

NHSN AU Bar Chart- All Data- Selected Agent Distribution by Month

Description

A bar chart is a graphical representation of data where the length or height of the bars represents counts of records meeting the criteria. Bar charts can only be produced as HTML output; therefore, the results will appear in a pop-up window in your browser. This report includes a display of antimicrobial use data by month and selected agent distribution by location.

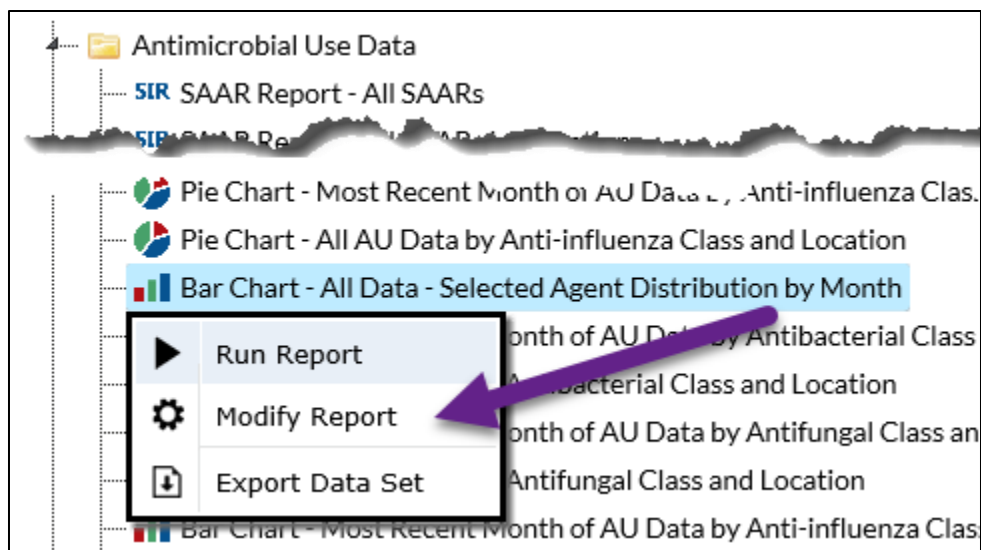
For a more basic explanation of the NHSN modification screen, refer to this document:

<https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/howtomodifyreport.pdf>.

Example

You would like to create a bar chart to graphically display the antimicrobials that are used for the broad-spectrum agents predominately used for the hospital-onset/multi-drug resistant infection Standardized Antimicrobial Administration Ratio (SAAR) to see their usage by location and month in a stacked vertical chart. You would like to see vertical bars representing each month in 2016 specifically for the MEDWARD location.

After generating datasets, to run a bar chart report, click Analysis > Reports > Antimicrobial Use and Resistance Module > Antimicrobial Use Data > Bar Chart – All Data – Selected Agent Distribution by Month. After selecting this bar chart, a pop-up box will appear that will allow you to “Run Report,” “Modify Report,” and “Export Data Set.” Select “Modify Report” to customize your report.



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Modifying the Report

When you choose to modify the report, the modification screen appears showing multiple tabs containing available modifications for the given report. The “Title/Format” tab allows you to update the report title.

To filter the data by time period, choose the “Time Period” tab at the top of the page. In this example, we have limited the report to 2016 (Summary~Yr).

The “Filters” tab allows you to further filter the data that will be displayed in the report. For our example, we want to filter the report to only show data for drugs in the broad-spectrum agents predominately used for hospital-onset/multi-drug resistant infection SAAR category in a select location (MEDWARD). By default, this bar chart automatically populates the filter for drugs used in the broad-spectrum agents predominately used for hospital-onset/multi-drug resistant infections SAAR. Next, select “Add Rule” and then select the variable “Location” from the drop-down menu, set the operator to “equal” then select the value “MEDWARD - MEDICAL WARD - AU”.

The screenshot shows the 'Modify "Bar Chart - All Data - Selected Agent Distribution by Month"' interface. It has four tabs: 'Title/Format', 'Time Period', 'Filters', and 'Display Options'. The 'Filters' tab is active. At the top, there are options for 'AND' and 'OR' logic, and a green 'Add group' button. Below this, another 'AND/OR' section contains a green 'Add rule' button. The main filter area shows two rules. The first rule is for 'Antimicrobial Agent' with an 'in' operator. A list of 15 antimicrobial agents is displayed in two columns, each with a dropdown arrow and a 'Delete' button. A purple arrow points to the 'Delete' button for 'TIG - Tigecycline'. The second rule is for 'Location' with an 'equal' operator, and the value 'MEDWARD - MEDICAL WARD - AU' is selected. At the bottom, there are buttons for 'Run', 'Save...', 'Export...', and 'Close'.

Antimicrobial Agent	Operator	Value
AMK - Amikacin	in	MEDWARD - MEDICAL WARD - AU
CEFEP - Cefepime		
CEFTAVI - Ceftazidime/Avibactam		
COLIST - Colistimethate		
GENTA - Gentamicin		
MERO - Meropenem		
PIPERWT - Piperacillin with Tazobactam		
TICARWC - Ticarcillin with Clavulanate		
TOBRA - Tobramycin		
AZT - Aztreonam		
CEFTAZ - Ceftazidime		
CEFTOTAZ - Ceftolozane/Tazobactam		
DORI - Doripenem		
IMIPWC - Imipenem with Cilastatin		
PIPER - Piperacillin		
PB - Polymyxin B		
TIG - Tigecycline		

Tip: For including more than one item in each filter such as multiple antimicrobial categories or multiple location types, the “in” operator can be used as shown in the “Antimicrobial Agent” filter above instead of the “equal” operator. To limit antimicrobial agents to those used to calculate a specific SAAR, select them according to Appendix D – Antimicrobial groupings for SAAR calculations in the [AUR Protocol](#).

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The “Display Options” tab allows you to display the chart variable, stratification variable, the page-by variable, and the numeric variable to be charted for the entire time period selected.

- The “Chart Variable” is the variable being graphed on the bar chart (i.e., the x-axis); in this case, the variable is “Summary Year/Month”.
- Different colored bars will be “stacked” on each bar to represent the different values of the “Stratification Variable” if a stratification variable is chosen; in this case the stratification variable is drugDescription.
- Separate bar charts will be created for each value of the “Page by” variable.
- The y-axis “Select Numeric Variable to Chart,” “RateDaysPresent” in this example, will determine the length or height of the bars.
- You can select 2D or 3D bars, placed either horizontally or vertically on the chart.
- You can also decide to place descriptive statistics (for example, percent and count) either inside or outside the bars. We recommend placing the value or percent inside of the bar chart for readability of the chart as a whole.

Modify "Bar Chart - All Data - Selected Agent Distribution by Month"

Show descriptive variable names ([Print List](#)) Analysis Data Set: SummaryAU Type: Bar Chart Summary Data Set Generated On: 11/15/2017 11:51:0

Title/Format	Time Period	Filters	Display Options
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Bar Chart Options

Chart Variable	Stratification Variable	Page by	Select Numeric Variable to Chart
Summary Year/Month	drugDescription	NHSN Facility ID - Location	RateDaysPresent
Orientation of Bars:	2D Vertical		
Placement of the Percent:	None		
Placement of the Value:	Inside		

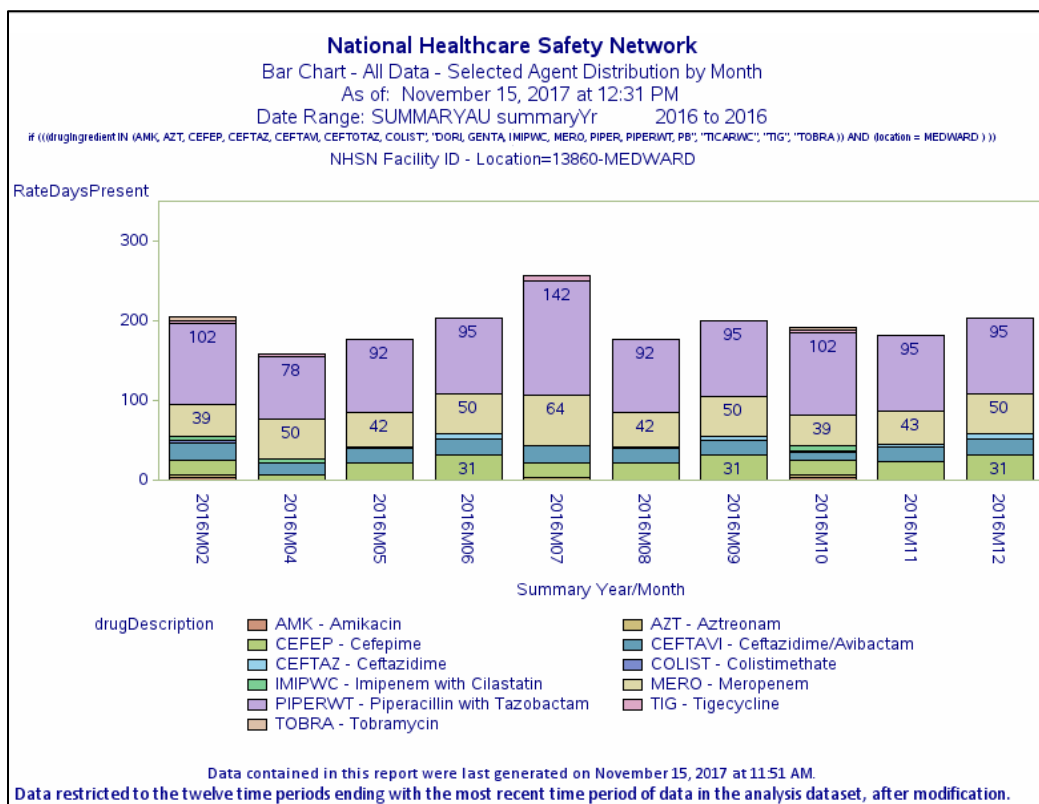
Tip: For more descriptive variable labels on your report, check the box “Show descriptive variable names” that appears near the top of the modification window (recommended).

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Final Report

The example bar chart below is the result of the modifications shown in this document. This example displays broad spectrum agents predominately used for hospital-onset/multi-drug resistant infection distribution by location and month for a 12-month window of time.

- The x-axis selected is month (of the year 2016 in this example). One bar is displayed for each month.
 - This bar chart will not display months without AU data. You will notice on this bar chart that months 1 (January) and 3 (March) are missing. This is because AU data were not uploaded for those months for this location.
- The y-axis (RateDaysPresent) is the antimicrobial use rate for each drug and is represented by the height of the bars.
- The taller the bar, the greater the antimicrobial rate of use for the selected drug(s) in that month. In this example, in the MEDWARD, the overall use of the broad-spectrum agents predominately used for hospital-onset/multi-drug resistant infection SAAR in April was less than the use in this location in June of 2016.
 - Also, you can see specific drug use per month by color. The meropenem rate was the highest in this location in July 2016 at 64 antimicrobial days per 1,000 days present. The meropenem rate was the lowest in February and October 2016 at 39 antimicrobial days per 1,000 days present.
 - This bar chart will not display drugs that were not used. It will only list drugs that were administered. If a drug is not in the drugDescription legend, it was not administered in that location and time period.



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Additional Resources

Introduction to NHSN Analysis: <https://www.cdc.gov/nhsn/pdfs/training/2016/analysis-data-quality-parikh.pdf>

How to Export Data from NHSN: <http://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/exportdata.pdf>

AUR Module Protocol: <http://www.cdc.gov/nhsn/pdfs/pscmanual/11pscaurcurrent.pdf>

Surveillance for Antimicrobial Use Option: <http://www.cdc.gov/nhsn/acute-care-hospital/aur/>

