just below his thumb. You ask him to press lightly until he feels his pulse, and then count the beats for 15 seconds. You would then multiply that number by four to calculate beats per minute. His pulse is about 80 beats per minute. You ask whether he believes he looks more pale than usual. He says he is not sure. You suggest that he wash his hands, and when he comes back he should refocus his camera so you can get a close look at his eyes. You ask him to show you his conjunctivae by inverting his bottom eyelid to evaluate for pallor. His conjunctiva appear sufficiently “pink” indicating he is likely not anemic. Of note, pallor can be difficult to detect by simply looking at skin color for people with darker complexions. A more objective approach is to look at the lining of the lower eyelid. While the camera is still focusing on his eyes, you ask him to look up, down, to the left, and to the right. You note that his extraocular movements are intact. You also notice that he does not have any periorbital swelling or discharge and that his sclera (or the white part of his eye) is white suggesting that he does not have conjunctivitis. His full range of eye movements without any pain in eye movements, his lack of erythema below his eyes, and the lack of asymmetry in the appearance of his eyes are all reassuring that he does not have periorbital cellulitis or orbital abscess.	**Slide 8** **Moment 2: Physical Examination 1** • He is able to answer questions appropriately • No signs of fever or hypothermia (no flushing or shivering) • Self-checks his heart rate: 80 beats per minute • No difficulty with extraocular movements, no proptosis, no blurry vision  AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Viral URI (The Common Cold) 8

Moment 2: Physical Examination 2

SAY:

Next, you ask him to press on his forehead and his cheeks in the region close to his nose, and he reports no pain. You demonstrate on yourself as he is not sure which part of his face to palpate. You ask him to stand up and bend over to see if that is causing facial pain, which it isn't. These findings are all reassuring against sinusitis. We discuss the diagnosis and management of sinusitis in a different presentation.

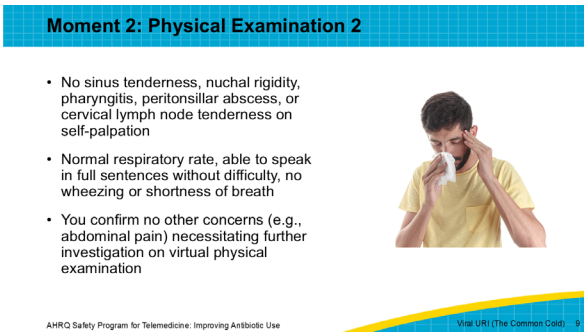
You ask him to move his neck as if shaking it no and then as if nodding yes. He is able to do this comfortably. You then ask him to open his mouth widely into the camera and to use the flashlight from his cell phone to provide more light into his throat. You note that his uvula is midline and he does not have enlarged tonsils or tonsillar exudate. His dentition appears normal. You ask him to feel his cervical lymph nodes. You ask him to start in front of the ear in a gentle circular motion and gradually make his way down to just above his collar bone. You ask him to repeat this on the other side.

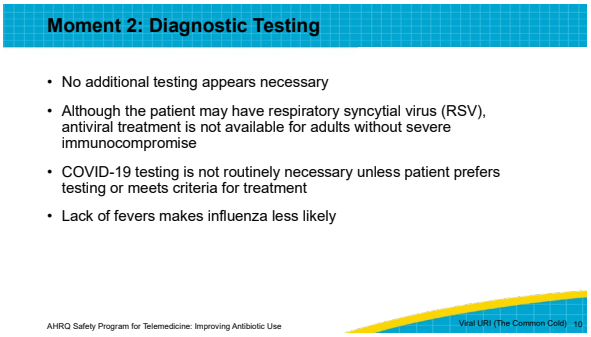
Taken together, these findings make the likelihood of bacterial head and neck infections low. More specifically, given his normal mentation, lack of high fevers and lack of nuchal rigidity bacterial meningitis is unlikely. Given his normal throat and neck exam, peritonsillar abscess, dental abscess, bacterial cervical lymphadenitis, or bacterial pharyngitis are also unlikely.

Next, you request he take his shirt off so you can observe his chest movements. If this was a female you could request she wear a tank top (or something similar that she feels comfortable wearing) that still enables you to visualize her chest movements. It will likely, however, take several minutes for the patient to change. Always ask patients if they are comfortable with this. If they are not, you could base your evaluation of whether they may be having difficulty breathing by focusing on nasal flaring and by evaluating if they are bobbing their head while breathing. If the patient is comfortable changing clothes, it is better to ask them to do this away from the camera.

His respiratory rate is about 18 breaths per minute. You observe that he is able to speak in full sentences without difficulty, does not appear to be wheezing, and does not appear short of breath. These findings reassure you he does not have bacterial pneumonia. We will address the diagnosis and management of pneumonia in another presentation.

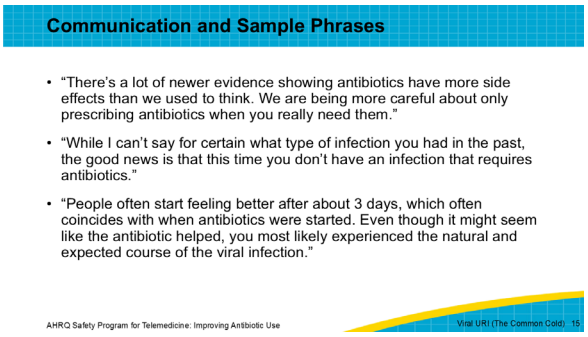
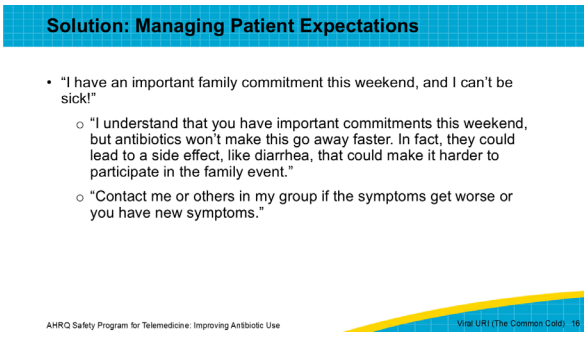
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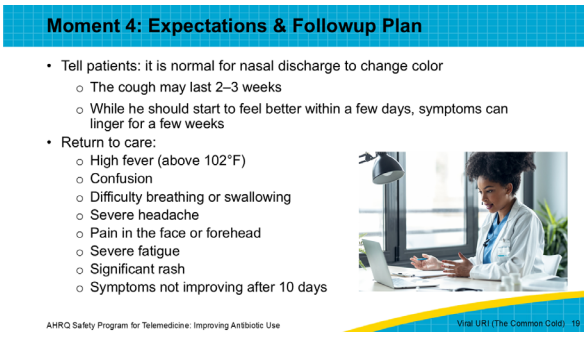
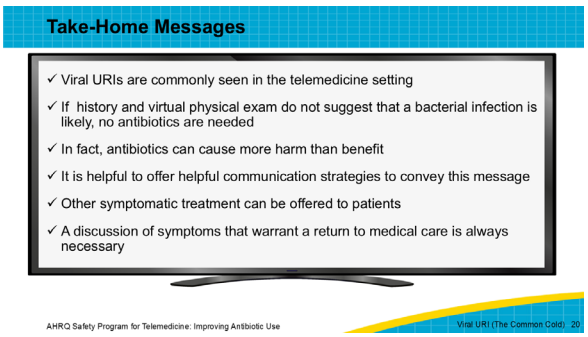
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You confirm that he does not have any new skin findings, abdominal pain, difficulty moving any extremities, or back pain. If he endorses any of these findings you should visualize the affected areas more carefully. The patient's symptoms—acute onset of rhinorrhea, sore throat, cough—in combination with a reassuring virtual physical exam—a lack of high fever, normal heart rate, normal mental status, normal respiratory rate—are most consistent with the common cold.	
Moment 2: Diagnostic Testing SAY: You advise him that no additional diagnostic testing is necessary. Although it is plausible that the patient has respiratory syncytial virus (RSV), there is no antiviral treatment for RSV for adults who are not immunocompromised, so testing for RSV is generally not necessary. We will discuss this in a future presentation. COVID-19 is also possible. The patient can elect to test if he is interested in learning if he has COVID-19 or if necessary for his work. Of note, since he appears to be an immunocompetent person under 65 years of age without any risk factors that would put him at risk for progression to severe disease, even if he had COVID-19, it would be reasonable to not suggest treatment. We discuss the diagnosis and treatment of COVID-19 in a separate presentation. Although testing for other respiratory viruses such as parainfluenza or rhinovirus are available, testing is generally only considered for patients with severe immunocompromise or for patients who are critically ill as no antiviral treatment is available. Finally, influenza is less likely given the lack of high fevers, although if influenza was circulating locally this could certainly be a possibility. We discuss the diagnosis and management of influenza in a separate presentation.	**Slide 10** 

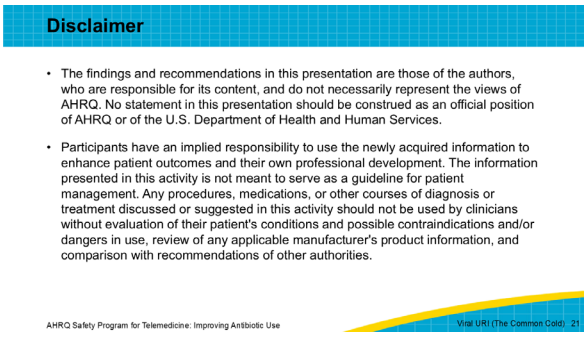
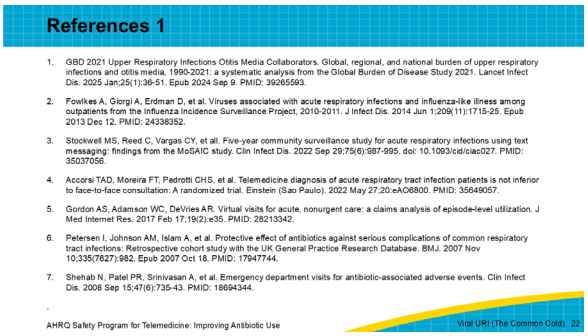
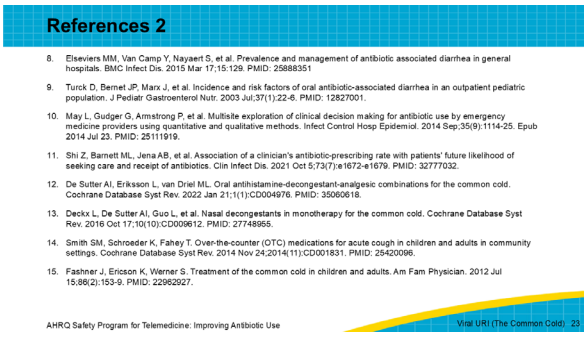
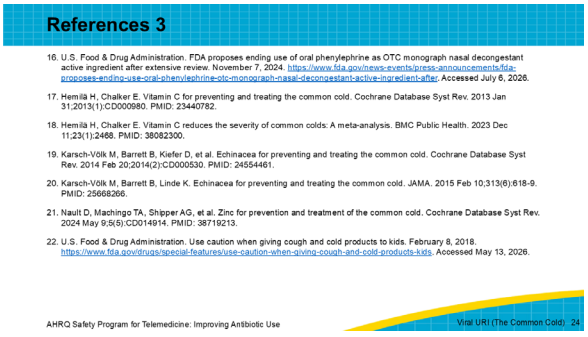
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Moment 3: Potential Harm of Antibiotics SAY: Moment 3 focuses on antibiotic prescription after it is established that a bacterial infection is likely. In this case, the patient symptoms are highly suggestive of a viral URI and antibiotics are not needed. This is a good opportunity to remind your patient that antibiotics are not benign and have the potential to cause harm. Discuss with your patient that antibiotic-associated adverse events include allergic reactions, rashes, kidney injury, hepatotoxicity, seizures, and gastrointestinal issues such as diarrhea, nausea, and vomiting. Additionally, antibiotic use is the primary driver of antibiotic resistance, which can make future bacterial infections in your patient more challenging to treat.	**Slide 11** **Moment 3: Potential Harm of Antibiotics** **If antibiotics are indicated, what is the narrowest, safest, and shortest regimen I can prescribe?** • No antibiotics indicated as they may cause more harm than good for a viral URI[6-9] • Discuss antibiotic- associated adverse events such as allergic reactions, rashes, kidney injury, and others • Note that antibiotic use is the primary driver of antibiotic resistance  AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Viral URI (The Common Cold) 11
Moment 3: Optimizing Communication SAY: It is important to think about effective approaches to communicate about the diagnosis and treatment of viral URIs with patients. Often patients request unnecessary antibiotics, but clinicians also assume that patients are expecting to receive antibiotics even when they may not be. There are a few reasons why patients and clinicians may have different views on the prescription of antibiotics. First, patients want to hear that the clinician is taking their symptoms seriously. Second, patients may expect an antibiotic because in previous medical encounters antibiotics have been prescribed for the same symptoms. A study from 2021 found that receipt of antibiotics for one acute upper respiratory tract infection is associated with increased likelihood of receipt of antibiotics for future acute respiratory tract infections in both patients and their spouses. Third, patients may be worried about becoming even more sick, and they assume an antibiotic will prevent worsening symptoms. They may also have concerns about difficulties reaching a clinician if their symptoms worsen. It is useful to review each of these three concerns and possible solutions.	**Slide 12** **Moment 3: Optimizing Communication** • Develop effective approaches to communicate how to treat viral URIs with patients • Common reasons patients might be interested in an antibiotic prescription:[10-11] ○ Patient wants to make sure the clinician is taking their symptoms seriously ○ Patient previously received antibiotics for similar symptoms ○ Patients may be worried about becoming more ill AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Viral URI (The Common Cold) 12

Slide Title and Commentary	Slide Number and Slide
Solution: Validate Patient Concerns SAY: First, patients want to hear that the clinician is taking their symptoms seriously. They don't feel well and want to feel better. So, make sure to validate the patient's symptoms. Some example phrases might be: "I can see you're feeling pretty miserable." or "Let's work on making you feel better." After making statements like these, consider saying, "Antibiotics won't help, but here are some things that might help." This statement can be followed with options to treat symptoms, as we will discuss in Moment 4.	**Slide 13** **Solution: Validate Patient Concerns** • Validate the patient's symptoms. Some example phrases might be: ○ "I can see you're feeling pretty miserable." ○ "Let's work on making you feel better." • After making statements like these, consider saying: ○ "Antibiotics won't help, but here are some things that might help." • Follow with alternative nonantibiotic treatments. AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Viral URI (The Common Cold) 13
Communication: Patients Receiving Conflicting Messages SAY: Another concern is that patients may be getting conflicting messages around antibiotic prescriptions for viral URIs. Patients may have received antibiotics for viral URIs in the past, so they may expect antibiotics now. For example, a patient might say: "The last time I had this, you were out of town, and another clinician gave me an antibiotic." Someone working in a virtual-first telemedicine practice might hear: "I know this is my first time seeking medical care here, but my doctor always gives me a prescription for an antibiotic when I have this." A parent discussing a child via telehealth might say: "I have the same thing as my child, and my doctor gave me an antibiotic. Will you give my child one, too?"	**Slide 14** **Communication: Patients Receiving Conflicting Messages** • Conflicting messages around antibiotic prescriptions for viral URIs • Patients may have received antibiotics for viral URIs in the past, and so they may expect antibiotics for the present telemedicine visit • Family members may have received antibiotics for viral URIs, and the patient has similar symptoms  AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Viral URI (The Common Cold) 14

Slide Title and Commentary	Slide Number and Slide
Communication and Sample Phrases SAY: There are several approaches to manage these types of statements. First, be prepared with explanations for them. For example, discuss the fact the newer evidence suggests that antibiotics are not helpful and possibly harmful. Say something such as: "There's a lot of newer evidence showing antibiotics have more side effects than we used to think. We are being more careful about only prescribing antibiotics when you really need them." Let the patient know that it is good news that antibiotics are not needed. For new patients, say something like: "While I can't say for certain what type of infection you had in the past, the good news is that this time you don't have an infection that requires antibiotics." Consider reminding patients that it may be coincidental that their cold symptoms got better after they started taking antibiotics by saying, "Viral infections often last a week or so and almost always get better on their own. People often start feeling better after about 3 days, which is often when people start taking antibiotics. Even though it might seem like the antibiotic helped, it was probably just the viral infection getting better on its own."	**Slide 15** 
Solution: Managing Patient Expectations SAY: A patient might say, "I have an important family commitment this weekend, and I can't be sick!" Consider responding, "I understand that you have important commitments this weekend, but antibiotics won't make this go away faster. In fact, they could lead to a side effect, like diarrhea, that could make it harder to participate in the family event." In addition, make it clear that they can always recontact you or others in your group to address new or worsening symptoms.	**Slide 16** 

Slide Title and Commentary	Slide Number and Slide
Moment 4: Symptomatic Relief for Adults SAY: Let's move on to Moment 4 which states: "What symptomatic relief should I offer or prescribe to my patient? What should I tell my patient about the expected course and the followup plan?" The good news is that although you decided against giving your patient an antibiotic prescription, there are other treatments that can help him feel better. For adults, like our patient, and older children, acetaminophen and nonsteroidal anti-inflammatory drugs may help relieve pain, such as sore throat or sinus tenderness, associated with the common cold. Several systematic reviews suggest that other over-the-counter medications—intranasal decongestants (which should not be used for more than 5 days), oral decongestants, antihistamine-decongestant combinations, and antihistamine-decongestant-analgesic combinations—may have some limited benefit. Take into account the risk of adverse events from the medications before recommending them to individual patients. Of note, pseudoephedrine can be illegally used in the manufacture of methamphetamine so may only be available behind the counter of a pharmacy. Phenylephrine is not recommended for symptomatic relief. While there is no strong data for or against echinacea, zinc, or vitamin C for the treatment or prevention of common colds, they are generally unlikely to cause harm.	**Slide 17** **Moment 4: Symptomatic Relief for Adults[12-21]** **What symptomatic relief should I offer or prescribe to my patient? What should I tell my patient about the expected course and the followup plan?** • Acetaminophen and nonsteroidal anti-inflammatory drugs may help relieve pain, such as sore throat or sinus tenderness • Intranasal decongestants, oral decongestants, antihistamine-decongestant combinations, and antihistamine-decongestant-analgesic combinations may have some limited benefit ○ Pseudoephedrine may be only available behind the counter ○ Phenylephrine is not recommended • No strong data for or against echinacea, zinc, or vitamin C but low-risk AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Viral URI (The Common Cold) 17
Moment 4: Symptomatic Relief for Children SAY: Let's discuss symptomatic relief suggestions had the patient been a child. The American Academy of Pediatrics does not recommend cough and cold medicines and multi-ingredient products for children under 6 years of age because of reports of harm occurring in young children receiving these medications, including apnea and serious overdoses. For children over 1 year of age, half a teaspoon to a teaspoon of honey every 2 hours can soothe cough. Cool-mist humidifiers can provide comfort and symptom relief for cough and congestion. Using nasal saline drops or spray followed by bulb suctioning may also provide congestion relief for younger children, particularly prior to sleeping or nursing.	**Slide 18** **Moment 4: Symptomatic Relief for Children[22]** • Do not recommend cough and cold medicines or multi-ingredient products for children <6 years because of potential harm ○ This is an American Academy of Pediatrics recommendation • For children over 1 year of age, honey can soothe cough • Cool-mist humidifiers can provide comfort and symptom relief for cough and congestion • Nasal saline drops or spray followed by bulb suctioning may provide congestion relief for younger children AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Viral URI (The Common Cold) 18

Slide Title and Commentary	Slide Number and Slide
Moment 4: Expectations & Followup Plan SAY: Getting back to our patient, provide him with information about the expected symptoms and time course of his illness including that it is normal for nasal discharge to change color, that his cough may last 2–3 weeks, and that while he should start to feel better within a few days, symptoms can linger for a few weeks. In addition, give him recommendations for when to return to care. These may include advice to be seen in person if the following develop: high fever (above 102 degrees Fahrenheit), confusion, difficulty breathing or swallowing, severe headache, pain in the face or forehead, severe fatigue, or a rash, or if symptoms are not improving after 10 days.	**Slide 19** 
Take-Home Messages SAY: To summarize, viral URIs are commonly seen in the telemedicine setting. If a careful history and virtual physical exam do not suggest that a bacterial infection is likely, no antibiotics are needed. In fact, antibiotics can cause more harm than benefit. It is helpful to offer helpful communication strategies to convey this message. Other symptomatic treatment can be offered to patients. A discussion of symptoms that warrant a return to medical care is always necessary. There are additional resources that you can review about how you and your practice will manage viral URIs such as the one-page summary on managing viral URIs in the telemedicine setting intended for clinicians and healthcare workers, the sample patient portal scripts for communicating with patients efficiently about viral URIs, and the patient and family education materials.	**Slide 20** 

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Disclaimer SAY: Please review this disclaimer.	**Slide 21** 
References 1 SAY: Here are the references.	**Slide 22** 
References 2 SAY: Here are the references.	**Slide 23** 
References 3 SAY: Here are the references.	**Slide 24** 

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