

# Outpatient Antimicrobial Stewardship Acute Respiratory Tract Infection Audit and Feedback Intervention Operating Procedures

## PURPOSE:

To provide guidance on preparatory and intervention activities related to the Acute Respiratory Tract Infection Audit and Feedback (audit-feedback) Intervention.

## POLICY:

All personnel participating in the Outpatient Antimicrobial Stewardship Acute Respiratory Tract Infection Audit - Feedback Intervention will follow this standard operating procedure (SOP).

## DEFINITIONS:

Antimicrobial Stewardship: A series of coordinated interventions designed to improve and measure the appropriate use of antimicrobial agents by promoting the selection of the optimal antimicrobial drug regimen including dosing, duration of therapy, and route of administration.

Designated Antimicrobial Steward: Individual who provides day-to-day facility leadership for the ARI audit -feedback intervention.

Acute respiratory tract infections: rhinosinusitis, pharyngitis, bronchitis, or other viral infection of the upper respiratory system including the common cold.

Academic detailing: face-to-face education of prescribers by trained non-proprietary healthcare personnel with a goal to improve provider performance consistent with medical evidence.

Audit - feedback: A summary of clinical performance on a defined set of health care measures over a specified period presented to healthcare providers or entities responsible for actions that affect the measures.

Intervention Kick Off: Planned date for initiation of coordinated intervention activities.

# PROCEDURE

## A. Preparatory Activities

The designated antimicrobial steward will perform, designate to key personnel, or facilitate implementation of the day-to-day preparatory activities for the intervention.

### 1. Identify and Engage Key Personnel within the Institution and Targeted Clinic Locations:

Institutional key personnel may include the Chief of Staff, the Chief of Ambulatory Care services, the Chief of Pharmacy, the Automated Data Processing Applications Coordinator (ADPAC), or other personnel whose support is required to implement the intervention within the facility. Meet with institutional key personnel to provide an overview of the ARI intervention before engaging clinic-level personnel. This will ensure that the ARI intervention aligns with the goals and objectives of the system(s) affected. In addition, solicit input from institutional key personnel to identify Clinic Champions and other key facility-level considerations such as approval from facility-governing committees (if necessary). If appropriate, request institutional key personnel review and sign a Letter of Commitment (see Appendix A).

### 2. Identify Clinic Sites for Intervention and Recruitment of Clinic Champions:

Optimal sites for intervention will have a high volume of patients presenting with ARIs and have supportive leadership and a Clinical Champion. Typical clinic sites may include the Emergency Department, Urgent or Episodic care, or Primary Care.

*I.* Identify site champions for each clinic site. Site champions should be a respected provider member of the targeted clinic who can serve as an “early adopter” and “internal facilitator” of the intervention throughout implementation. Plan an initial meeting with the potential clinic site champion. During the initial meeting, provide an overview of the goals and ARI intervention, the intervention process, and explain the champion’s role in facilitating the intervention. Together, identify additional key clinic personnel that may aid in facilitating delivery of the intervention. Additional key personnel may include the Chief of ED or Clinic, Clinic managers, Nursing supervisors, Clinical Pharmacists, or other influential providers depending on the targeted clinic location. Identify potential barriers that may influence the timing and/ or need for modification of the intervention. Request that the clinic site champion review and sign the Clinic Champion Letter of Commitment (see Appendix B).

*II.* Continue to engage the clinic site champions periodically throughout the preparatory and intervention phases. After the initial visit, meet again with the clinic site champion to review the ARI intervention SOP and complete the clinic site questionnaire (see Appendix C). Discuss the preferences for the methods of academic detailing and audit-feedback including identification of who will be responsible for each step of the intervention, timelines for completion of intervention-related tasks such as educational venues and generating audit-feedback reports, and identification of a start date for roll-out of the intervention.

### 3. Implement ARI-specific CPRS menus:

If the facility does not already have CPRS disease-based ordering menus for ARI, these should be developed and made available for clinician use to aid in selection of appropriate antibiotic and symptomatic therapies and improve diagnostic accuracy.

ARI disease-based menus should include algorithms/recommendations for the following: acute rhinosinusitis, acute pharyngitis, acute bronchitis, and symptomatic therapies (see Appendix D).

Facilities should use the example ARI menus as a reference for creating their own local facility menus; however, facilities should determine which aspects of the menus to implement. Experience suggest that key components of the menus include the diagnostic criteria, quick orders for recommended first and second line therapies, and the availability of a symptomatic therapies menu.

- I.* Determine if and where ARI specific menus are located within CPRS. Then compare existing menus with ARI intervention menus for differences in diagnostic criteria, diagnostic or medication quick orders. Next, adapt the menus as appropriate to fit local needs.
- II.* Identify a location within CPRS where the menus should be located. Optimal locations are easy for providers to locate quickly without the need to search or click through multiple menus.
- III.* Create a mock-up of local menus in consultation with select key facility personnel (i.e. Pharmacy, Lab, and Medicine). Consider facility laboratory test availability and medication formulary in designing the menus. Depending on facility governing structure, it may be necessary to seek committee approval to add new CPRS menus. Be sure to allocate sufficient time to seek and gain necessary approvals.
- IV.* Contact the appropriate ADPAC and request them to create the menus within CPRS. In many facilities, ADPAC availability is limited, and it may take some time to implement menu changes. Prior to CPRS activation, ensure that the menus are finalized well in advance of the intervention rollout, but do not activate the menus until the intervention roll-out date.
- V.* Have key personnel test the menus to make sure they serve their intended purpose(s), and make modifications if necessary.
- VI.* During intervention roll-out and kick-off presentation, promote and provide education of order menus (see Appendix D, Appendix E).

#### **4. Patient Education Materials:**

Patient education materials regarding the appropriate use of antibiotics should be available in each targeted clinic site for providers to share with patients presenting with ARIs. Several different patient education handouts are available (see Appendix F).

- I.* Establish a process to order, disseminate, and restock patient education materials in intervention clinic sites. If possible, dissemination of antibiotic-specific patient education materials to clinics should parallel the process for other disease-state specific patient education materials. Alternatively, it may be feasible to allow access to and/or print patient education materials directly from ARI order menus by posting these documents to SharePoint sites and creating links within the CPRS order menus. (Consult your ADPAC). Other mechanisms for dissemination of patient information may be available. Discuss these possibilities with your clinic champions.

*II.* Depending on facility governing structure, it may be necessary to seek committee approval prior to disseminating patient education materials. Be sure to allocate sufficient time to seek and gain necessary approvals.

*III.* Provider education on patient communication strategies including the use of written patient education materials should be included during intervention rollout (See Appendix F, Appendix G) and re-enforced periodically throughout the intervention.

## **5. Identify Providers in Target Clinic Sites for Academic Detailing and Audit-Feedback intervention:**

A relatively small portion of providers will account for a large proportion of ARI encounters within a facility, and the ARI intervention should target these providers. The designated antimicrobial steward should initially identify the numbers of targeted providers within a clinic site.

*I.* Select “Baseline Provider Group report” and select the appropriate target clinic (Appendix H). This report will identify the providers who have encountered at least 15 patients with uncomplicated ARI visit during the 12-months preceding implementation, and will provide the proportion of cases for which antibiotics were prescribed. These individuals are the target of the academic detailing and audit-feedback intervention.

*II.* Consider the aggregate number of targeted providers within a clinic site in determining the preferred method of academic detailing and audit-feedback when completing the local-site questionnaire (Appendix C).

## **6. Train Key Personnel to Deliver Intervention:**

The primary component of the intervention is audit-feedback; however, academic detailing is used initially to provide targeted education and orient the provider to audit-feedback. Follow-up provider interaction will include periodic audit-feedback with more intensive academic detailing for poorly performing providers. Slide sets that provide step-by-step guidance on how to approach academic detailing, and how to generate and disseminate audit-feedback reports are available at: (see Appendix I, Appendix J).

*I.* The designated Antibiotic Steward should set up a meeting with the Clinic Site Champion and other key clinic personnel to complete education on the intervention and to discuss implementation of the academic detailing and audit-feedback process. These individuals should watch the presentation (Appendix I) and be given the opportunity to ask questions. They should also review the materials designed for delivery during academic detailing sessions and audit-feedback (See Appendix K, Appendix L, Appendix M)

*II.* After the presentation and reviewing materials, direct observation of interactions between a trained academic detailer and providers during a pilot period or early during the intervention will be useful in teaching the clinic site champion or other key personnel involved in subsequent academic detailing exercises. It may be helpful to conduct these observation exercises on sympathetic providers or through role playing exercises prior to intervention roll-out.

## **7. Notify Clinic Providers and Clinic Personnel about Intervention Activities:**

Notify participating clinic site providers and personnel approximately one month prior to intervention kick-off about the upcoming ARI intervention. The clinic site champion should deliver the message through team meetings or other relevant forums. In addition, they should e-mail the notification script (see Appendix N) to providers to inform those not present at meetings.

Send a reminder notification which highlights the kick-off presentation and ARI intervention to providers the week prior to the kick-off meeting, as well as, to key administrative personnel.

## **8. Intervention Kick-off Coordination: Presentation and Additional Materials**

Several closely coordinated events should occur as part of the intervention kick-off:

*I.* Make CPRS ARI order menus available to clinicians and patient education materials available within target clinic sites.

*II.* The Kick-Off presentation should be delivered by the designated Antimicrobial Steward or other local designee. The target audience for the venue may vary depending on the facility and number of clinic sites involved in the intervention. For example, a facility that rolls out the intervention in multiple clinics within a relatively close time-frame may wish to provide the kick-off presentation to the entire facility whereas, facilities with plans to target fewer clinics or clinics at staggered time-intervals may wish to provide the kick-off presentation in a smaller clinic-level venue. Key facility administrators (e.g., Chief of Staff, etc.) and/ or clinic champions should be at the kick-off meeting and engage the audience in some capacity (e.g., Introducing the speaker, verbally expressing support for the project, etc.).

A generic kick-off presentation slide-set has been created (Appendix E ). The slide-set provides: a summary of the current evidence regarding antibiotic resistance and harms; an overview of appropriate diagnosis and treatment of ARI; slides that can be adapted to insert facility or clinic-specific baseline ARI diagnosis and treatment data; and an overview of the intervention and provider tools to aid in performance improvement.

Note: ARI dashboard data can be used directly to generate local facility ARI diagnosis and treatment slides.

*III.* Schedule all academic detailing meetings with providers within the week following the “kick-off” presentation. Plan to conduct all baseline academic detailing events and disseminate all audit-feedback reports (section B.2-3) to target providers within the month following the kick-off presentation.

## **9. Documentation of ARI Intervention Activities:**

It is important to document preparatory and intervention activities for each initial and follow-up interaction. Likewise, it is important to document adaptation of procedures that may occur when implementing the intervention within target clinics. Documentation of these activities will facilitate a cost-effectiveness evaluation of the intervention and assist in the assessment of intervention quality improvement.

Documentation should include the following:

- Time spent on preparatory activities including planning meetings, development and dissemination of CPRS menus and patient education materials, preparing intervention documents, in preparatory meetings, educating key personnel, running reports.
- Time spent on intervention activities including running and generating feedback reports, detailing providers, delivering reports and providing feedback to providers.

The lead antimicrobial steward should facilitate collection of this information from individuals involved in preparatory and intervention activities. An “Intervention Activities Log” template to facilitate documentation of intervention activities is available (see Appendix O). Study personnel or their designee (not Lead antimicrobial stewards or Clinic Site Champions) will enter intervention activity documentation into Intervention Activities Log no less than monthly. An overview of documentation activities will be provided to study personnel. (see Appendix P).

## **B. Intervention Activities**

Clinic site champions or other key clinic personnel should perform the intervention steps. Initially the lead antimicrobial steward should assist these individuals in completing the steps to ensure that the intervention is conducted in a systematic manner. The lead antimicrobial steward should meet with the clinic personnel at periodic intervals throughout the intervention phase.

### **1. Generate baseline individual provider ARI reports:**

Select “Baseline Provider Individual report” and select the appropriate target clinic. Then select the provider name from the scroll-down list and print the report for each targeted provider. Be sure to print both sides of the report (see Appendix K).

Prior to sharing the reports, the person delivering the reports will review each report to identify the provider’s diagnostic and prescribing patterns relative to the top 20% of providers for: 1) specific ARI diagnoses; 2) frequency of antibiotic prescribing for specific ARI; and 3) provider’s ARI specific prescribing patterns for first- and second-line antibiotics.

### **2. Initial Academic Detailing Sessions**

*I.* Conduct the academic detailing sessions with individual providers or in small groups (generally no more than 5). Invite and inform provider(s) in advance about the purpose, meeting location, and time of the session. Generally, the person contacting the provider(s) to inform them of the meeting should be a respected peer such as the clinic champion, or the clinic champion should be CC’d in the correspondence.

Meeting attendees should include the provider(s), the person performing the academic detailing session, and may include a limited number of other key clinic personnel that may aid in delivering care or subsequent audit/feedback.

Conduct the meeting in a quiet private setting that is comfortable to the provider(s) such as the provider’s office or a small conference room with a computer and access to CPRS.

*II.* Conduct the session in a manner that is conversational rather than as a formal presentation, and be sure to cover the “key messages” of the ARI intervention:

- Making a specific ARI diagnosis improves therapeutic choices

- For most ARI, symptomatic therapy provides more benefit than antibiotic therapy
- Avoid routinely using antibiotics for ARI to minimize risk of preventable antibiotic-associated adverse events
- Antibiotics are not appropriate therapy for most ARI EXCEPT in select patients with: acute exacerbations of chronic bronchitis, Group A Strep pharyngitis, and acute bacterial rhinosinusitis
- Penicillins are the cornerstone of ARI antibiotic therapy, especially for Group A Strep pharyngitis and acute bacterial rhinosinusitis
- Patient satisfaction is improved by symptomatic therapy plus clear and consistent communication

The sessions should use provider educational materials to facilitate discussion of key messages. (Appendix M)

It may also be beneficial to have providers log into CPRS and direct them to find and experiment with the ARI tools (CPRS menus, Patient materials, Provider Presentations).

If individual baseline audit-feedback reports are discussed during the academic detailing session, they should be discussed after provider tools are covered. Be sure to orient providers to feedback-reports and deliver the information in a non-confrontational format (see section B.3)

The meeting should conclude with a clear plan for follow-up. This includes asking the provider if they will commit to key messages directed towards improvement. Ensure providers can ask questions and provide feedback on ways to improve the process.

### 3. Deliver initial baseline provider reports

The method for delivering individual baseline reports will depend upon the clinic strategy for providing audit-feedback based on target clinic characteristics. Reports can be handed out individually or e-mailed, before, during, or after the academic detailing session. Be sure to maintain confidentiality of an individual's reports if a small group approach to academic detailing is used. Explanation of the report's key messages and a plan for follow-up should accompany delivery of the report, irrespective of delivery method. The method of delivery for a target clinic should be consistent throughout the intervention and be consistent with the pre-intervention clinic site questionnaire.

#### I. In person individual

If reports are delivered during a one-on-one meeting, they should be discussed after all other key messages are communicated (review of ARI guidelines and tools to enable improved prescribing) (see section B.2).

Orient the provider to the report including the key messages. Allow the provider time to review the report and to ask questions. Do not "grade" the provider, rather focus on items for them to consider in optimizing care.

## II. E-mail

E-mailed individual provider reports should be encrypted, and include an informational message explaining the report including plans for individual follow-up. An alternative approach is to e-mail the feedback report and follow up with live communication to discuss findings.

### 4. Monthly surveillance and generation of follow-up reports

After intervention kick-off the clinic champion or clinic designated key personnel will review targeted providers at monthly intervals to determine when providers should receive follow-up audit-feedback reports.

Generally, a provider should encounter at least 10 uncomplicated ARI cases before their provider audit-feedback report is generated. To evaluate which clinic providers have accrued 10 encounters select "Provider Identification Report" from dashboard reports, then select the appropriate target clinic, select "start report date" and "finish report date" and hit "run report". A line list of provider names with the number of clinic ARI encounters will appear (see Appendix H).

Follow-up Individual Provider Audit-Feedback reports can be run in 1, 2, or-3 month data intervals based on the time-period necessary for them to encounter  $\geq 10$  cases.

Review the monthly provider line list and print reports for each provider with  $>10$  ARI encounters accrued during the month. Select "Follow-up Provider Individual report" and select the appropriate target clinic, and the appropriate time interval (1, 2, or 3 month time-periods), and hit "run report" (see Appendix J). In the event that a targeted provider does not accrue  $\geq 10$  encounters within a 3 month time-frame print their report irrespective of the number of encounters. Be sure to print both sides of the report.

It will be necessary to keep track of which target providers had reports generated when running the monthly reports. Document each provider academic detailing session and distribution of the audit- feedback reports in the Intervention Activities log. (See Appendix P, Appendix O)

Generation of clinic aggregate reports each month will be optional and clinics must have  $\geq 10$  encounters for the reporting period. To run the clinic reports select "Clinic Aggregate report" from dashboard reports, then select the appropriate target clinic, select "start report date" and "finish report date" and hit "run report". (See Appendix L, Appendix J)

### 5. Dissemination of Follow-up Audit-Feedback reports:

The method for delivering individual provider follow-up reports will depend upon the strategy for providing feedback within a target clinic. The Clinic Champion should deliver the audit-feedback reports whenever possible, however; key clinic personnel may deliver the reports with preview of the reports and endorsement by the Clinic Champion.

Deliver audit-feedback reports either in person or by encrypted e-mail. Supplement the report with reinforcement of the ARI intervention key messages, interpretation of the providers report including suggestions for improvement, and plans for follow-up (see section B.6)

Methods of delivery for individual provider and aggregate follow-up reports should be consistent throughout the intervention and with the pre-intervention clinic site questionnaire.

Options for dissemination of clinic aggregate reports include e-mail, clinic team meetings or huddles, or posting the report in common non-patient care areas. Reminders about the ARI intervention key messages and utilizing intervention tools should accompany dissemination of the reports.

## **6. Follow-up academic detailing and communication with providers:**

The primary focus of the intervention is audit-feedback, however, maintaining communication with providers throughout the intervention period is encouraged to re-inforce the ARI intervention key messages, assess and improve intervention tools and provider processes, and to maintain intervention fidelity.

Communication of questions, problems that arise, and suggestions to the clinic champions and lead stewardship pharmacist should be encouraged during kick-off events, initial academic detailing venues, team meetings, and when providing audit-feedback. Document deviations from the SOP, and discuss at monthly site-investigator calls. (See Appendix C, Appendix Q, section B.7)

Follow-up academic detailing with individual providers will depend in part on the medium used to deliver the audit- feedback reports. Providers that demonstrate improvement in diagnosis and prescribing consistent with key messages may not need any additional academic detailing, whereas providers that do not improve should receive additional education. However, specific thresholds of improvement used to trigger additional detailing are subjective and left to the Clinic Champion. If key clinic personnel deliver the feedback reports, or the reports are e-mailed, it is important that intervention key messages and interpretation of the report including suggestions for improvement are communicated (verbally or written). The Clinic Champion and/or the Lead Antimicrobial Steward may be best suited to provide in person follow-up academic detailing sessions for providers not improving.

Methods of delivery for individual academic detailing follow-up should be consistent throughout the intervention and be consistent with the pre-intervention clinic site questionnaire plan.

## **7. Deviation from Intervention Methods Indicated on Pre-Intervention Site Questionnaire**

Due to unforeseen circumstances it may be necessary to deviate from intervention methods indicated in the pre-intervention site questionnaire. If deviation is necessary please submit documentation of deviation from original plan to investigators as soon as it is identified (see Appendix Q).

## Appendices

Note: All appendices and additional materials will be available on the SharePoint site

### Appendix A. Letter of Commitment Script: Institutional Key Personnel

Dear XXXX:

I agree that antibiotic resistance is a serious public health problem, which antibiotic use is a major driver of antibiotic resistance, and thus appropriate antibiotic use is critical to slowing and stopping the development of resistance. Further, I agree that the majority of human antibiotic use occurs in the outpatient setting; thus, outpatient antibiotic stewardship interventions and programs are needed to combat antibiotic resistance. Finally, I support our local antibiotic stewardship program's efforts in developing sustainable outpatient interventions to improve antibiotic use and enhance patient safety in our facility.

Our facility will:

1. Work with intervention personnel to identify suitable clinics within our healthcare system to conduct interventions.
2. Allow intervention personnel to identify champions within intervention clinic sites. Allow intervention personnel to develop, schedule, and facilitate delivery of educational venues designed to improve antimicrobial prescribing in the outpatient setting. This includes academic detailing education or small group discussions with high volume antimicrobial prescribers in intervention clinic sites.
3. As (insert administrator title), I will show my support by trying to attend the local facility intervention kick-off meeting scheduled during (date), and I will encourage other appropriate Medicine Service administrators to attend this event.
4. Allow intervention personnel in conjunction with antimicrobial stewards to direct the appropriate IT staff to add or modify CPRS order menus designed for the intervention, and allow placement of locally approved patient education materials relevant to antibiotic prescribing within the intervention clinic sites.
5. Permit intervention personnel in conjunction with the antimicrobial stewards, and clinic site champions to disseminate individualized feedback reports on outpatient antibiotic prescribing patterns at periodic intervals to high volume prescribers in the intervention clinics during the intervention period. I understand that the intervention will be delivered in a manner that does not publically share providers individual prescribing rates, and will be designed to allow providers to opt out of related academic detailing or feedback sessions if they choose.

By signing below, I hereby to supporting the site investigators and commit to the facility participating in the outpatient antimicrobial stewardship objectives and activities stated  
aboAppendix B. Letter of Commitment: Clinic Champions

Dear XXXX:

I agree that antibiotic resistance is a serious public health problem, that antibiotic use is a major driver of antibiotic resistance, and thus appropriate antibiotic use is critical to slowing and stopping the development of resistance. Further, I agree that the majority of human antibiotic use occurs in the outpatient setting; thus, outpatient antibiotic stewardship interventions and programs are needed to combat antibiotic resistance. Finally, I support our local antibiotic stewardship program's efforts in developing sustainable outpatient interventions to improve antibiotic use and enhance patient safety in our clinic.

As clinic site champion I will commit to working with our primary care providers, local site investigators, antimicrobial stewards, and other intervention personnel to execute the following activities:

1. Setting a good example for other primary care providers by practicing antibiotic stewardship when prescribing antibiotics in our clinic.
2. Providing feedback to intervention personnel data that describes our clinic's outpatient antibiotic use, as well as, intervention tools, workflow processes, and educational materials designed for the purposes of tailoring an outpatient antibiotic stewardship intervention to our clinic setting.
3. Attending periodic educational venues designed to improve antibiotic prescribing in the outpatient setting. In particular, I will attend the local facility intervention kick-off meeting scheduled during (date). As clinic site champion I will also encourage other clinic providers to attend this event.
4. Attending academic detailing sessions or small group discussions with high volume antibiotic prescribers in our clinic at the beginning of intervention period.
5. Facilitating delivery of individualized feedback reports that detail outpatient antibiotic prescribing patterns to select high volume antimicrobial prescribers in our clinic during the intervention period. I understand that the process for delivery of the reports will be designed to be delivered in a manner that does not publically share individual prescribing rates, and providers will be able to opt out of related academic detailing or feedback sessions if they choose.
6. Periodically meeting with intervention personnel to ensure optimal local adaptation of the intervention.

By signing below, I hereby agree to serve as a site champion for my clinic by participating in the outpatient antibiotic stewardship objectives and activities stated above.

Name, Title, Clinical Site, Facility

Signature

Date

## Appendix C. Clinic Site Questionnaire

### CDC ARI Outpatient Stewardship Intervention Questionnaire

Facility (VA Medical Center) Name: \_\_\_\_\_ Date: \_\_\_\_\_

1. How many of each profession dedicate at least 5% of their time to antimicrobial stewardship activities including but not limited to prospective audit and feedback, antimicrobial stewardship program management, reporting and tracking of data, and intervention development and implementation? If other is selected, please specify what role the person plays at your facility.

Physician \_\_  Pharmacist \_\_  PA/NP \_\_  Nurse \_\_  Other \_\_

2. Do your antimicrobial stewardship personnel provide support (e.g., interventions, data tracking/reporting) to the outpatient setting?

Yes  No

2a. If "yes" to question #2, have you targeted outpatient prescribing of antibiotics for acute upper respiratory tract infections (ARIs) as an area for improvement and performed any sort of intervention with a goal of improving antibiotic use (e.g., education, audit and feedback)?

Yes, please explain: \_\_\_\_\_  No

3. What services does your antimicrobial stewardship team provide to your facility?

- Development, implementation, and maintenance of antibiotic order menus
- Antimicrobial formulary control and management
- Education
- Development and maintenance of local antimicrobial prescribing guidelines
- Tracking and reporting of data (e.g., DOTs, DDDs)
- Other, please explain: \_\_\_\_\_

4. Are there any specific antibiotic restrictions in place in the outpatient setting for the following antibiotics?

Azithromycin: If yes, please explain \_\_\_\_\_

Respiratory fluoroquinolones (e.g. Levofloxacin or Moxifloxacin) If yes, please explain: \_\_\_\_\_

5. Please rank all of your participating clinic sites in order, beginning with the clinic that would be most willing to participate as an initial pilot site for intervention implementation:

\_\_\_\_\_

6. Please provide us with any other information that you think could be relevant for consideration about your facility when implementing the ARI intervention. This could include information regarding the culture of quality improvement, previous facility-wide projects conducted, etc.:

**Clinic** (Please answer for each individual clinic participating in the CDC ARI Outpatient Stewardship Intervention). Make copies of this section as needed.

**Clinic Name:** \_\_\_\_\_

General – Provider Demographics

7. How many of each of the following types of providers independently sees patients presenting with ARI symptoms at your clinic?

- Physician \_\_\_
- Physician Assistant (PA) \_\_\_
- Nurse Practitioner (NP) \_\_\_
- Nurse (e.g., Nurse-run clinics) \_\_\_

8. Do you have Clinical Pharmacy Specialists imbedded in your clinic on Patient Aligned Care Teams?

- Yes, please specify how many: \_\_\_\_\_
- No

9. How many of each of the following types of providers regularly staff urgent/episodic care clinics?

- Urgent/episodic care not offered in clinic setting
- Physician \_\_\_
- Physician Assistant (PA) \_\_\_
- Nurse Practitioner (NP) \_
- Nurse (e.g., Nurse-run clinics) \_\_\_

General – Process

10. For patients presenting with symptoms of an ARI, which of the following statements below describes how the patient is triaged and where the patient is seen (check all that apply)?

- Patient presents to his/her assigned primary care clinic, nurse triages patient, and nurse sends the patient to the assigned urgent/episodic care clinic for the day
- Patient presents to his/her assigned primary care clinic, nurse triages patient, and nurse sends patient to the emergency department
- Patient presents to his/her assigned primary care clinic, nurse triages patient, and patient's PCP sees the patient
- Patient presents directly to a dedicated urgent/episodic care clinic housed in primary care and is seen
- Patient presents directly to a dedicated urgent/episodic care clinic housed in the emergency department and is seen
- Other, please explain: \_\_\_\_\_

11. What pharmacy would likely dispense medications for prescriptions generated by your clinic for an acute urgent/episodic care visit (i.e., antibiotic or symptomatic therapy prescription generated as a result of an ARI visit)? Check all that apply and estimate the frequency of antibiotic prescriptions dispensed for each option.

- On-site VA Outpatient Pharmacy (% of total \_\_\_\_\_)
- Off-site VA Outpatient Pharmacy (i.e., CMOP/mailed from main VA facility) (% of total \_\_\_\_\_)

- Local community pharmacy (i.e., Heritage Program) (% of total \_\_\_\_)
- Medications would be dispensed from clinic stock (% of total \_\_\_\_)
- Other, please explain: \_\_\_\_\_

General – Resources

12. What resources/active interventions has your clinic had access to and used regarding treatment of ARIs or antibiotic prescribing in general?

- Patient Handouts
- Educational Posters
- Provider commitment letters or posters
- Provider education specific to ARIs
- Feedback specific to ARIs and antibiotic prescribing
- Required use of disease-specific ARI order templates
- Academic detailing specific to ARIs and antibiotic prescribing
- Other, please explain: \_\_\_\_\_

13. Do you provide feedback to providers based on local data for any disease states or medications other than ARIs and antibiotics?

- Yes, please explain: \_\_\_\_\_  No

ARI Intervention

14. Who will be responsible for posting ARI educational posters and stocking patient-directed printed educational materials (i.e., Local Antibiotic Steward, Clinic Site Champion, or other local designee) ?

**See Intervention Standard Operating Procedure Item 4.A.4**

15. Who will be responsible for informing clinic providers about the study intervention, announcing the ARI Kick-off presentation and/ or initial academic detailing sessions (i.e., Local Antibiotic Steward, Clinic Site Champion, or other local designee)? How will these sessions occur?

**See Intervention Standard Operating Procedure Item 4.A.7-8**

16. Who will be responsible for monthly review of provider ARI encounters and generation of individual provider baseline and periodic audit-feedback reports?(i.e., Local Antibiotic Steward, Clinic Site Champion, or other local designee)? **See Intervention Standard Operating Procedure Item 4.B.1,4**

17. Who will be responsible for generation and distribution of monthly clinic site baseline and follow-up reports (i.e., Local Antibiotic Steward, Clinic Site Champion, or other local designee)? How will these be shared with clinic personnel? **See Intervention Standard Operating Procedure Item 4.B.4**

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18. Who will be responsible for documenting effort/time dedicated to intervention-related activities (preparatory, intervention delivery, etc.) within the clinic (i.e., Local Antibiotic Steward, Clinic Site Champion, or other local designee) or deviations in clinic operating intervention activities to the investigators? **See Intervention Standard Operating Procedure Item 4.A.9**

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19. Who will perform the initial academic detailing session (i.e., Local Antibiotic Steward, Clinic Site Champion, or other local designee)? If more than one individual will provide initial academic detailing please describe. **See Intervention Standard Operating Procedure Item 4.B.2**

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20. Will the baseline individual audit-feedback reports be shared and/or discussed with providers during the initial academic detailing session? \_\_\_\_\_ If no, please describe the process for disseminating baseline audit-feedback reports to providers: **See Intervention Standard Operating Procedure Item 4.B.3**

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**Provider ARI encounters will be tracked monthly throughout the study (See Intervention Standard Operating Procedure Item 4.B.4) Questions 21-23 relate to follow-up audit-feedback procedures.**

21. Who will distribute follow-up individual audit and feedback reports? Note that Clinic Site Champions should review the reports irrespective of who disseminates the reports:

- Local Antimicrobial Steward
- Clinic Site Champion
- Other Local Designee, please explain: \_\_\_\_\_

22. How will follow-up individual audit-feedback reports be distributed to providers?

- In person
- Encrypted e-mail

**Note: Generally, audit-feedback reports are supplemented with reinforcement of the intervention key messages, interpretation of the providers report including suggestions for improvement, and plans for follow-up. Providers that do not demonstrate improvement in ARI prescribing consistent with key messages should receive additional education/academic detailing.**

23. Please describe the communication approach to deliver supplementary information (in addition to the feedback reports) to providers (e-mail, individual or clinic team meetings). Please include who will initiate communication with the providers ( i.e., Local Antimicrobial Steward, Clinic Site Champion, or

other local designee)

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24. For providers who demonstrate persistently poor antibiotic prescribing, how do you plan to implement follow-up academic detailing? **See Intervention Standard Operating Procedure Item 4.B.5**

- In person       Video/audio conferencing       Encrypted e-mail

25. Who will be performing the follow-up academic detailing sessions (i.e., Local Antimicrobial Steward, Clinic Site Champion, or other local designee)? \_\_\_\_\_

26. Are there other considerations specific to your clinic that may impact the ARI intervention that you would like to document at this time?

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## Appendix D. CPRS Order Menu: How To

Acute Pharyngitis
Done

**BEST PRACTICES ACUTE PHARYNGITIS** Click <HERE> for the Antibiotic Patient Handout

<p><b>CRITERIA FOR ANTIBIOTIC TREATMENT (CENTOR)</b></p> <p><b>++Temp &gt; 100.9F</b>  <b>++Swollen cervical nodes</b>  <b>++Tonsillar exudate</b>  <b>++Does not have rhinorrhea or cough</b></p> <p><b>If 0 to 2 criteria present</b>            Acute Streptococcal pharyngitis is UNLIKELY and antibiotic therapy is NOT indicated.            Symptomatic treatment may be helpful.</p> <p><b>If 3 or 4 criteria present:</b>            Possible acute Streptococcal pharyngitis. Order RADT. (estimated turnaround time is 20 min)</p> <p><b>If RADT is positive:</b>            Antibiotic therapy is indicated.            Symptomatic treatment may be helpful.</p> <p><b>If RADT is negative:</b>            Antibiotic therapy is NOT indicated.            Symptomatic treatment may be helpful.</p>	<p><b>LABORATORY:</b>            Strep Rapid Antigen Test            Throat Culture</p> <p><b>ANTIBIOTICS</b></p> <p><b>First line therapy</b>            Penicillin VK 500mg BID X10D            Amoxicillin 500mg BID X10D</p> <p><b>For non severe penicillin allergy</b>            Cephalexin 500mg BID X10D</p> <p><b>For severe penicillin allergy</b>            Clindamycin 300mg TID X10D</p> <p><b>SUPPORTIVE CARE</b></p> <p>Topical Throat Pain:            Benzocaine Throat Lozenge PRN            Phenol 1.4% Spray Q2h PRN</p> <p>Antipyretic Analgesics:            Acetaminophen 650mg q6h PRN            Ibuprofen 400mg q6h PRN</p> <p><b>For non specific symptoms use:</b>            Supportive Care Menu</p>
---	---

Figure 1. Pharyngitis CPRS Order Menu Example

Acute Sinusitis
Done

**BEST PRACTICES ACUTE RHINOSINUSITIS** Click <HERE> for the Antibiotic Patient Handout

**CRITERIA SUGGESTIVE OF BACTERIAL RHINOSINUSITIS**

**1) Purulent nasal discharge**

**AND**

**2) Nasal obstruction AND/OR facial pain/pressure**

**AND**

**3) One of the following:**  
**++Symptoms > 10 days**  
**++Temp>102 with severe symptoms for >3 days**  
**++Worsening symptoms after initial improvement**

**Criteria Met:**  
 Antibiotics are recommended.

**Criteria NOT met:**  
 Acute bacterial sinusitis is unlikely and an antibiotic is NOT indicated

	<p><b>ANTIBIOTICS</b></p> <p><b>First line therapy</b>            Amoxicillin Clavulanate 875mg po BID x 7d</p> <p>*CONSIDER using high dose amoxicillin clavulanate if the patient has had a recent hospitalization OR had antibiotic exposure within the past month*</p> <p>Amoxicillin Clavulanate 2000mg XR BID X 7D</p> <p><b>For severe penicillin allergy</b>            Doxycycline 100mg BID X 7D            Levofloxacin 500mg QD daily X7D</p> <p>Patient insists on antibiotic (Delayed Prescription)            *For BVAMC WINDOW Pickup ONLY*</p> <p><b>SUPPORTIVE CARE</b>            Fluticasone Nasal            Saline Nasal Spray</p> <p><b>For nonspecific symptoms use:</b>            Supportive Care Menu</p>
--	--

Figure 2. Rhinosinusitis CPRS Order Menu Example

Acute bronchitis or URI NOS Done

**ACUTE BRONCHITIS OR COMMON COLD** Click <HERE> for the Antibiotic Patient Handout

**NOTE: This is not intended for use for patients with COPD or asthma**

**RULE OUT OTHER CAUSES OF SYMPTOMS**

**Common cold**  
Sore or scratchy throat  
Nasal congestion  
Rhinorrhea  
Sneezing  
Fatigue  
T<101F

**Influenza**  
T>101F  
Fatigue  
Chills  
Myalgias  
Headache

**Pneumonia**  
Fever  
Tachypnea  
Tachycardia  
Focal consolidation

**Pertussis - Consider testing if:**  
Not current with pertussis immunization (Tdap)  
Children <12mos old in home complaining of pertussis sx (Whooping Cough)  
Contact with individual with known or probable pertussis  
For more information regarding pertussis diagnosis and treatment  
Click <HERE> for CDC Pertussis Information

**Exacerbation of other condition**  
CHF  
COPD  
Asthma

**LABORATORY (IF INDICATED)**  
 Rapid Influenza Lab  
Chest 2 Views Dultpt  
Bordetella Pertussis by PCR

**ANTIBIOTICS**  
If only cough with common cold symptoms then it is UNLIKELY bacterial.  
  
Antibiotics are NOT indicated for acute bronchitis except in documented pertussis.  
  
Supportive care may be helpful

---

Patient insists on antibiotic (Delayed Prescription)  
\*For BVAMC WINDOW Pickup ONLY\*

**SUPPORTIVE CARE**  
Supportive Care Menu

Figure 3. Bronchitis CPRS Order Menu Example

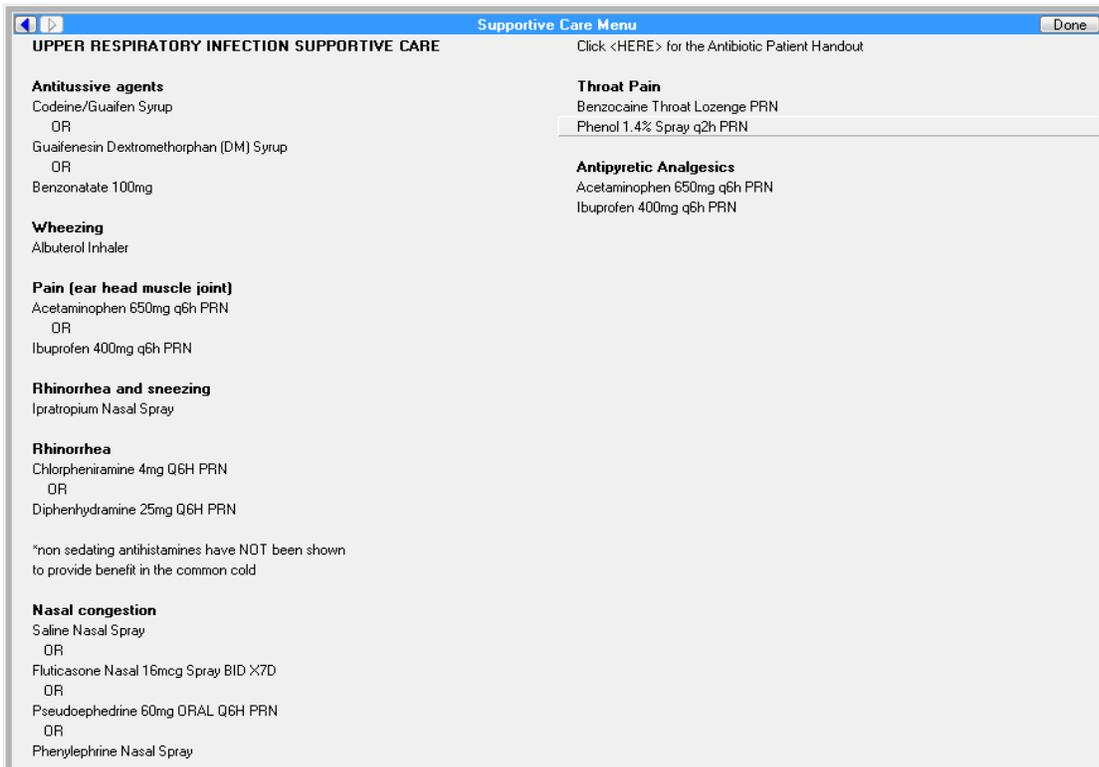


Figure 4. Symptomatic Therapies CPRS Order Menu Example

## Appendix E. Kick Off Slides

## Appendix F. Patient Education Materials

### Antibiotics Aren't Always the Answer



#### FIVE FAST FACTS ABOUT ANTIBIOTICS

**1. Antibiotics only treat infections caused by bacteria.**

Viruses cause infections like a cold. If you have a cough, nasal congestion or sore throat, talk to your provider or pharmacist about ways to help you feel better.

This may include over-the-counter medicine, a humidifier, or warm liquids.

**2. Most sore throats DO NOT require an antibiotic.**

Only 1 in 6 people who see their provider for a sore throat have strep throat. Your provider can test to see if you have strep throat, and will prescribe an antibiotic if you do.

**3. If you have green colored mucus, you DO NOT necessarily need an antibiotic.**

As your body's immune system fights an infection, mucus can change color. This is normal and does not always mean you need an antibiotic.

**4. There are potential risks when you take any prescription drug.**

Using antibiotics can cause problems, ranging from an upset stomach to a serious allergic reaction and make them less likely to be effective in the future

**5. Using the right antibiotic at the right time can save your life.**

Only use antibiotics if your provider says you really need them. If we use them to treat health problems that don't require them, they may not work as well when you have an illness that does.

# Viruses or Bacteria

## What's got you sick?

Antibiotics only treat bacterial infections. Viral illnesses cannot be treated with antibiotics. When an antibiotic is not prescribed, ask your healthcare professional for tips on how to relieve symptoms and feel better.

Illness	Usual Cause		Antibiotic Needed
	Viruses	Bacteria	
Cold/Runny Nose	✓		<b>NO</b>
Bronchitis/Chest Cold (in otherwise healthy children and adults)	✓		<b>NO</b>
Whooping Cough		✓	Yes
Flu	✓		<b>NO</b>
Strep Throat		✓	Yes
Sore Throat (except strep)	✓		<b>NO</b>
Fluid in the Middle Ear (otitis media with effusion)	✓		<b>NO</b>
Urinary Tract Infection		✓	Yes



*Antibiotics Aren't Always the Answer*

[www.cdc.gov/getsmart](http://www.cdc.gov/getsmart)



U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention

Sept 2014



**WARNING:** Antibiotics don't work for viruses like colds and the flu. Using them for viruses will **NOT** make you feel better or get back to work faster.

**Antibiotics are strong medicines. Keep them that way. Prevent antibiotic resistance.** Antibiotics don't fight viruses—they fight bacteria. Using antibiotics for viruses can put you at risk of getting a bacterial infection that is resistant to antibiotic treatment. Talk to your healthcare provider about antibiotics, visit [www.cdc.gov/getsmart](http://www.cdc.gov/getsmart), or call **1-800-CDC-INFO** to learn more.

Taking antibiotics for viral infections such as a cold, a cough, or the flu will **NOT**:

- Cure the infection
- Keep other people from catching it
- Help you feel better





Name: \_\_\_\_\_

Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_



**Diagnosis:**

- Cold
- Cough
- Flu
- Middle ear fluid (Otitis Media with Effusion, OME)
- Viral sore throat
- Other: \_\_\_\_\_

You have been diagnosed with an illness caused by a virus. **Antibiotics do not cure viral infections.** If given when not needed, antibiotics can be harmful. The treatments prescribed below will help you feel better while your body's own defenses are fighting the virus.

**General instructions:**

- Drink extra water and juice.
- Use a cool mist vaporizer or saline nasal spray to relieve congestion.
- For sore throats, use ice chips or sore throat spray; lozenges for older children and adults.

**Specific medicines:**

- Fever or aches:
- Ear pain:
- \_\_\_\_\_
- \_\_\_\_\_

Use medicines according to the package instructions or as directed by your healthcare provider. Stop the medication when the symptoms get better.

**Follow up:**

- If not improved in \_\_\_\_\_ days, if new symptoms occur, or if you have other concerns, please call or return to the office for a recheck.

- Other: \_\_\_\_\_



Signed: \_\_\_\_\_

For More Information call 1-800-CDC-INFO or visit [www.cdc.gov/getsmart](http://www.cdc.gov/getsmart)



## A Commitment to Our Patients about Antibiotics

~~~~~  
*Antibiotics only fight infections caused by bacteria. Like all drugs, they can be harmful and should only be used when necessary. Taking antibiotics when you have a virus can do more harm than good: you will still feel sick and the antibiotic could give you a skin rash, diarrhea, a yeast infection, or worse.*

*Antibiotics also give bacteria a chance to become more resistant to them. This can make future infections harder to treat. It means that antibiotics might not work when you really do need them. Because of this, it is important that you only use an antibiotic when it is necessary to treat your illness.*

*How can you help? When you have a cough, sore throat, or other illness, tell your doctor you only want an antibiotic if it is really necessary. If you are not prescribed an antibiotic, ask what you can do to feel better and get relief from your symptoms.*

*Your health is important to us. As your healthcare providers, we promise to provide the best possible treatment for your condition. If an antibiotic is not needed, we will explain this to you and will offer a treatment plan that will help. We are **dedicated** to prescribing antibiotics **only** when they are needed, and we will avoid giving you antibiotics when they might do more harm than good.*

*If you have any questions, please feel free to ask us.*

*Sincerely,*



U.S. Department of  
Health and Human Services  
Centers for Disease  
Control and Prevention

## Appendix G. Shared Decision Making Slides

## Appendix H. Example Provider Identification Report

### Example Provider Identification Report

#### Inputs

Facility (drop-down menu):  Clinic (drop-down menu):

Complicated Comorbidities (drop-down menu):

Start Date:  End Date:

Instructions: This report will be utilized to identify providers and the number ARI visits each had during any given time. Practically, this report should be used to identify providers for the ARI intervention—academic detailing and audit-feedback.

| <b>Provider Name</b>    | <b>Facility Location (Sta3n)</b> | <b>Division Location</b> | <b>Report Generated Time Period</b> | <b>Number of Total ARI Visits</b> |
|-------------------------|----------------------------------|--------------------------|-------------------------------------|-----------------------------------|
| <i>e.g. Smith, John</i> | <i>(531) Boise, ID</i>           | <i>BOISE</i>             | 10/31/2014 – 9/30/2016              | 75                                |
|                         |                                  |                          |                                     |                                   |
|                         |                                  |                          |                                     |                                   |
|                         |                                  |                          |                                     |                                   |

#### Notes about the report

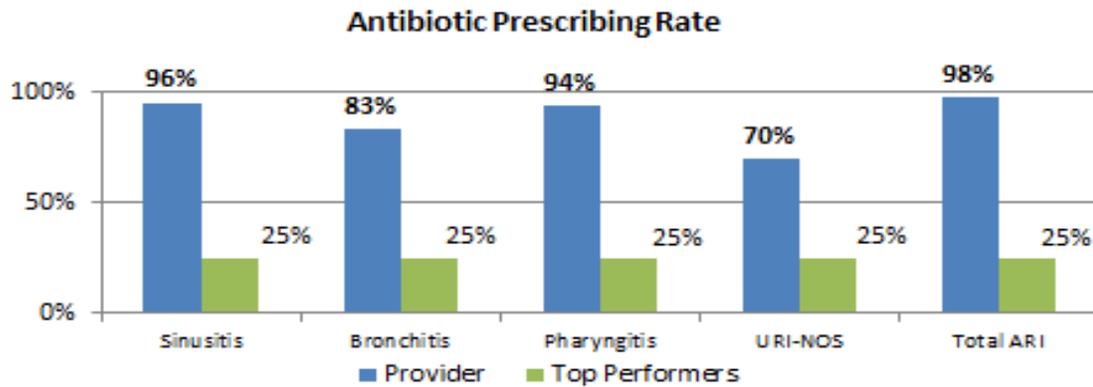
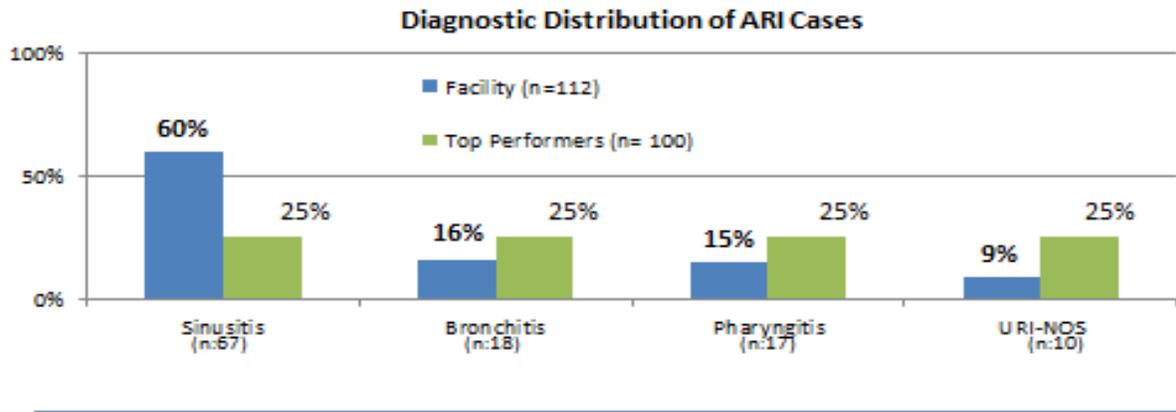
- Report should be pre-sorted by Number of Total ARI Visits (Most to Least)
- Report should be able to be exported to Excel for further manipulation if needed

Appendix I. How to Academic Detail Slides

Appendix J. Generating and Preparing Audit-Feedback Reports

Appendix K. Example Provider Report (Baseline & Follow-up)

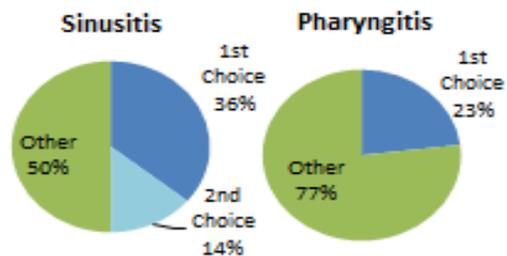
**ARI Antibiotic Prescribing Report: Provider A**  
**Baseline Report: Fiscal Years 2015-2016**



**Guideline Concordant Prescribing Practice**

| Recommended Antibiotic Prescribing <sup>a</sup>          |             |                |
|----------------------------------------------------------|-------------|----------------|
| Antibiotic Prescribing Rate of 1 and 2 antibiotics (% N) |             |                |
| Diagnosis                                                | Provider    | Top Performers |
| Acute Sinusitis                                          | 50% (32/64) | 25% (25/100)   |
| Acute Pharyngitis                                        | 33% (5/15)  | 25% (25/100)   |

<sup>a</sup> This does NOT assess if patient is appropriate candidate for antibiotics, only assessment is if 1st or 2nd line (Recommended) antibiotic was chosen for the selected indication



### Antibiotic Prescriber Report Details

Encounters exclude patients with a diagnosis of HIV, hemodialysis, organ or marrow transplantation, or immunosuppression-NOS within the prior 2 years, as well as all patients with a diagnosis of chronic sinusitis or pharyngitis and any concurrent diagnoses of infection on the date of visit.

Acute Bronchitis and Upper Respiratory Tract encounters-NOS also exclude patients with a history of Chronic Obstructive Pulmonary Disease (COPD) and Asthma within the prior 2 years.

Encounters are assigned to the provider who wrote the antibiotic prescription if an antibiotic was prescribed or the primary provider listed on the encounter if no antibiotic was prescribed. In the case where a nurse is listed as the primary provider, the next provider who has prescriptive authority is assigned the encounter.

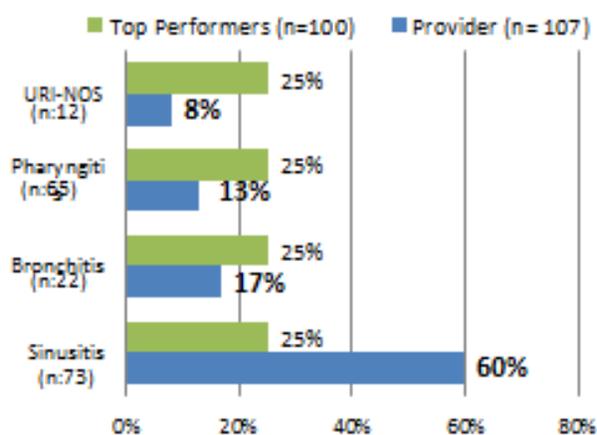
#### Appropriate Antibiotic Use for Upper Respiratory Tract Infections (Criteria & Treatment)

| <u>Diagnostic Criteria (to determine appropriate antibiotic treatment)</u>                                                                                                                                                                                                                                                                                                                                                         | <u>Appropriate Treatment (if diagnostic criteria are met)</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Acute Pharyngitis</b>                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Presence of at least 2 of the following Centor Criteria: <ul style="list-style-type: none"> <li>• Temperature &gt;100.9°F</li> <li>• Swollen cervical lymph nodes</li> <li>• Tonsillar exudate</li> <li>• Lack of cough</li> </ul> If 3 to 4 Centor Criteria are present, perform a Group A Streptococcal Rapid Antigen Detection Test (RADT)                                                                                      | If the RADT is <u>negative</u> , <b>do not prescribe antibiotics.</b><br><br>If the RADT is <u>positive</u> , prescribe one of the following: <ul style="list-style-type: none"> <li>• Penicillin VK 500mg PO BID x 10 days</li> <li>• Amoxicillin 500mg PO BID x 10 days</li> </ul> If penicillin allergy, prescribe one of the following: <ul style="list-style-type: none"> <li>• Cephalexin 500mg PO BID x 10 days (low risk for cross-reactivity)</li> <li>• Clindamycin 300mg PO TID x 10 days</li> </ul> |
| <b>Acute Bacterial Rhinosinusitis</b>                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Presence of at least <b>ONE</b> of the following: <ul style="list-style-type: none"> <li>• <b>PERSISTENCE</b> w/o improvement: nasal discharge or daytime cough &gt;10 days</li> <li>• <b>WORSENING</b>: new onset fever &gt;100.9°F, worsening daytime cough, or nasal discharge after improvement over 5-6 days</li> <li>• <b>SEVERE</b>: fever &gt;102°F or purulent nasal discharge for at least 3 consecutive days</li> </ul> | If one of the categories are met, prescribe one of the following: <ul style="list-style-type: none"> <li>• Amox/Clav 875mg PO BID x 7 days</li> </ul> If penicillin allergy, prescribe one of the following: <ul style="list-style-type: none"> <li>• Doxycycline 100mg PO BID x 7 days</li> <li>• Levofloxacin 500mg PO Daily x 7 days</li> </ul>                                                                                                                                                              |
| <b>Acute Bronchitis (excludes COPD &amp; Asthma)</b>                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Rule out other causes of an acute cough including: <ul style="list-style-type: none"> <li>• Pneumonia, pertussis, influenza, GERD, etc.</li> </ul> Colored sputum does <b>NOT</b> indicate bacterial infection and duration of cough is <b>NOT</b> an indication for antibiotics<br><br>Consider ordering pertussis test for patient with no DTap booster, paroxysmal cough, or suspected exposure to pertussis                    | <b>Antibiotics are NOT indicated unless high suspicion/confirmation of pertussis</b> <ul style="list-style-type: none"> <li>• Azithromycin rec'd treatment for only these cases</li> </ul> Consider antitussives and bronchodilators                                                                                                                                                                                                                                                                            |
| <b>Upper Respiratory Tract Infection – Not Otherwise Specified (NOS): Common Cold</b>                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Antibiotics NOT indicated.</b> Consider symptomatic treatment with anti-tussives, decongestants, antihistamines, and anti-pyretics.                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

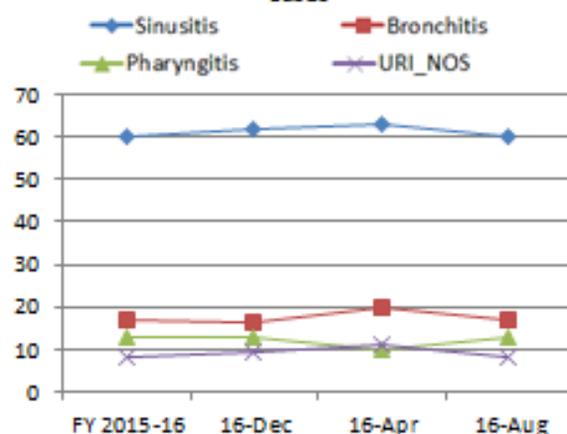
**Please use BEST PRACTICES CPRS URI order menus to guide treatment decision-making and selection of appropriate therapy.**

## ARI Antibiotic Prescribing Report: Provider A Follow-up Report: 16-Aug

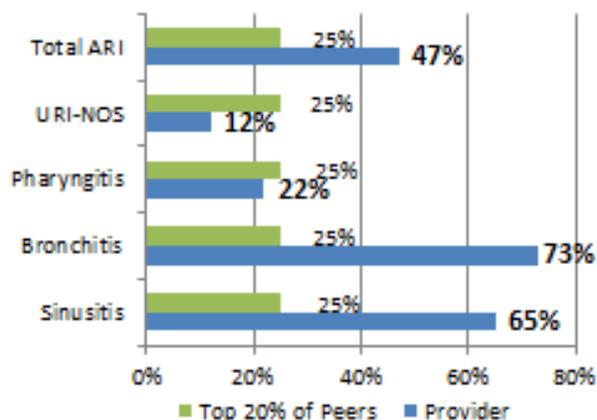
### Diagnostic Distribution of ARI Cases



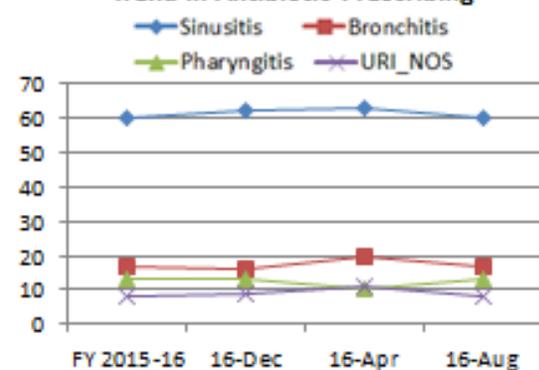
### Trend in Diagnostic Distribution of ARI Cases



### Antibiotic Prescribing Rate



### Trend in Antibiotic Prescribing

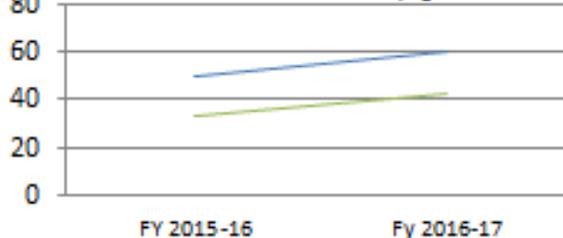


### Guideline Concordant Prescribing Practices

| Recommended Antibiotic Prescribing <sup>c</sup><br>Antibiotic Prescribing Rate of 1 and 2 antibiotics<br>(% N) |           |                |
|----------------------------------------------------------------------------------------------------------------|-----------|----------------|
| Diagnosis                                                                                                      | Provider  | Top Performers |
| Acute Sinusitis                                                                                                | 50% 25/50 | 25%(25/100)    |
| Acute Pharyngitis                                                                                              | 42% 6/14  | 25% (25/100)   |

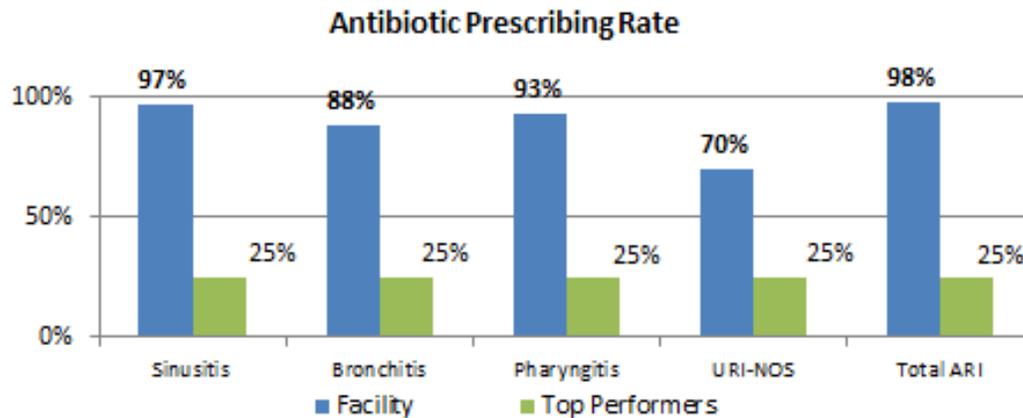
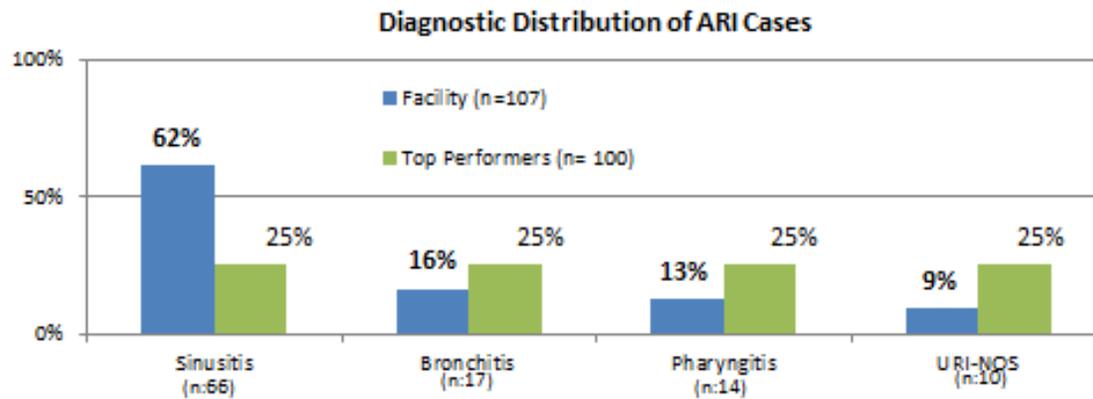
<sup>c</sup> This does NOT assess if patient is appropriate candidate for antibiotics, only assessment is if 1st or 2nd line (Recommended) antibiotic was chosen for the selected indication

### Trend in Appropriate Antibiotic Prescribing



## Appendix L. Example Clinic Report (Baseline & Follow-up)

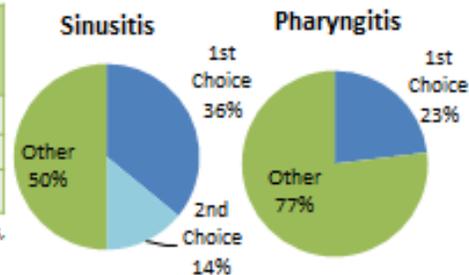
### ARI Antibiotic Prescribing Report: Red Facility Baseline Report: Fiscal Years 2015-2016



### Guideline Concordant Prescribing Practices

| Recommended Antibiotic Prescribing <sup>†</sup><br>Antibiotic Prescribing Rate of 1 and 2 antibiotics<br>(% N) |             |                |
|----------------------------------------------------------------------------------------------------------------|-------------|----------------|
| Diagnosis                                                                                                      | Facility    | Top Performers |
| Acute Sinusitis                                                                                                | 50% (32/64) | 25% (25/100)   |
| Acute Pharyngitis                                                                                              | 23% (3/13)  | 25% (25/100)   |

<sup>†</sup> This does NOT assess if patient is appropriate candidate for antibiotics, only assessment is if 1st or 2nd line (Recommended) antibiotic was chosen for the selected indication



## Antibiotic Prescriber Report Details

Encounters exclude patients with a diagnosis of HIV, hemodialysis, organ or marrow transplantation, or immunosuppression-NOS within the prior 2 years, as well as all patients with a diagnosis of chronic sinusitis or pharyngitis and any concurrent diagnoses of infection on the date of visit.

Acute Bronchitis and Upper Respiratory Tract encounters-NOS also exclude patients with a history of Chronic Obstructive Pulmonary Disease (COPD) and Asthma within the prior 2 years.

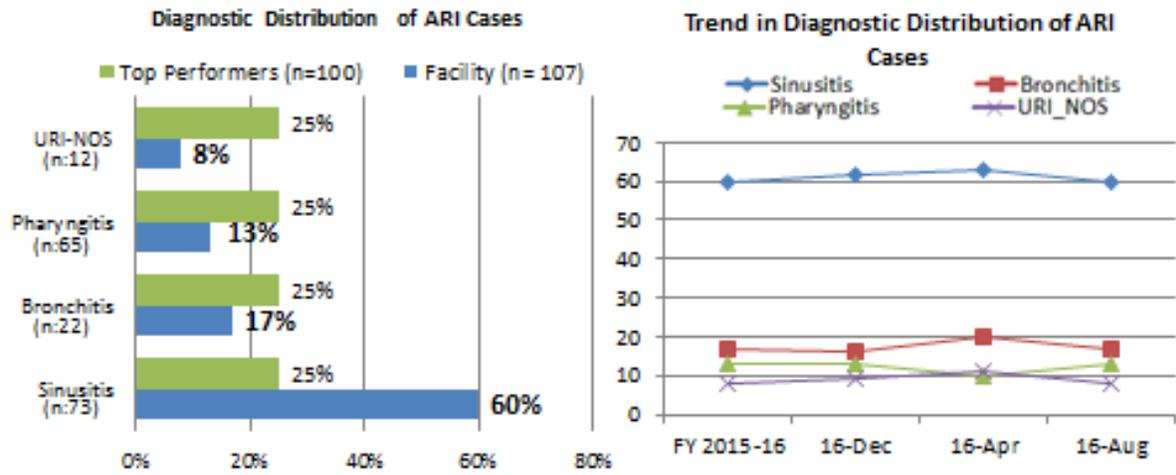
Encounters are assigned to the provider who wrote the antibiotic prescription if an antibiotic was prescribed or the primary provider listed on the encounter if no antibiotic was prescribed. In the case where a nurse is listed as the primary provider, the next provider who has prescriptive authority is assigned the encounter.

### Appropriate Antibiotic Use for Upper Respiratory Tract Infections (Criteria & Treatment)

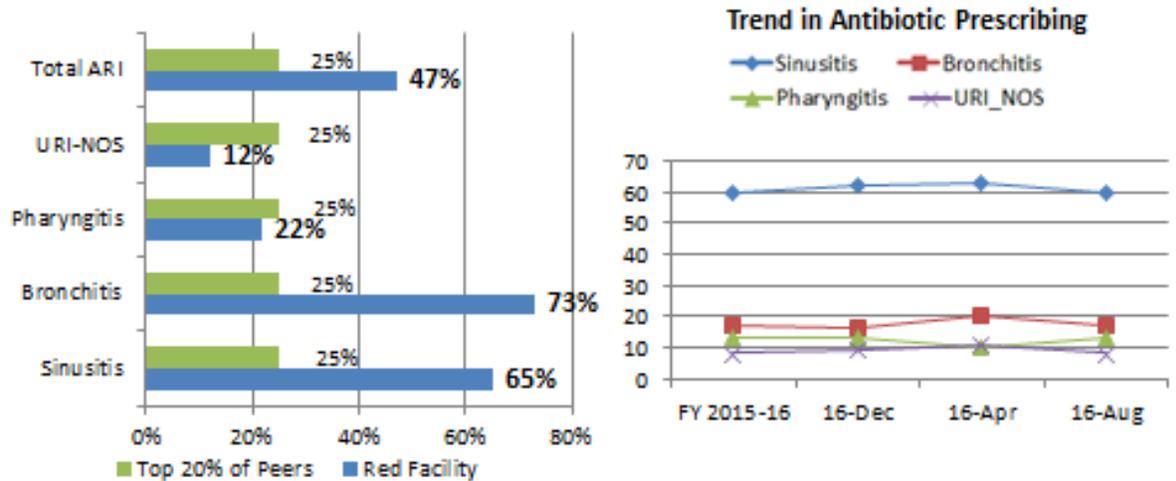
| <u>Diagnostic Criteria (to determine appropriate antibiotic treatment)</u>                                                                                                                                                                                                                                                                                                                                                         | <u>Appropriate Treatment (if diagnostic criteria are met)</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Acute Pharyngitis</b>                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Presence of at least 2 of the following Centor Criteria: <ul style="list-style-type: none"> <li>• Temperature &gt;100.9°F</li> <li>• Swollen cervical lymph nodes</li> <li>• Tonsillar exudate</li> <li>• Lack of cough</li> </ul> If 3 to 4 Centor Criteria are present, perform a Group A Streptococcal Rapid Antigen Detection Test (RADT)                                                                                      | If the RADT is <u>negative</u> , <b>do not prescribe antibiotics</b> .<br><br>If the RADT is <u>positive</u> , prescribe one of the following: <ul style="list-style-type: none"> <li>• Penicillin VK 500mg PO BID x 10 days</li> <li>• Amoxicillin 500mg PO BID x 10 days</li> </ul> If penicillin allergy, prescribe one of the following: <ul style="list-style-type: none"> <li>• Cephalexin 500mg PO BID x 10 days (low risk for cross-reactivity)</li> <li>• Clindamycin 300mg PO TID x 10 days</li> </ul> |
| <b>Acute Bacterial Rhinosinusitis</b>                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Presence of at least <b>ONE</b> of the following: <ul style="list-style-type: none"> <li>• <b>PERSISTENCE</b> w/o improvement: nasal discharge or daytime cough &gt;10 days</li> <li>• <b>WORSENING</b>: new onset fever &gt;100.9°F, worsening daytime cough, or nasal discharge after improvement over 5-6 days</li> <li>• <b>SEVERE</b>: fever &gt;102°F or purulent nasal discharge for at least 3 consecutive days</li> </ul> | If one of the categories are met, prescribe one of the following: <ul style="list-style-type: none"> <li>• Amox/Clav 875mg PO BID x 7 days</li> </ul> If penicillin allergy, prescribe one of the following: <ul style="list-style-type: none"> <li>• Doxycycline 100mg PO BID x 7 days</li> <li>• Levofloxacin 500mg PO Daily x 7 days</li> </ul>                                                                                                                                                               |
| <b>Acute Bronchitis (excludes COPD &amp; Asthma)</b>                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Rule out other causes of an acute cough including: <ul style="list-style-type: none"> <li>• Pneumonia, pertussis, influenza, GERD, etc.</li> </ul> Colored sputum does <b>NOT</b> indicate bacterial infection and duration of cough is <b>NOT</b> an indication for antibiotics<br><br>Consider ordering pertussis test for patient with no DTap booster, paroxysmal cough, or suspected exposure to pertussis                    | <b>Antibiotics are NOT indicated unless high suspicion/confirmation of pertussis</b> <ul style="list-style-type: none"> <li>• Azithromycin rec'd treatment for only these cases</li> </ul> Consider antitussives and bronchodilators                                                                                                                                                                                                                                                                             |
| <b>Upper Respiratory Tract Infection – Not Otherwise Specified (NOS): Common Cold</b>                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Antibiotics NOT indicated.</b> Consider symptomatic treatment with anti-tussives, decongestants, antihistamines, and anti-pyretics.                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

**Please use BEST PRACTICES CPRS URI order menus to guide treatment decision-making and selection of appropriate therapy.**

## ARI Antibiotic Prescribing Report: Red Facility Follow-up Report: 16-Aug



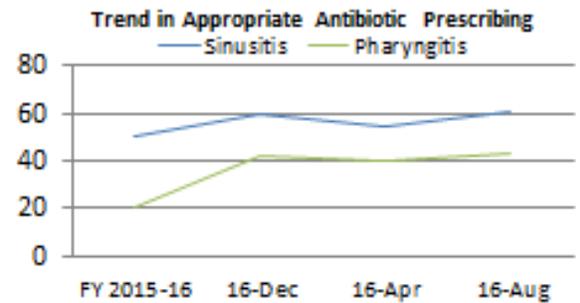
### Antibiotic Prescribing Rate



### Guideline Concordant Prescribing Practices

| Recommended Antibiotic Prescribing <sup>†</sup>          |           |                |
|----------------------------------------------------------|-----------|----------------|
| Antibiotic Prescribing Rate of 1 and 2 antibiotics (% N) |           |                |
| Diagnosis                                                | Facility  | Top Performers |
| Acute Sinusitis                                          | 50% 25/50 | 25%(25/100)    |
| Acute Pharyngitis                                        | 42% 6/14  | 25%(25/100)    |

<sup>†</sup> This does NOT assess if patient is appropriate candidate for antibiotics, only assessment is if 1st or 2nd line (Recommended) antibiotic was chosen for the selected indication



## Appendix M. Academic Detailing Session Slides

## Appendix N. Initial Clinic Participation Script ( IRB approved document available on SharePoint)

### Initial Clinic Participation Script

Dear clinic provider,

Our clinic will be participating in a CDC-funded multi-centered study designed to improve antibiotic prescribing practices for acute Upper Respiratory Tract Infections (URIs).

As a provider who treats patients with URIs in our clinic, you may be asked to participate in several activities.

- Over the next several months you may be invited by VA e-mail to participate in telephone interview designed to explore knowledge, attitudes and behaviors related to antibiotic prescribing. The information collected will aid in the development of outpatient antibiotic stewardship intervention planned to be implemented in participating clinics during 2017-2019.

In Fall of 2017 and Winter of 2018 a series of provider-directed processes will be implemented in our clinic.

- New CPRS order menus for URIs, symptom therapy menus, and patient education materials may be made available for your use.
- Group level provider-education on the diagnosis and treatment of URIs will delivered. The presentation will provide an overview of the provider-directed processes will be implemented designed to improve URI management.
- Select providers will receive additional feedback summaries of their diagnosis and antibiotic prescribing patterns for URIs encounters.

You will be provided more details about the study prior to implementing any changes. If you have any questions or concerns please contact (Name), SITE CHAMPION or/and (Name) SITE INVESTIGATOR.

Your role in this study is important as you are the primary care providers servicing our veterans.

Best Regards,

Clinic Champion Name

## Appendix O. Intervention Activities Log

### Intervention Activities Log

Instructions: Please record activities related to the ARI intervention including preparatory activities.

#### Preparatory to Intervention Activities

Facility Name: \_\_\_\_\_ Clinic Name: \_\_\_\_\_

Individual Performing Activity (Name): \_\_\_\_\_

Specific Activity Performed: (Drop-down Menu: Development of Educational Materials; CPRS Order Set Development; Presentation of Educational Materials; Meeting; Preparation of Audit-Feedback Reports; Other, please explain: \_\_\_\_\_)

Date of Activity (MM/DD/YYYY): \_\_\_\_\_

Time Spent (hours): \_\_\_\_\_

#### Intervention Activities

Facility Name: \_\_\_\_\_ Clinic Name: \_\_\_\_\_

Individual Performing Activity (Name): \_\_\_\_\_

Activities Performed:

Activity Performed, Individual Performing Activity; Targeted Provider Name; Date of Activity; Time Spent (hours)

| <b>Activity Performed</b>                                                                                                                                      | <b>Individual Performing Activity</b> | <b>Targeted Provider Name</b> | <b>Date of Activity (MM/DD/YYYY)</b> | <b>Time Spent (hours)</b> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-------------------------------|--------------------------------------|---------------------------|
| [Drop Down: Academic Detailing (initial); Academic Detailing (follow-up); Audit-Feedback (baseline); Audit-Feedback (follow-up); Other, please explain: _____] | <i>Smith, John</i>                    | <i>Doe, Jane</i>              | <i>01/01/18</i>                      | <i>0.5</i>                |
|                                                                                                                                                                |                                       |                               |                                      |                           |
|                                                                                                                                                                |                                       |                               |                                      |                           |

## Appendix P. Document AD and Intervention Activities

All Program Development Documents for Salesforce documentation can be found on this page:



### VA Academic Detailing Service

#### Start an Academic Detailing Program

**Academic Detailing** is a proven, quality-oriented approach that helps improve clinical decision-making based on the best available safety, efficacy, and cost-effectiveness data. This page provides a step-by-step guide towards developing and implementing a successful program.

**Five Key Steps (click to view):**

- IDENTIFY Program Needs**  
Assessment Consultation
- DESIGN Your Program**  
Audience Goals Structure
- HIRE Your Team**  
Recruitment Strengths
- TRAIN Your Detailers**  
Materials Meetings Workshops
- MEASURE Program Effect**  
Encounters Impact (ROI) Re-Evaluation

**Develop a Successful Academic Detailing Program**

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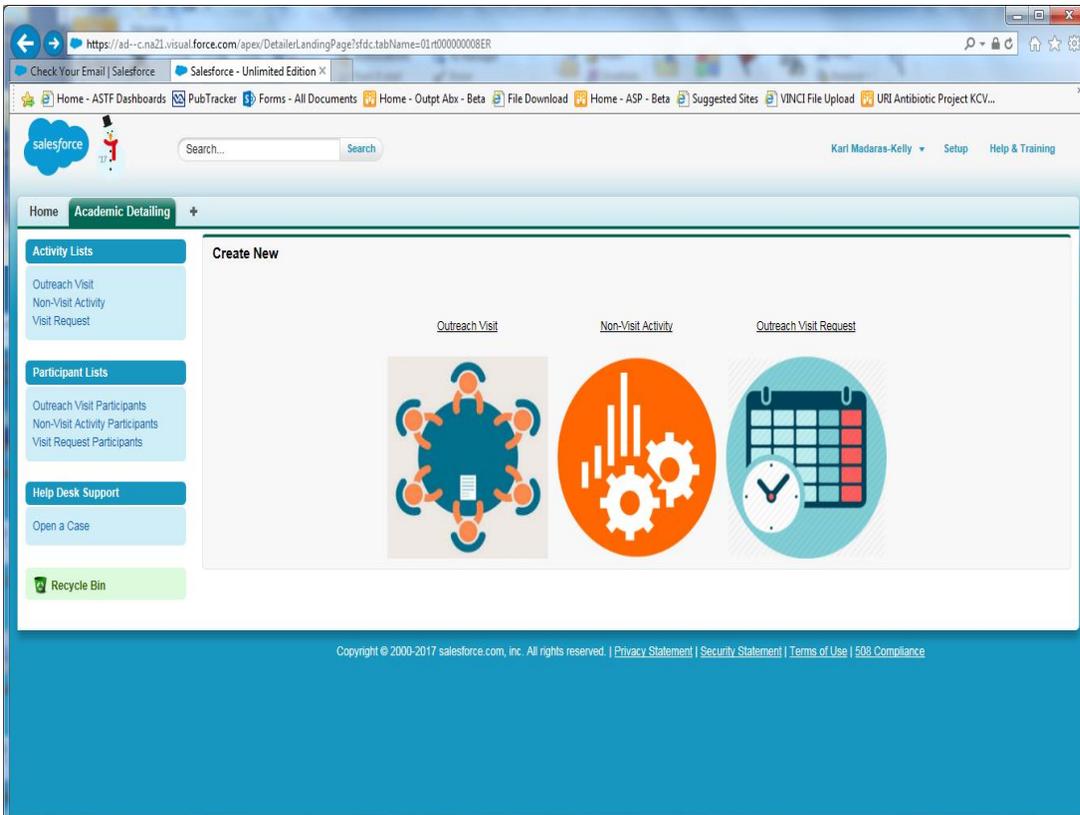
**All Program Development Documents:**

| Type | Name                                        |
|------|---------------------------------------------|
|      | Salesforce Training Slides - Data Entry     |
|      | SalesforceFAQs                              |
|      | Salesforce Technical User Guide             |
|      | Salesforce Training Slides - Mobile App     |
|      | Salesforce Training Slides - Custom Reports |
|      | DocumentingMedicalSOAP                      |



**Apply for Academic Detailing Basic Skills Training**

SalesForces Screenshots:



The screenshot shows the Salesforce Academic Detailing interface. The browser address bar displays the URL: <https://ad--c.na21.visual.force.com/apex/DetailerLandingPage?fdc.tabName=01h000000008ER>. The page features a navigation menu with "Home" and "Academic Detailing". The main content area is titled "Create New" and includes three options: "Outreach Visit", "Non-Visit Activity", and "Outreach Visit Request". Each option is accompanied by a representative icon: a group of people for Outreach Visit, a bar chart with gears for Non-Visit Activity, and a calendar with a clock for Outreach Visit Request. The left sidebar contains sections for "Activity Lists", "Participant Lists", "Help Desk Support", and "Recycle Bin". The footer contains copyright information: "Copyright © 2000-2017 salesforce.com, inc. All rights reserved. | Privacy Statement | Security Statement | Terms of Use | 508 Compliance".

https://ad.my.salesforce.com/a05/e/00N0000000eMsp=20600N0000000eMsn=Karl+Madaras-Kelly

Check Your Email | Salesforce | Non-Visit Activity Edit: New...

Home - ASTF Dashboards | PubTracker | Forms - All Documents | Home - Outpt Abx - Beta | File Download | Home - ASP - Beta | Suggested Sites | VINCI File Upload | URI Antibiotic Project KCV...

Home Academic Detailing

Activity Lists  
 Outreach Visit  
 Non-Visit Activity  
 Visit Request

Participant Lists  
 Outreach Visit Participants  
 Non-Visit Activity Participants  
 Visit Request Participants

Help Desk Support  
 Open a Case

Recycle Bin

Computer Information

### Non-Visit Activity Edit

Save Save & New Cancel

Information ! Required Information

Non-Visit Activity Name:       Detailer - Primary:

Division:       Detailer - VISN:

Date:       Detailers - Additional:

Available: Brenda LaDue, Jane Manning, Jessica Lancaster  
 Chosen:

Entry Date:       Activity Scope:

Time Spent (min):       Emailed:

LegacyID:

Activity Description

Activity Type:       Lost Opportunity Cost (LOC):

If Travel, miles traveled:       Metabolic Monitoring:

If Other, Please Specify:       Modafinil:

Activity Description:

Campaign(s) Affected

Antimicrobial Stewardship:       Participate in Educational Piece Design/Development

Anticoagulation:       Provide Patient Education

AUD:       Provider Education (Follow-Up)

Travel:       Staff Meeting Presentation

Strategic Planning:

Chat

https://ad.my.salesforce.com/a01/e/00N0000000eMj=20600N0000000eMj=Karl+Madaras-Kelly

Check Your Email | Salesforce | Outreach Visit Edit: New Ou...

Home - ASTF Dashboards | PubTracker | Forms - All Documents | Home - Outpt Abx - Beta | File Download | Home - ASP - Beta | Suggested Sites | VINCI File Upload | URI Antibiotic Project KCV...

Home Academic Detailing

Activity Lists  
 Outreach Visit  
 Non-Visit Activity  
 Visit Request

Participant Lists  
 Outreach Visit Participants  
 Non-Visit Activity Participants  
 Visit Request Participants

Help Desk Support  
 Open a Case

Recycle Bin

Computer Information

### Outreach Visit Edit

Save Save & New Cancel

Information ! Required Information

Type:       Detailer - VISN:

Outreach Visit Name:       Detailer - Primary:

Division:       If Primary Detailer - Other:

Intended Campaign (Optional):

Introduction/Relationship:       Detailer - Secondary:

Duration:       Secondary Detailer Communication Mode:

Visit Date:       Detailer - Additional:

Visit Time:       Additional Detailer communication Mode:

Mode of Communication:

Continuing Education (CE):

Insomnia (% of Total encounter duration)

Underlying Causes of Sleep Disturbances:       BZD Risk Questionnaire:

Psych and Behavioral Interventions:       BZD Shared Decision Making Handout:

Low Dose Doxepin:       CBTI Brochure:

Risks of Sedative Hypnotics:

Rec Against Low Dose Antipsychotics:

Insomnia Dashboard:

Insomnia:

OEND - Naloxone (% of Total encounter duration)

Chat

## Appendix Q. Deviation from Questionnaire Documentation

### Deviation from Intervention Methods Identified in Clinic Site Questionnaire

Instructions: Please use this form when you have identified a deviation from the intervention methods you identified for the clinic site in the initial questionnaire. For example, if you initially indicated for Clinic X that you were going to provide audit-feedback reports individually and now you have decided to provide them in a group setting, please fill out this form.

Date (MM/DD/YYYY): \_\_\_\_\_

Facility Location (e.g., Boise VAMC): \_\_\_\_\_

Clinic Location (e.g., Caldwell CBOC): \_\_\_\_\_

For which part of the intervention are you deviating?

- Academic Detailing (initial)     Audit-Feedback (baseline)     Audit-Feedback (follow-up)

How will you be now providing the above noted intervention?

- One-on-One & In Person     One-on-One & Electronically/Remotely  
 Small Group & In Person\*     Small Group & Electronically/Remotely\*

\*Small group sessions are reserved for academic detailing only. Distribution of audit-feedback reports should occur privately.

Who will be providing the above noted intervention? \_\_\_\_\_

For how many providers at the clinic site, was the intended intervention delivery method as indicated on the initial questionnaire used? \_\_\_\_\_

For how many providers at the clinic site, was the modified intervention delivery method as indicated on this deviation form? \_\_\_\_\_

Other information pertinent to the intervention deviation:

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