Antibiogram App

User Manual

VA

U.S. Department of Veterans Affairs

Veterans Health Administration
Office of Connected Care

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User Manual

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Overview

If you are a member of a Department of Veterans (VA) care team, the Antibiogram mobile application (app) provides you with easy access to cumulative antibiograms (antibiotic resistance data pooled for isolates of the same species, collected from in vitro testing) from any VA Medical Center (VAMC). The app shows you data from the VA Corporate Data Warehouse (CDW) that tracks patterns of antibiotic resistance across every VAMC. With this up-to-date information conveniently in your hand, the app helps you make educated choices about which antibiotics you should prescribe for your patients when the pathogen(s) have not yet been isolated or their resistance pattern determined.

The Antibiogram App is a supplementary tool meant to provide you with mobile access to antibiogram data. It should not replace your facility's official Antibiogram.

This app is available for iOS, Android and Windows operating systems on Government Furnished Equipment (GFE) devices. The following User Manual provides a comprehensive, step-by-step guide for using the Antibiogram App. NOTE: This User Manual applies to the web version of the Antibiogram App intended to be used on a computer. The mobile app version differs slightly in layout and functionality.

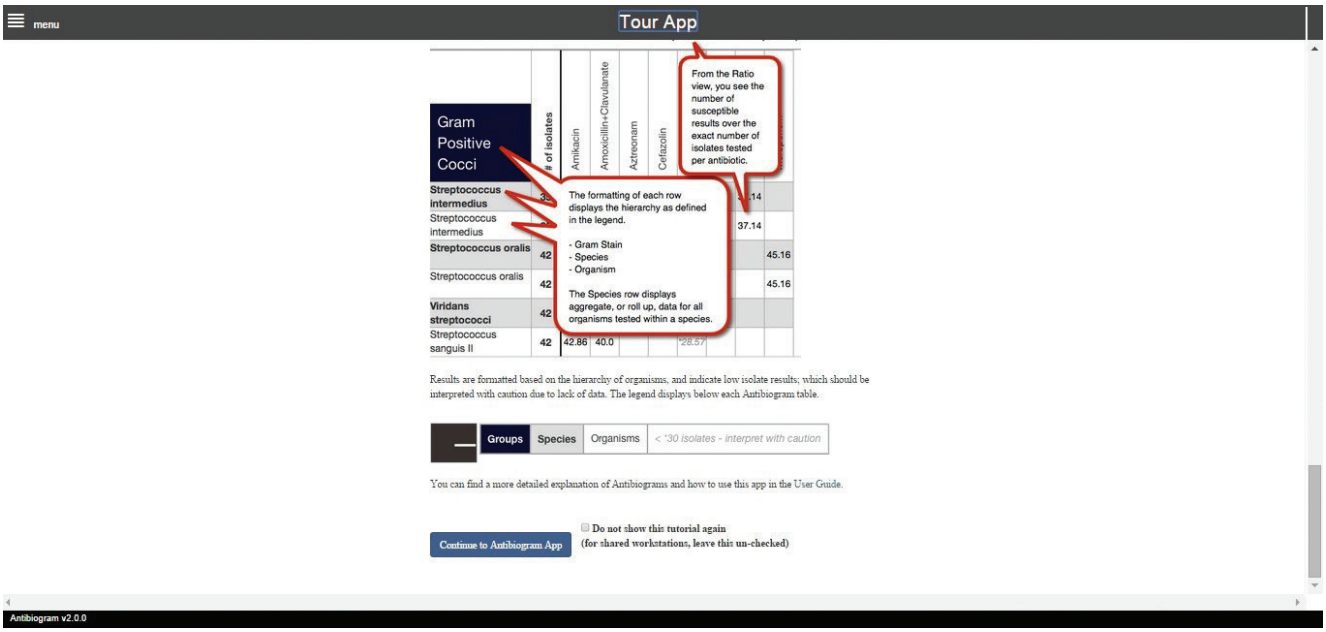
The Basics

Accessing the app

When you first access the Antibiogram App, you will see an End User License Agreement ("EULA") > Read the EULA > Tap **Accept** to proceed to the Antibiogram App. **NOTE:** You can access the Antibiogram App either directly or through the VA Launchpad.

Touring the app

When you first access the app, you will see a Tour App screen that walks you through the basics of how to use the app and how to interpret antibiogram data. Read through the Tour App screen > Tap **Continue to Antibiogram App** at the bottom of the screen to enter the app. If you do not want to see the tutorial the next time you access the app, check the box next to "Do not show this tutorial again." If you are using a shared computer, leave the box unchecked. You can also view additional instructions for using the app and understanding antibiograms by tapping the **User Guide** hyperlink at the bottom of the Tour App screen.



Finding a VAMC (VA Medical Center)

When you first enter the app, you will see the Antibiogram landing screen with a Find a VAMC search box. Begin typing in the name of a VAMC into the search box > A drop-down list of matching VAMCs will appear > Tap on the VAMC whose data you would like to view > Tap **Set Facility**. If you would like data from your selected facility to autopopulate every time you access the app, check the box next to "Make this my default facility." If you would like to search each time, leave this box blank. After you have entered the app, you can always change the VAMC whose antibiogram data you would like to view by tapping **Change Facility** in the upper right corner.

Navigating the app with the menu

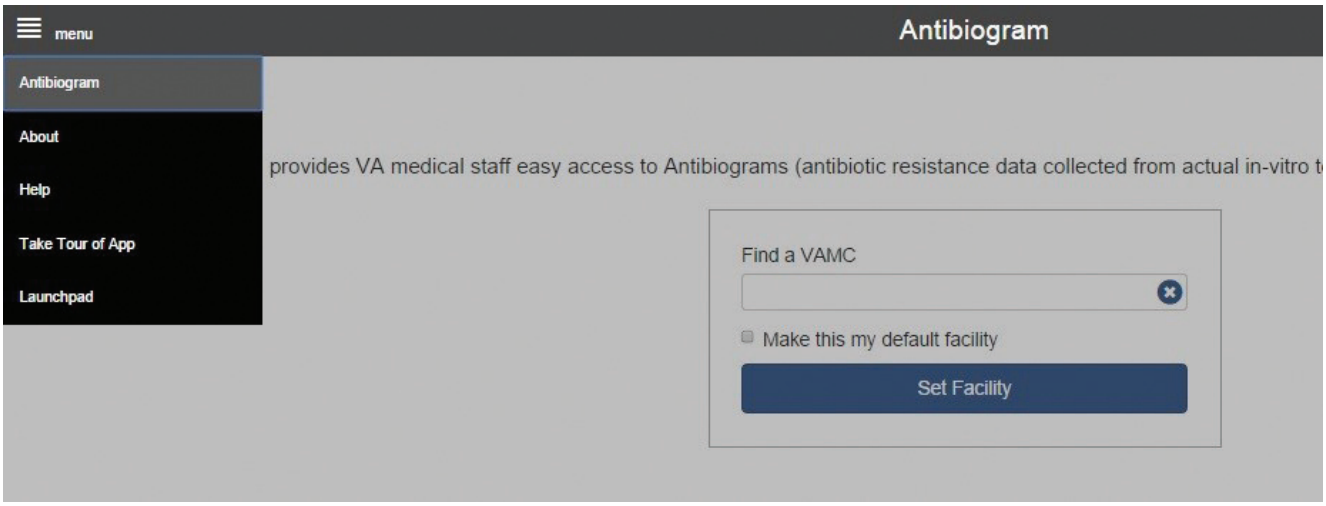
The app menu is available from any screen, allowing you to easily move through the app and access helpful information about how to use the app and interpret antibiogram data. Tap the menu button with the four-line icon in the upper left corner > A drop-down menu will appear > Tap the category you would like to view:

- Antibiogram – search for specific VAMC antibiogram data by Gram Stain, Species or Organism
- About – learn more about the purpose and functionality of the app
- Help – see information on antibiotics and antibiogram data and instructions for interpreting the data
- Take Tour of App – walk through how to use the app and interpret the antibiogram table
- Launchpad – access the VA Launchpad for other VA Apps without needing to log in to each app individually

NOTE: These options will not be available until you view the Tour App screen, and tap **Continue to Antibiogram App**.

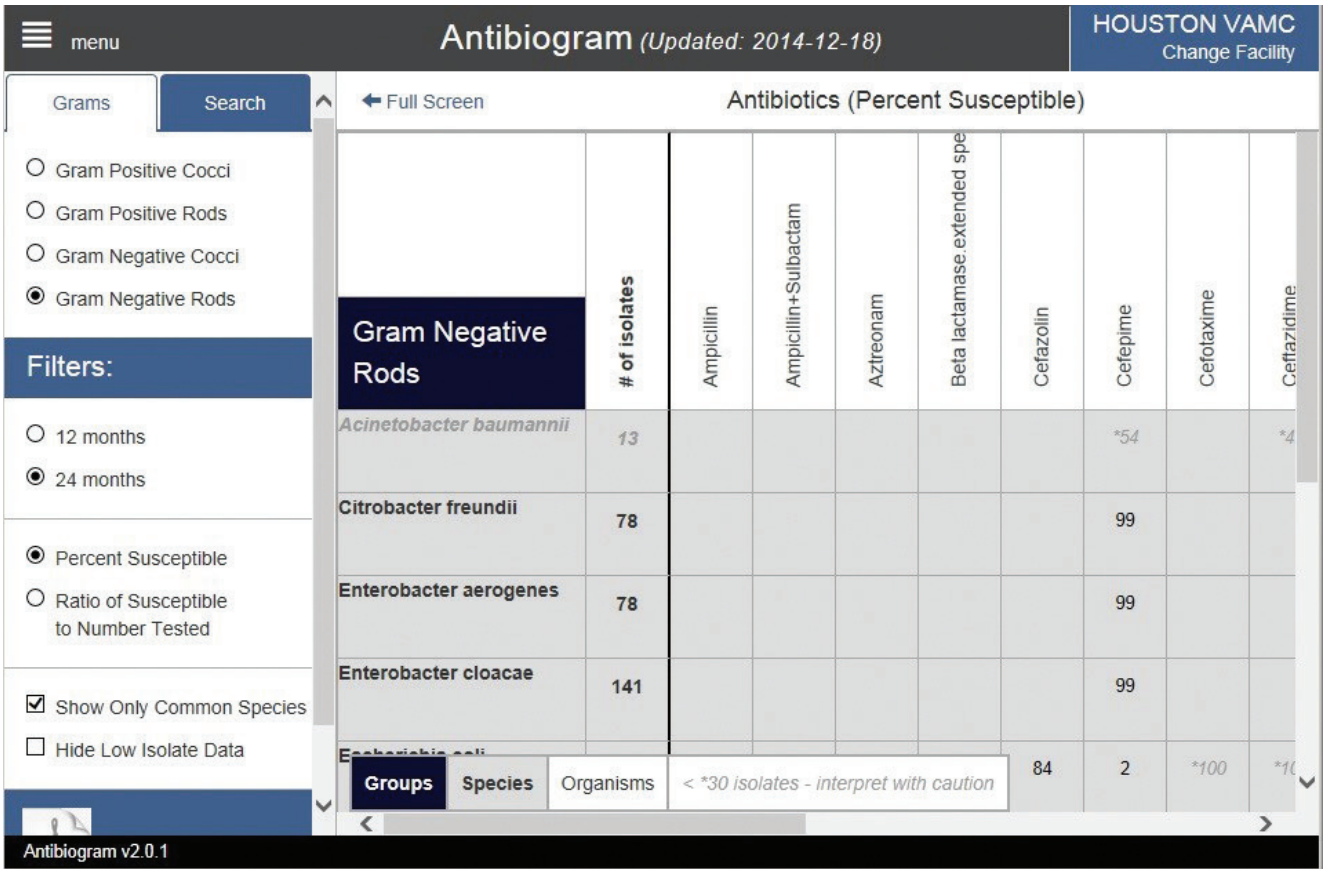
Accessing the VA Launchpad

Through the VA Launchpad, you can access other apps. No matter what information you are currently viewing, you can always access the VA Launchpad by tapping the menu button with the four-line icon in the upper left corner and tapping **Launchpad** from the drop-down menu that appears.



Antibiogram Data

View in-depth antibiogram data for any VAMC arranged as a table.



Getting to know the Antibiogram screen and search function

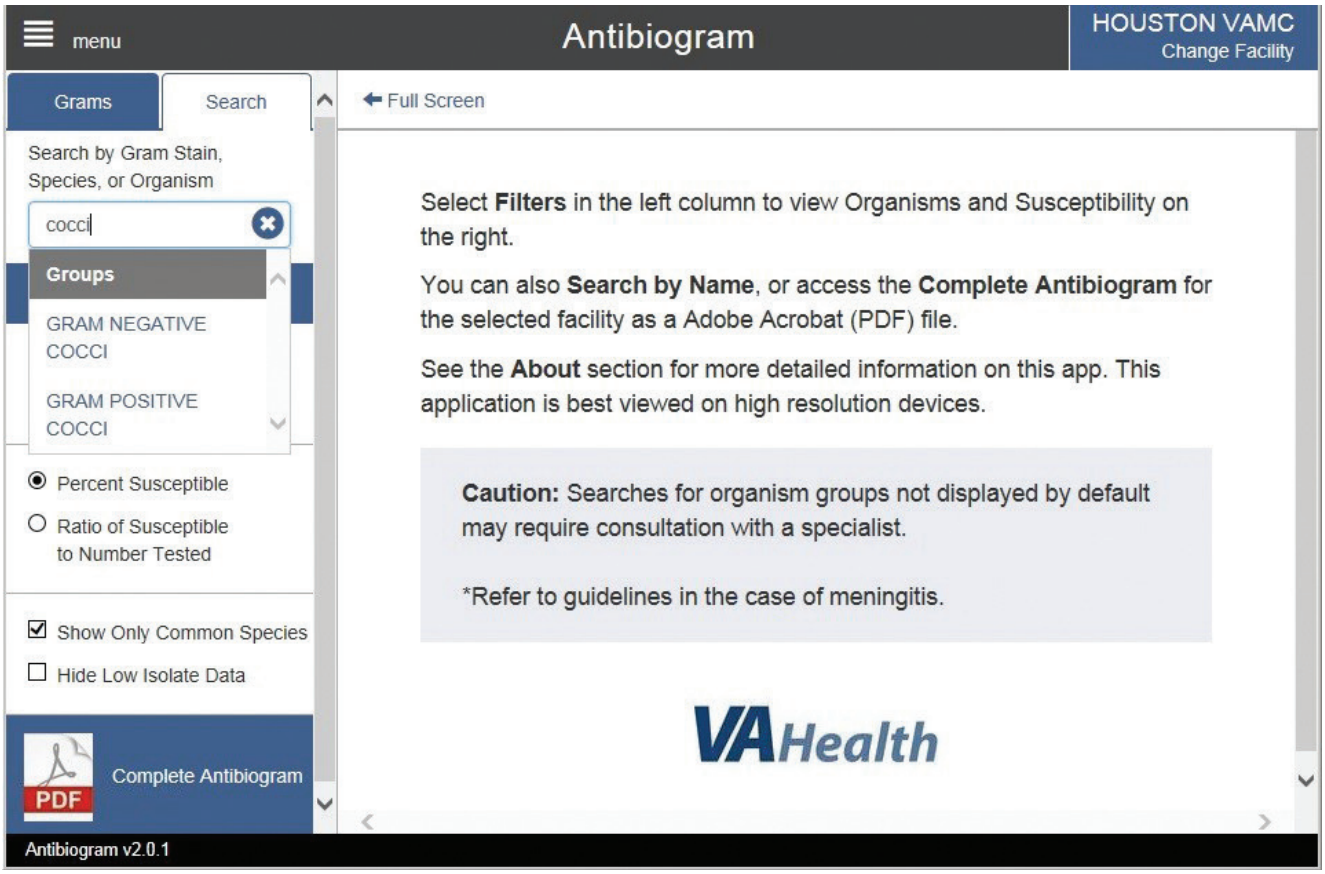
Once you have selected a VAMC, you will be taken to the Antibiogram screen, which is divided into two panes. On the left side of the screen, you will see two tabs: Grams and Search, which allow you to choose how you would like to search for antibiogram data (**NOTE:** "Grams" is an abbreviation for "Gram Stain"). Once you have selected your search criteria on the left, the antibiogram data will appear in a table on the right side of the screen. The antibiogram table will automatically update as you adjust your criteria.

Finding antibiogram data by Gram Stain bucket

The Grams tab (**NOTE:** "Grams" is an abbreviation for "Gram Stain") in the left pane of the Antibiogram screen allows you to search for antibiogram data by Gram Stain (A common microbiology lab stain technique used in conjunction with light microscopy for differentiating bacterial species into two large groups, Gram Positive and Gram Negative.). When you arrive at the Antibiogram screen, the search will default to Grams. Tap on a circle next to either Gram Positive Cocci, Gram Positive Rods, Gram Negative Cocci or Gram Negative Rods > The antibiogram data will appear in a table on the right side of your screen > Adjust the Filters as necessary (see "Filtering antiobiogram results" section for detailed filtering instructions) in the left side of the screen to change how the table of antibiogram data will be displayed.

Finding antibiogram data by Gram Stain, Species or Organism

The Search tab in the left pane of the Antibiogram screen allows you to search directly for a Gram Stain, Species or Organism by name. When you arrive at the Antibiogram screen, the search will default to Grams > Tap the **Search** tab > Begin typing the name of a Gram Stain, Species or Organism > A drop-down list of matching results will appear > Tap the Gram Stain, Species or Organism you would like to view > The antibiogram data will appear in a table on the right side of your screen > Adjust the Filters as necessary (see "Filtering antiobiogram results" section for detailed filtering instructions) in the left side of the screen to change how the table of antibiogram data will be displayed.



Filtering antibiogram results

As you are searching for antibiogram data using either the Grams or Search tabs, you can adjust the filters to further specify the information you would like to see. Filters include:

- To view either 12 or 24 months of data, tap the circle next to your selection.
- To view the table either by Percent Susceptible or Ratio of Susceptible to Number Tested, tap the circle next to your selection.
- To show only common species, check the Show Only Common Species box. To show all species, leave the box unchecked.
- To hide low isolate data (data with less than 30 isolates), check the Hide Low Isolate Data box. To show all data, leave the box unchecked.

The antibiogram data on the right side of your screen will adjust each time you change your search criteria and filters.

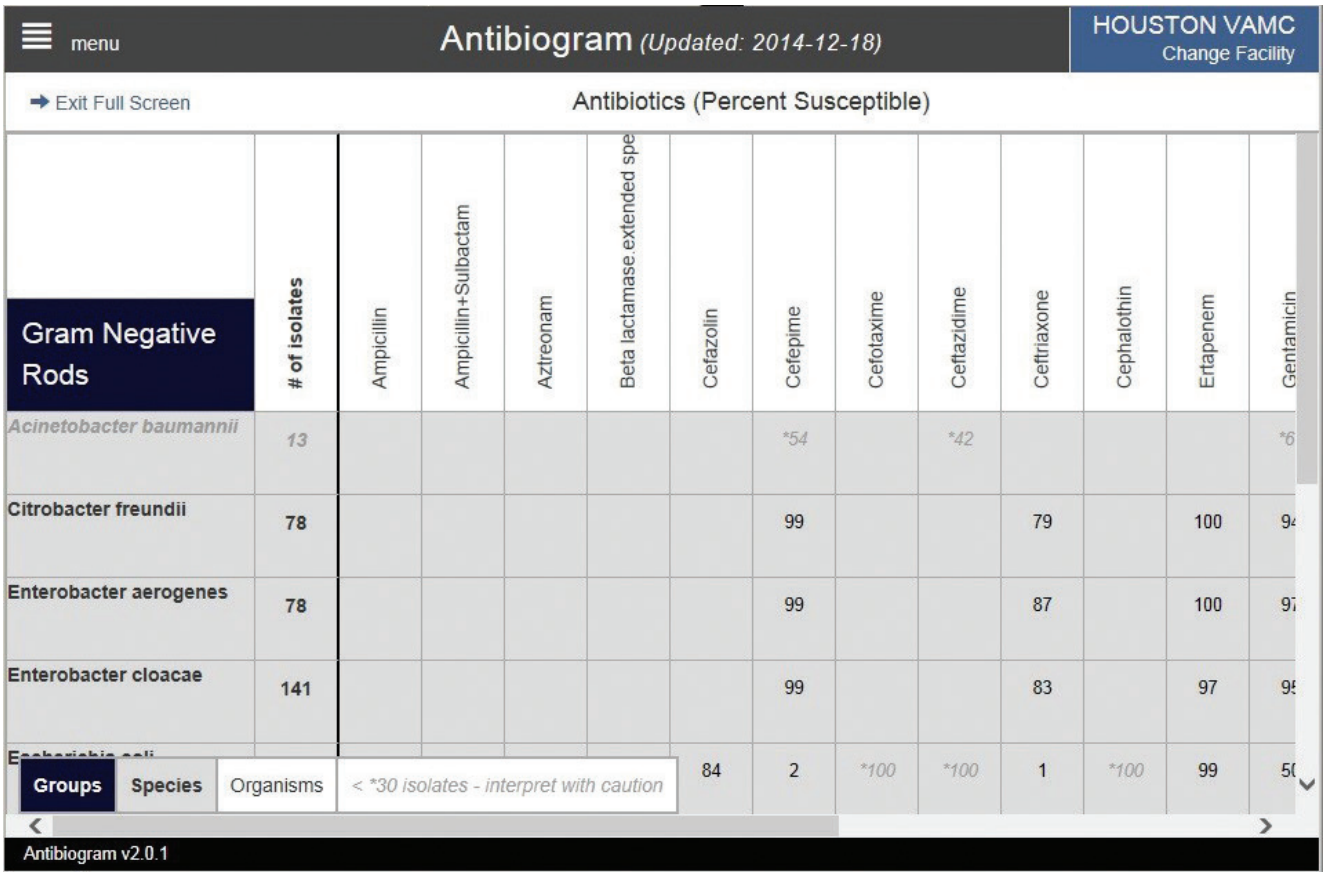
Expanding and reducing the screen's view

You can either view antibiogram data in a full screen, or split the view into two screens: the search criteria in the left pane, and the table of antibiogram data in the right pane.

- If you split the view, changing the search specifications and filters in the left pane will bring up and adjust the antibiogram table of data in the right pane.
- If you view the antibiogram data as a full screen, you will have to go back to the split screen view in order to readjust the search specifications and filters.

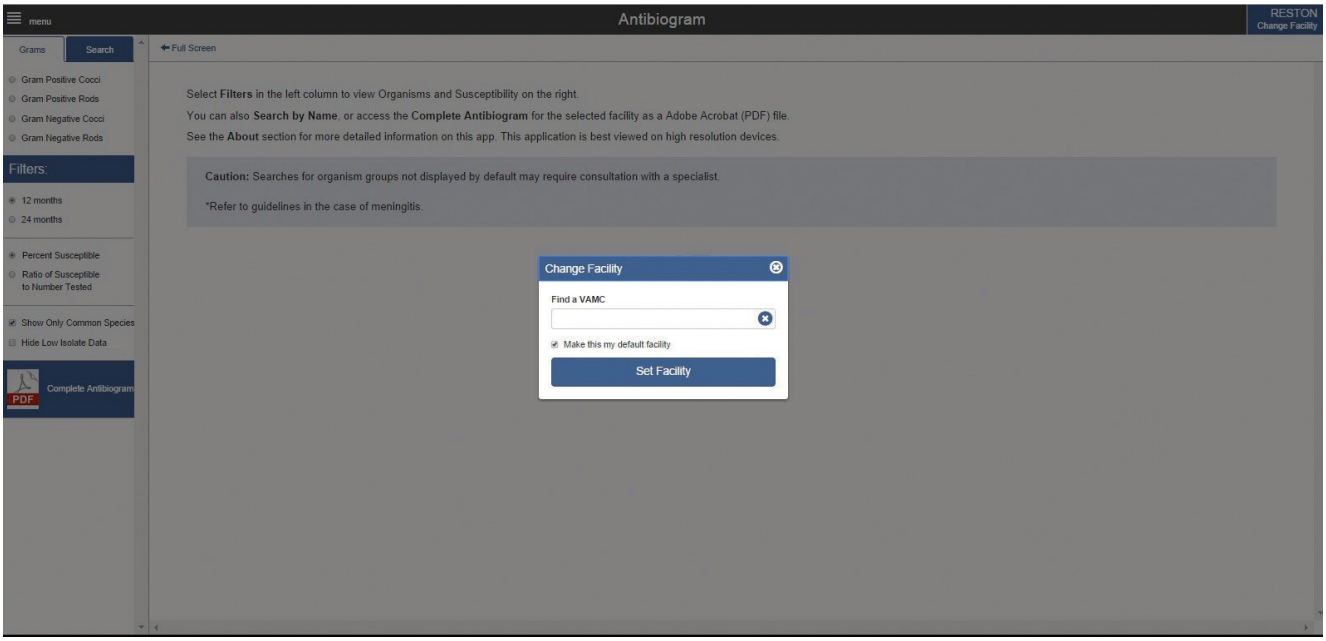
To switch the way you are viewing antibiogram data, tap either ← **Full Screen** or → **Exit Full Screen**.

NOTE: On the smartphone app, you will not have the option of searching by Gram Stain Bucket, and your search results will appear in a different tab.



Viewing antibiogram data from another VAMC

You can view antibiogram data for a different VAMC at any time. Tap **Change Facility** in the upper right corner > A pop-up Change Facility box will appear > Begin typing the name of the VAMC in the search bar under the Find a VAMC heading > A drop-down list of matching VAMCs will appear > If you would like data from your selected facility to autopopulate every time you access the app, check the box next to "Make this my default facility," or if you would like to search each time, leave this box blank. Tap on the name of the VAMC whose antibiogram data you would like to view > Tap **Set Facility** to view results for the VAMC you have selected. To close the pop-up box without selecting a new facility, tap the **X** in the upper right corner.



Downloading complete antibiogram data

You can download a facility's complete antibiogram data as a PDF. Seeing all the information from a VAMC allows you to notice patterns in data and compare the prevalence of susceptibility of bacteria to antibiotics side by side. Tap **Complete Antibiogram** at the bottom of the Grams or Search tab (**NOTE:** "Grams" is an abbreviation for "Gram Stain") > A PDF of the VA facility's antibiogram data will appear in a new tab > If desired, download, save and/or print the PDF as you do most documents. This will differ depending on your web browser and device. Here are a few contributing factors:

- Mobile Device – How you download, save and print a document depends on the device you are using. Consult your device's operating instructions to see where downloads are saved and how to print documents.
- Internet Browser – The appearance of the Antibiogram Report may alter slightly depending on the Internet browser you are using. Go to your browser's website to become familiar with the look and features of your preferred browser.
- Adobe Reader – Viewing your Antibiogram Report as a PDF requires that Adobe Reader is installed on your device. (Adobe Reader is a free, safe software program that reads and allows you to view PDF files.) To download Adobe Reader, go to the Adobe Reader website ***get.adobe.com/reader/*** and select the version that works on your preferred Internet browser.

HOUSTON VAMC Antimicrobial Susceptibility Data for Feb 2013 - Feb 2015

Updated: 2014-12-18

Groups	Species	Organisms	< 30* isolates - interpret with caution

Antibiotics (Percent Susceptible)

GRAM POSITIVE COCCI	# Isolates	AMPICILLIN	CEFOTAXIME	CEFTRIAXONE	CLINDAMYCIN	ERYTHROMYCIN	GENTAMICIN,HIGH POTENCY	LEVOFLOXACIN	LINEZOLID	METHICILLIN	MOXIFLOXACIN	OXACILLIN	PENICILLIN	STREPTOMYCIN,HIGH POTENCY	TETRACYCLINE	TRIMETHOPRIM+SULFAMETHOXAZOLE	VANCOMYCIN
ENTEROCOCCUS FAECALIS	248	97					100	65	100					100	21		
ENTEROCOCCUS FAECIUM	78	7					100		98					100	6		
STAPHYLOCOCCUS AUREUS	1328				73	36		49				43	12		94	97	100
METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS	753				63	12		24		0		0	0		95	98	100
METHICILLIN SUSCEPTIBLE STAPHYLOCOCCUS AUREUS	574				85	67		82				100	28		94	96	100
STREPTOCOCCUS ANGINOSUS	*4**			*100*	*100*	*66*						*100*	*100*				
STREPTOCOCCUS MITIS	*3**				*100*	*100*							*100*				*100*
STREPTOCOCCUS PNEUMONIAE	119		94								100		93				
PENICILLIN RESISTANT STREPTOCOCCUS PNEUMONIAE	*7**												*0*				
STREPTOCOCCUS SALIVARIUS	*1**												*100*				

Help and Additional Information

Interpreting antibiogram data

If you need help interpreting data in the Antibiogram App, there are materials and resources available in the app to help you:

- App Tour and Antibiogram Interpretation – An app tour is available when you first access the Antibiogram App, but you can revisit the tour at any time. Tap the menu button with the four-line icon in the upper left corner > Tap **Take Tour of App** > You will see an overview of the app and how to interpret antibiogram data.
- User Guide – At the bottom of the Tour App screen, tap **User Guide** > An in-depth user guide will open as a PDF in a new tab that provides you with more information about the app and how to read the antibiogram results.
- Help – Tap the menu button with the four-line icon in the upper left corner > Tap **Help** > You will see a screen that provides you with an in-depth explanation of antibiograms.

If you need additional assistance understanding the data available in the app, contact your local Infectious Diseases specialists, who may be your Infectious Diseases Consult Service, Inpatient Clinical Pharmacists or Infection Control. You can ask your facility operator for their contact information.

Additional Training Materials for the Antibiogram App

A built-in user guide is available in the app by tapping **User Guide** from the bottom of the Tour App screen. More resources, such as a Quick Start Guide, Slideshow and FAQs, can be found on ***mobile.va.gov/appstore***, and search for the app to access the resources.

Help Desk Information

If you need assistance with the Antibiogram App, dial **1-844-482-6624** to speak with a VA representative or consult IT support at your VAMC. The Help Desk is open weekdays from 7 a.m. to 7 p.m. CT. For TTY assistance, dial 711.

Emergencies

If you feel that your information may have been compromised, contact your local VA facility to obtain the contact information for your Privacy Officer. To locate your local VA facility, visit VA's Facility Locator: ***http://www.va.gov/directory/guide/home.asp?isflash=1***. Note that you should never use this app in an emergency situation. If you encounter an emergency, call your local medical center or dial 911.

Appendices

Appendix #1: Project References

The Antibiogram App is part of a suite of apps currently being field tested through the VA Mobile Health Provider Program; participants include clinicians at up to 18 VAMCs. Visit ***mobile.va.gov/providers*** for additional information. The app was developed according to an approved concept paper. The app was tested in a demo environment to ensure optimal functionality.

Appendix #2: Glossary

App – An application, or software program, that can be accessed through a website or mobile device and is designed to fulfill a particular purpose.

Computerized Patient Record System (CPRS) – Electronic medical record applications and databases that provide a complete overview of patient's medical records.

Corporate Data Warehouse (VHA CDW) – A national repository of data from VistA and several other VHA clinical and administrative systems, physically located at the Austin Information Technology Center.

Electronic Health Record (EHR) – A digital record of a patient's treatment plan and health care interactions with his or her providers.

Gram Positive – Bacteria that stain positive by Gram Stain test (i.e., appear purple by light microscopy), due to the retention of crystal violet in the stain. Common Gram-Positive bacteria include Staphylococcus, Streptococcus and Enterococcus.

Gram Negative – Bacteria that stain negative by Gram Stain test (i.e., appear red or pink by light microscopy), due to the inability to retain crystal violet in the Gram Stain. Common Gram-Negative bacteria include E. coli, Klebsiella species and Pseudomonas species.

Gram Stain – A common microbiology lab stain technique used in conjunction with light microscopy for differentiating bacterial species into two large groups, Gram Positive and Gram Negative, through the thickness of their peptidoglycan walls. Some antibiotics predictably have activity that is associated with the result of the Gram Stain.

Government Furnished Equipment (GFE) – Secure equipment, such as mobile devices, that is obtained by and belongs to the government (VA), and is made available to contractors and employees who have undergone background checks and information security trainings.

Isolate –A bacteria/organism, typically from a clinical specimen, that has been identified.

Isolates – Number of isolates of a particular bacterium, grown from culture, that have been tested for antibiotic susceptibilities and are unique to a patient over a one year period.

PDF – A file format that provides an electronic image of text and/or graphics that looks like a printed document and cannot be edited, but can be viewed, printed and electronically transmitted.

Percent Susceptible – The proportion of isolates of a specific bacteria that the local laboratory found to be susceptible in vitro to a given antibiotic.

Ratio of Number Susceptible to Number Tested – The number of susceptible isolates over the total number of tested isolates for a given bacteria and antibiotic treatment in a given facility.

VAMC – VA Medical Center

VA Mobile Health – An initiative that aims to improve the health of Veterans by providing technologies that will expand care beyond the traditional office visit and includes the creation of secure mobile apps that will leverage the popularity of wireless technologies to support Veterans, Caregivers and VA care teams. [More at: mobile.va.gov]

Vaccine Information Statement (VIS) – Information issues by the Centers for Disease Control and Prevention (CDC) about a given vaccine's risks and benefits. Providers are required to provide patients with a VIS when administering a vaccine.

VHA – Veterans Health Administration

Veterans Health Information Systems and Technology Architecture (VistA) – VA's CPRS