Percent of Patient Admissions receiving a Specific Antimicrobial

Description: These instructions will demonstrate how to calculate the percent of total admissions receiving a particular antimicrobial. These instructions will build on information using the Quick Reference Guides for **Antimicrobial Use Line List**

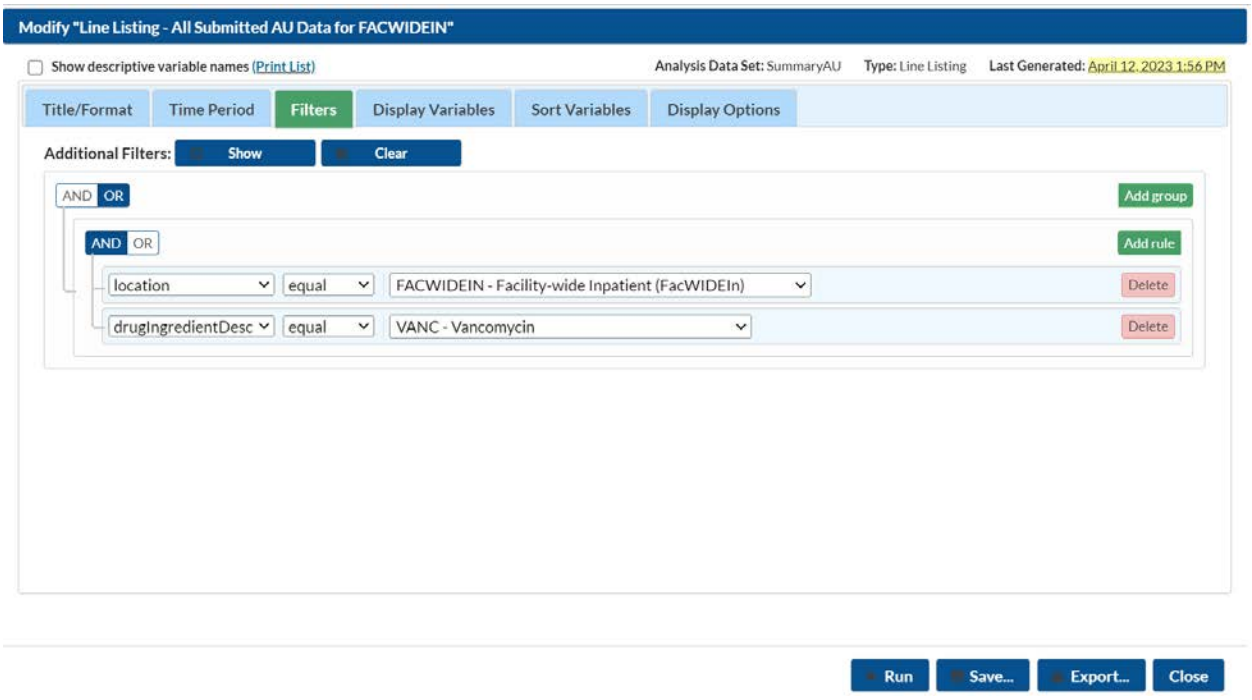
% Patient Admissions receiving Specific Antimicrobial = $\frac{\text{Specific Antimicrobial admissions}}{\text{Total Admissions}}$

BEFORE YOU GET STARTED: Calculating the percentage of admissions who received the specific antimicrobial will require you to acquire your own data (i.e., NOT from NSHN) on the number of admissions per month receiving the antimicrobial of interest. This can be done by working with your local data and/or informatics analyst.

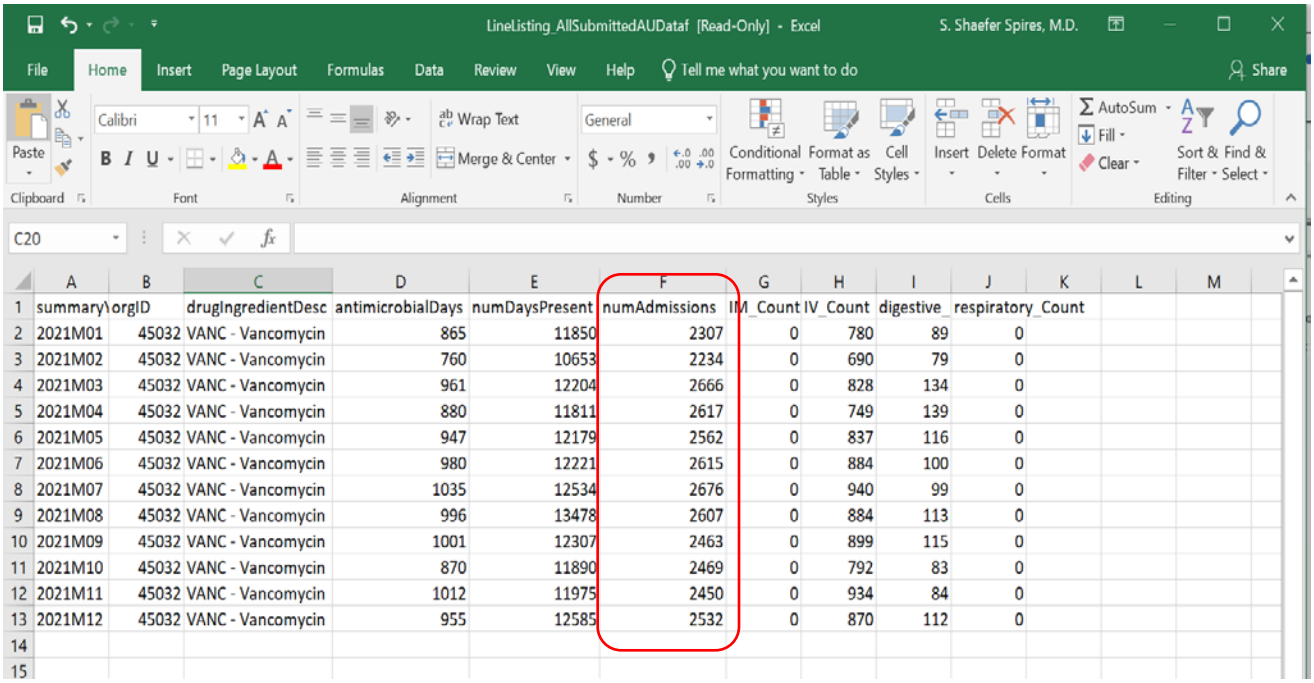
For this example, you will be determining the percent of patient admissions to your facility who received IV vancomycin. You would like the data on a monthly basis for all of calendar year 2021.

Manipulating the Data

1. Finding the denominator for this calculation, or finding the total monthly admission can be obtained through NHSN. Follow the steps through the Quick Reference Guide for **AU-ORG-LineList** to export your data into Excel. Below is an example of how you can set your Filters before exporting.



2. Once exported into Excel, the data should look something like the following:



	A	B	C	D	E	F	G	H	I	J	K	L	M
1	summary\orgID		drugIngredientDesc	antimicrobialDays	numDaysPresent	numAdmissions	IM_Count	IV_Count	digestive_	respiratory_Count			
2	2021M01	45032	VANC - Vancomycin	865	11850	2307	0	780	89	0			
3	2021M02	45032	VANC - Vancomycin	760	10653	2234	0	690	79	0			
4	2021M03	45032	VANC - Vancomycin	961	12204	2666	0	828	134	0			
5	2021M04	45032	VANC - Vancomycin	880	11811	2617	0	749	139	0			
6	2021M05	45032	VANC - Vancomycin	947	12179	2562	0	837	116	0			
7	2021M06	45032	VANC - Vancomycin	980	12221	2615	0	884	100	0			
8	2021M07	45032	VANC - Vancomycin	1035	12534	2676	0	940	99	0			
9	2021M08	45032	VANC - Vancomycin	996	13478	2607	0	884	113	0			
10	2021M09	45032	VANC - Vancomycin	1001	12307	2463	0	899	115	0			
11	2021M10	45032	VANC - Vancomycin	870	11890	2469	0	792	83	0			
12	2021M11	45032	VANC - Vancomycin	1012	11975	2450	0	934	84	0			
13	2021M12	45032	VANC - Vancomycin	955	12585	2532	0	870	112	0			
14													
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3. The numerator for this metric to calculate the percent of total admissions receiving vancomycin IV, will be outside of what NHSN can currently provide. The specific measurement you will need is the total number of admissions per month receiving the antimicrobial of interest. For the purpose of this demonstration, these data have been added to the Excel document below in column K.
    a. Please note, the number of admissions in this calculation is not the total number of admissions for each month, but only the number of admissions that ultimately received at least one dose of the antimicrobial of interest, e.g. vancomycin IV.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	summary\orgID		drugIngredientDesc	antimicrobialDays	numDaysPresent	numAdmissions	IM_Count	IV_Count	digestive_	respiratory_Count	# of adm rec vanc IV		
2	2021M01	45032	VANC - Vancomycin	865	11850	2307	0	780	89	0	547		
3	2021M02	45032	VANC - Vancomycin	760	10653	2234	0	690	79	0	345		
4	2021M03	45032	VANC - Vancomycin	961	12204	2666	0	828	134	0	589		
5	2021M04	45032	VANC - Vancomycin	880	11811	2617	0	749	139	0	418		
6	2021M05	45032	VANC - Vancomycin	947	12179	2562	0	837	116	0	305		
7	2021M06	45032	VANC - Vancomycin	980	12221	2615	0	884	100	0	278		
8	2021M07	45032	VANC - Vancomycin	1035	12534	2676	0	940	99	0	349		
9	2021M08	45032	VANC - Vancomycin	996	13478	2607	0	884	113	0	492		
10	2021M09	45032	VANC - Vancomycin	1001	12307	2463	0	899	115	0	370		
11	2021M10	45032	VANC - Vancomycin	870	11890	2469	0	792	83	0	295		
12	2021M11	45032	VANC - Vancomycin	1012	11975	2450	0	934	84	0	328		
13	2021M12	45032	VANC - Vancomycin	955	12585	2532	0	870	112	0	459		
14													

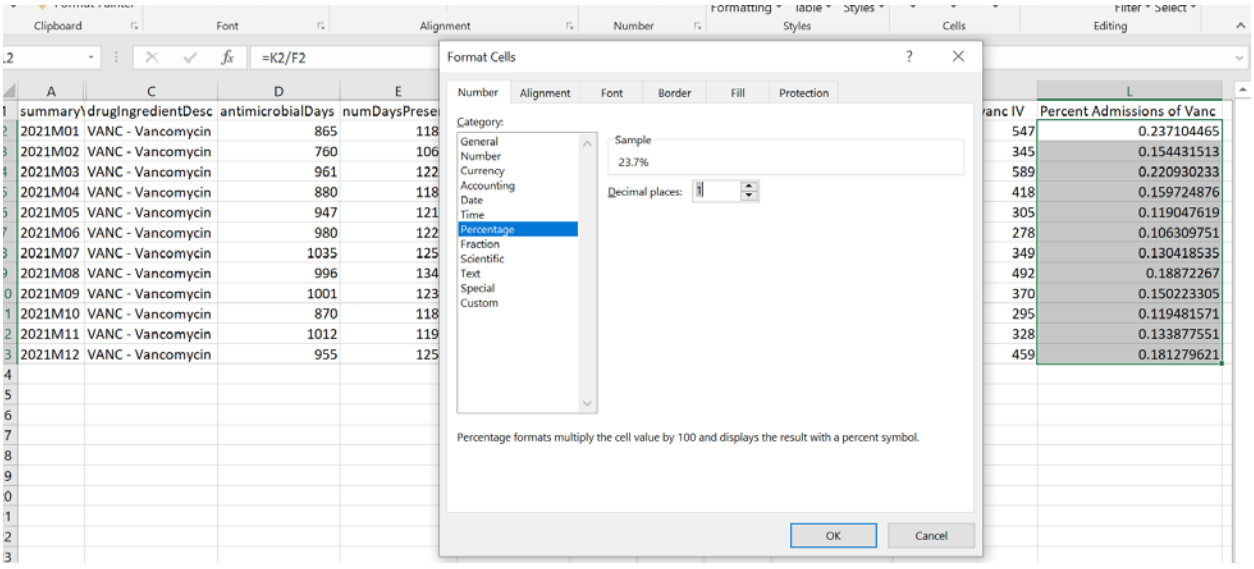
4. Then, in the next column L, add the new header “Percent admission of Vanc” or something to indicate to you the calculation being made.
5. Enter an equation to find the percent vancomycin admissions.: Type the equal sign “=” to start the equation in box L2. You may either type or click the corresponding cell under Column K, then enter a forward slash “/” and then either type or click the corresponding cell under Column F. See the example below. Then hit enter in that cell.

	A	C	D	E	F	G	H	I	J	K	L
1	summary\	drugIngredientDesc	antimicrobialDays	numDaysPresent	numAdmissions	IM_Count	IV_Count	digestive_	respiratory_Count	# of adm rec vanc IV	Percent Admissions of Vanc
2	2021M01	VANC - Vancomycin	865	11850	2307	0	780	89	0	547	=K2/F2
3	2021M02	VANC - Vancomycin	760	10653	2234	0	690	79	0	345	
4	2021M03	VANC - Vancomycin	961	12204	2666	0	828	134	0	589	
5	2021M04	VANC - Vancomycin	880	11811	2617	0	749	139	0	418	
6	2021M05	VANC - Vancomycin	947	12179	2562	0	837	116	0	305	
7	2021M06	VANC - Vancomycin	980	12221	2615	0	884	100	0	278	
8	2021M07	VANC - Vancomycin	1035	12534	2676	0	940	99	0	349	
9	2021M08	VANC - Vancomycin	996	13478	2607	0	884	113	0	492	
10	2021M09	VANC - Vancomycin	1001	12307	2463	0	899	115	0	370	
11	2021M10	VANC - Vancomycin	870	11890	2469	0	792	83	0	295	
12	2021M11	VANC - Vancomycin	1012	11975	2450	0	934	84	0	328	
13	2021M12	VANC - Vancomycin	955	12585	2532	0	870	112	0	459	
14											

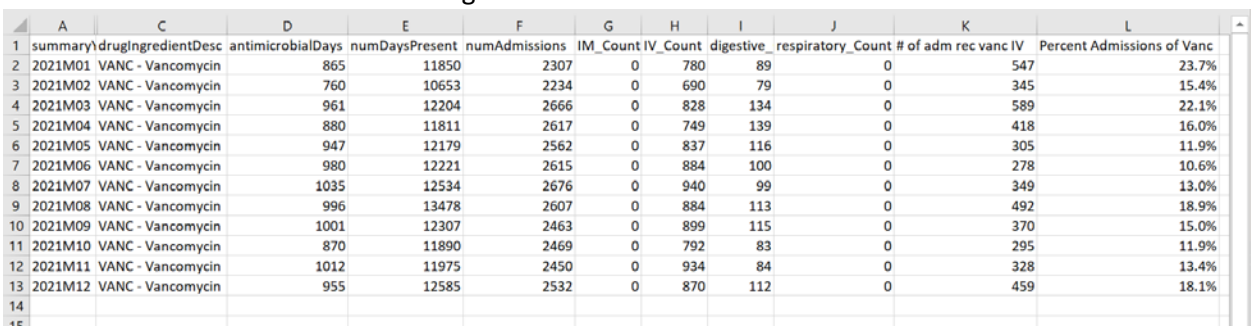
6. To repeat this calculation for the remaining months, simply click, hold, and drag the bottom right corner of the cell containing the calculation, as below.

	A	C	D	E	F	G	H	I	J	K	L
1	summary\	drugIngredientDesc	antimicrobialDays	numDaysPresent	numAdmissions	IM_Count	IV_Count	digestive_	respiratory_Count	# of adm rec vanc IV	Percent Admissions of Vanc
2	2021M01	VANC - Vancomycin	865	11850	2307	0	780	89	0	547	0.237104465
3	2021M02	VANC - Vancomycin	760	10653	2234	0	690	79	0	345	0.154431513
4	2021M03	VANC - Vancomycin	961	12204	2666	0	828	134	0	589	0.220930233
5	2021M04	VANC - Vancomycin	880	11811	2617	0	749	139	0	418	0.159724876
6	2021M05	VANC - Vancomycin	947	12179	2562	0	837	116	0	305	0.119047619
7	2021M06	VANC - Vancomycin	980	12221	2615	0	884	100	0	278	0.106309751
8	2021M07	VANC - Vancomycin	1035	12534	2676	0	940	99	0	349	0.130418535
9	2021M08	VANC - Vancomycin	996	13478	2607	0	884	113	0	492	0.18872267
10	2021M09	VANC - Vancomycin	1001	12307	2463	0	899	115	0	370	0.150223305
11	2021M10	VANC - Vancomycin	870	11890	2469	0	792	83	0	295	0.119481571
12	2021M11	VANC - Vancomycin	1012	11975	2450	0	934	84	0	328	0.133877551
13	2021M12	VANC - Vancomycin	955	12585	2532	0	870	112	0	459	0.181279621
14											

7. Then to convert these numbers into Percentages, highlight the cells L2 through L13. Then right click and choose “Format Cells…” and click “Percentage” the number category as shown. Then choose the number decimal places interested in displaying and click “OK”



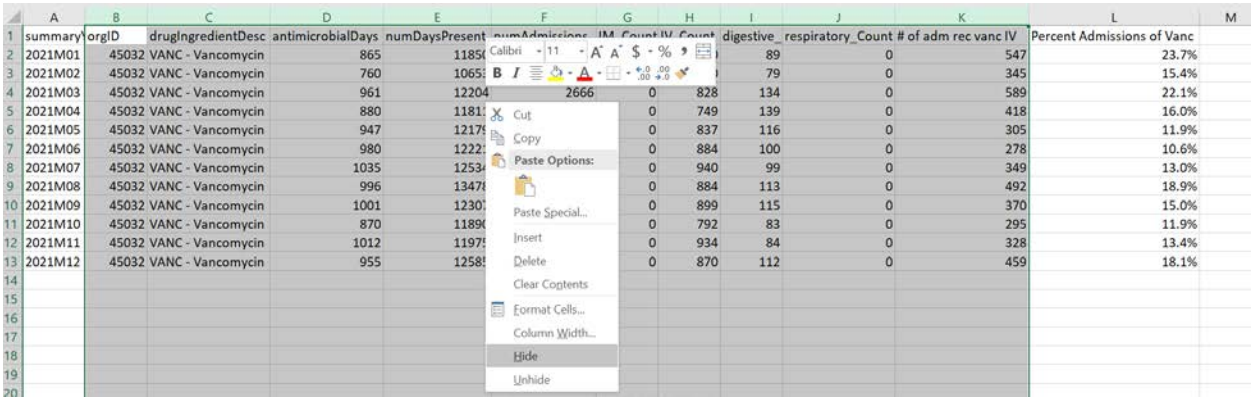
Final Excel sheet should look something like below:



	A	C	D	E	F	G	H	I	J	K	L
1	summary\	drugIngredientDesc	antimicrobialDays	numDaysPresent	numAdmissions	IM_Count	IV_Count	digestive_	respiratory_Count	# of adm rec vanc IV	Percent Admissions of Vanc
2	2021M01	VANC - Vancomycin	865	11850	2307	0	780	89	0	547	23.7%
3	2021M02	VANC - Vancomycin	760	10653	2234	0	690	79	0	345	15.4%
4	2021M03	VANC - Vancomycin	961	12204	2666	0	828	134	0	589	22.1%
5	2021M04	VANC - Vancomycin	880	11811	2617	0	749	139	0	418	16.0%
6	2021M05	VANC - Vancomycin	947	12179	2562	0	837	116	0	305	11.9%
7	2021M06	VANC - Vancomycin	980	12221	2615	0	884	100	0	278	10.6%
8	2021M07	VANC - Vancomycin	1035	12534	2676	0	940	99	0	349	13.0%
9	2021M08	VANC - Vancomycin	996	13478	2607	0	884	113	0	492	18.9%
10	2021M09	VANC - Vancomycin	1001	12307	2463	0	899	115	0	370	15.0%
11	2021M10	VANC - Vancomycin	870	11890	2469	0	792	83	0	295	11.9%
12	2021M11	VANC - Vancomycin	1012	11975	2450	0	934	84	0	328	13.4%
13	2021M12	VANC - Vancomycin	955	12585	2532	0	870	112	0	459	18.1%
14											

Data Visualization

8. To begin work on visualizing these data, start by Hiding columns you are not planning to display. Highlight whole columns B through K by clicking and dragging across the top row with the letter labels. Then right click and click on “Hide”



9. Highlight the remaining cells with data in them, go to Insert tab and click on the bar graphs and then click on the first 2-D Column graph, as below. This will provide a time series chart of the Percent of total admissions receiving vancomycin IV