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Confirmed COVID-19 Admit and Discharge Trends

By CRISP, last updated 6/19/2020

Table of Contents

Confirmed COVID-19 Admit and Discharge Trends Dashboard

Background

The Confirmed COVID-19 Admit and Discharge Trends Dashboard allows users to understand COVID-19 hospitalizations trends for Maryland. Users can view admission and discharge trends for COVID-19 positive patients in Maryland along with the length of stay. Users also have the option to view 14 day hospitalization trends in order to understand current trends in COVID-19 hospitalizations. The report also presents a breakdown of patient demographics to better understand the population hospitalized due to COVID.

Data Source

This report displays inpatient admissions and discharges for confirmed COVID positive patients. Hospitalizations must occur between 7 days prior to specimen collection date and 28 days after specimen collection to be included. Due to irregularities in data submission for the period 5/5/20 and 5/21/20, data for this period will be revised as corrected data are available. Please note: trend values may retroactively change as new cases are identified.

Confirmed cases are reported by Maryland Department of Health. Admission and discharges are derived from Admission, Discharge, Transfer feeds sent to CRISP.
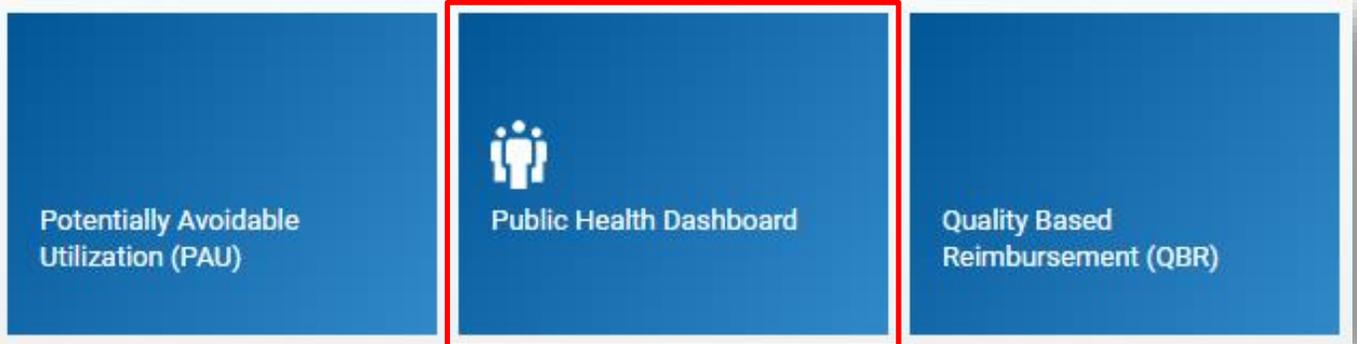
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User Guide

Tableau Public Health Dashboard Access/Card

Step 1. To access the Public Health Dashboard tile, login to the CRISP Reporting Services Portal by visiting https://reports.crisphealth.org. Once in the CRS Portal, a dashboard of different blue report "cards" will appear. Availability of reports is based on the access of the user. Clicking the card named "Public Health Dashboard" will bring up the available reports for this category. The following screen shots represent the user's workflow.

Step 2. By clicking the Tableau icon as shown below, you will access the Confirmed COVID-19 Admit and Discharge Trends Report. The question mark icon will allow you to access documentation such as user guides and data dictionaries where applicable.

Tableau Features

On each Tableau dashboard, there are menu options for the user to select, which are listed below. Additionally, the Tableau report contains multiple dashboards. The available dashboards are listed at the top.

| Menu Option	Description
Refresh	The refresh button is used to refresh the data source used by the Tableau report.
Revert	The revert button restores the report to its default view, undoing all user selections and/or filtering.
Pause/Resume	This button pauses or resumes the Tableau layout update. This is useful when the user is making multiple filter changes at once. By pausing the layout update, the report is not reloaded for each filter change. When the user clicks to resume the layout update, the report will be reloaded with the filter selections applied.
Help	This button opens the Tableau user guide.
Print	This button allows you to generate a PDF from the selected tabs in Tableau. When you click the icon, a menu with various export options appear. The user can print multiple tabs and with the desired filters, and the user has options to adjust the page scaling, paper size, and paper orientation for printing.
Excel/Crosstab	The Excel or crosstab option allows user to export a dataset into an Excel workbook or CSV file. Note that Excel extracts may provide additional columns that may not be present in the Tableau workbook. You will have to separately download a new file if you want the data tables with different filter selections.

Report Sections

1. Trend Summary

The 'Trends Summary' tab displays three summary graphs around COVID-19 Positive patient inpatient admission and discharge statistics. The first two graphs below give the 14-day trends for admissions and discharges, respectively. The last 14 days are bolded in blue, and the dotted line represents the overall 14-day trend. The last graphic displays the length of stay distribution for all COVID-19 positive IP hospitalizations. The bars represent the total number of records, and the orange line is the cumulative percent of total discharges.
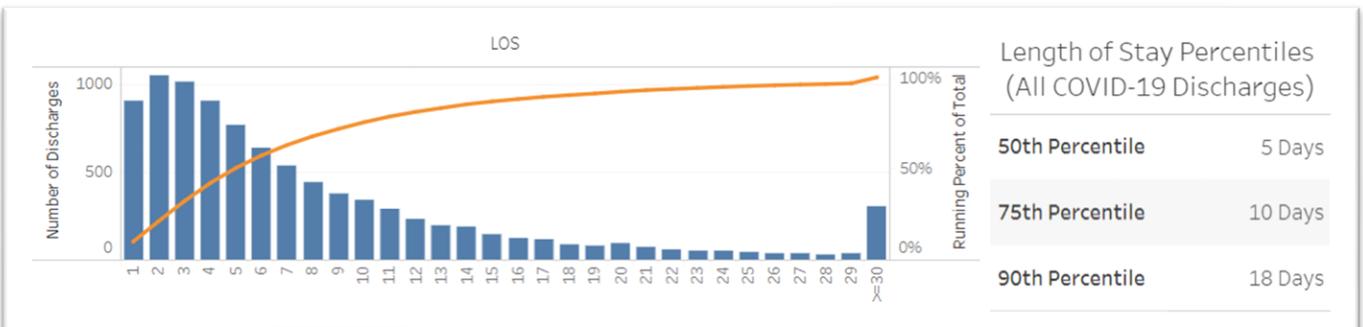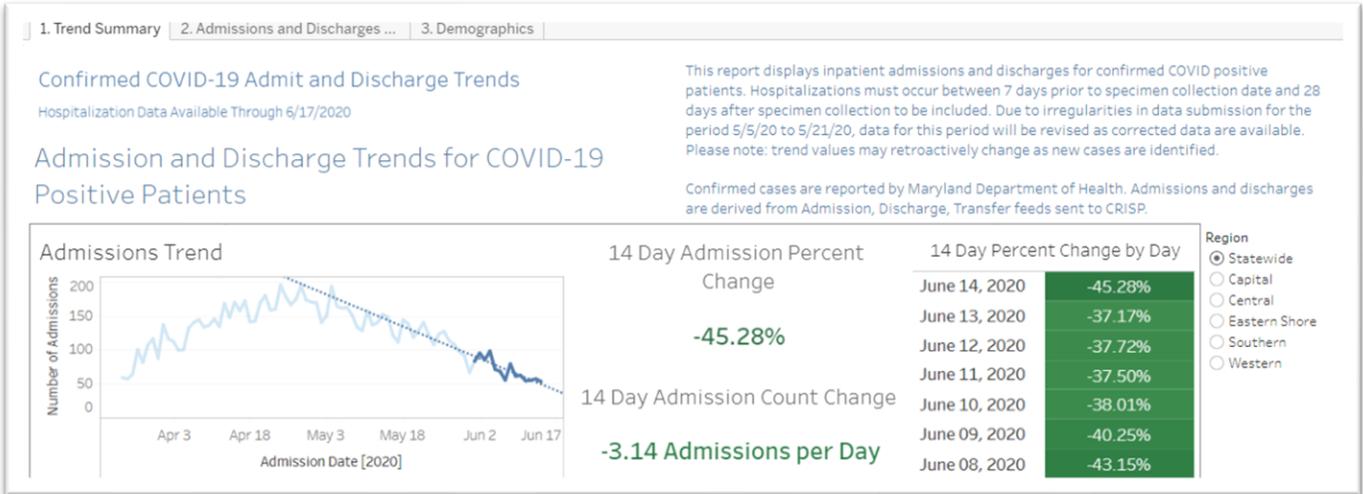
2. Admissions and Discharge by Day

The 'Admissions and Discharges by Day' tab overlays Admissions (blue line) and Discharges (orange line) counts by day for users to quickly view the trend of both metrics. Users can filter on region, county, age group, and gender. Note: The county filter is based on the patient's residence.
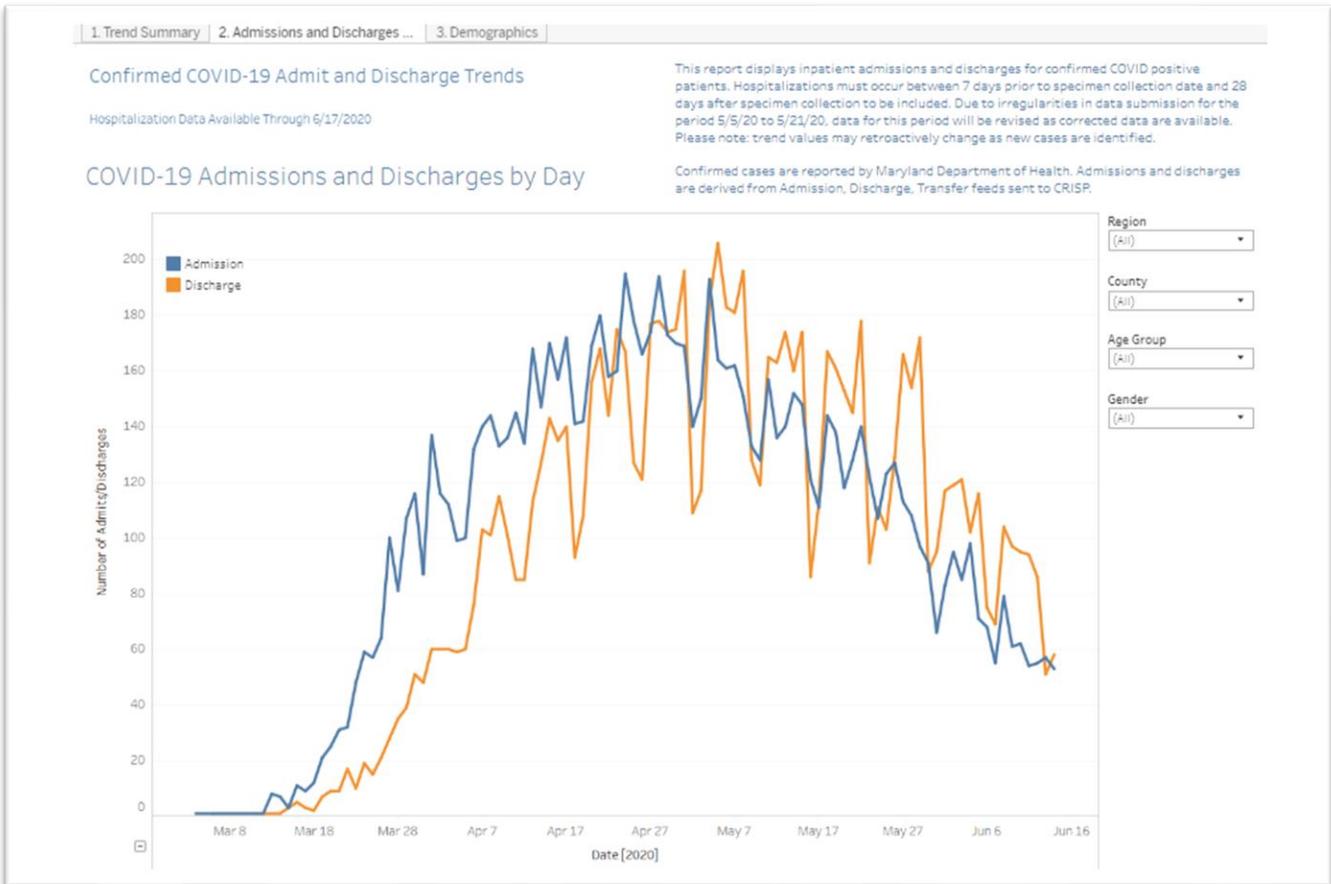
3. Demographics

The 'Demographics' tab displays bar charts for gender, age, age group, and geographic region for COVID-19 positive hospitalized patients. The second set of bar charts compare the percentage difference between the number of patients with COVID-19 who were hospitalized versus those not hospitalized for each demographic category. Users can hover over the chart to see the count. Additionally, Users can filter on county, region, age group, and gender. Note: The county filter is based on the patient's residence.
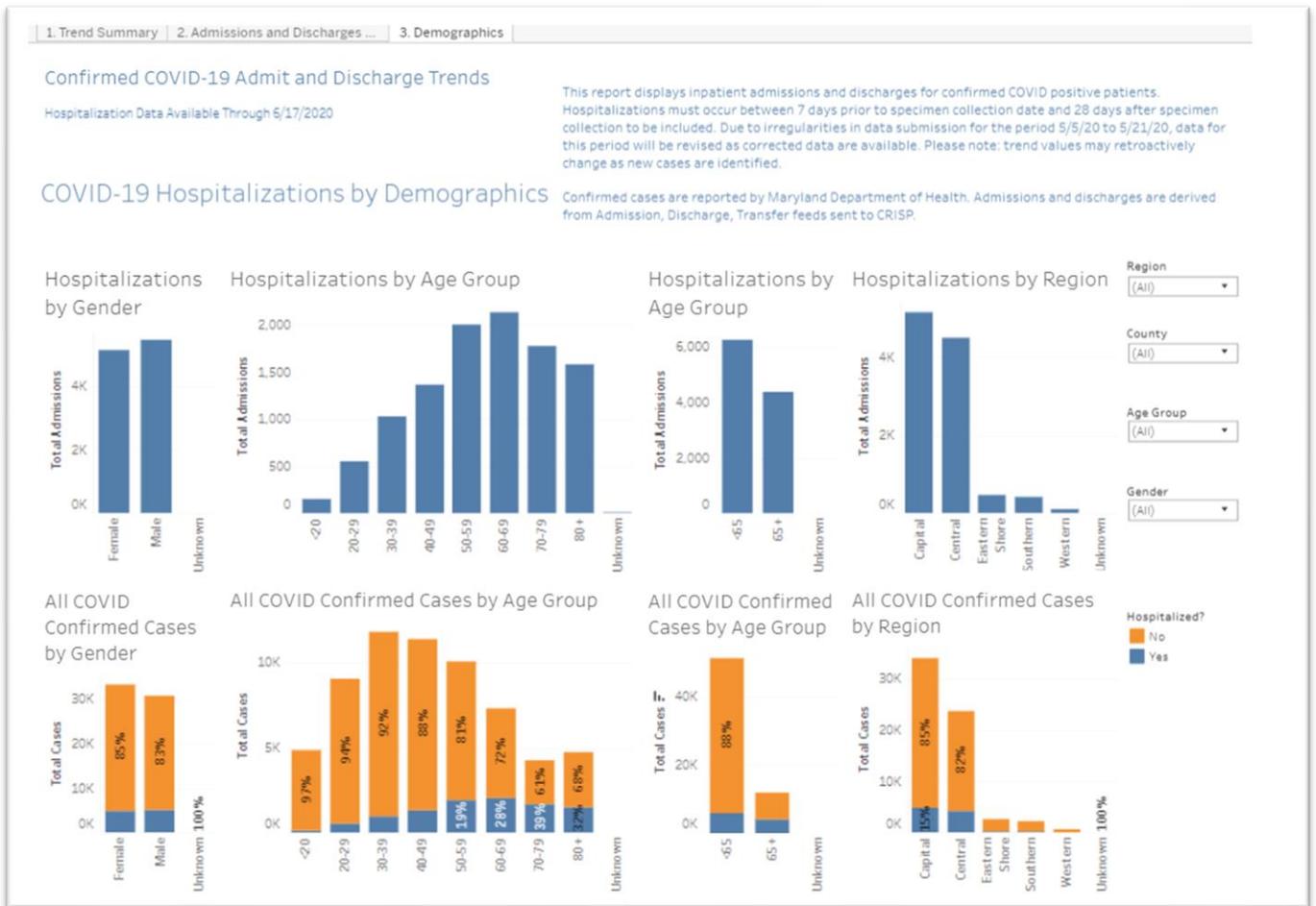
Calculations

Below is a table with an explanation of each of the calculations in this report. Additionally, a screenshot is provided for calculating the values in excel on the following page. Note: The screenshot of the calculations is from another report but uses the same methodology for calculating the metrics that are in the Confirmed COVID-19 Admit and Discharge Trends Report.

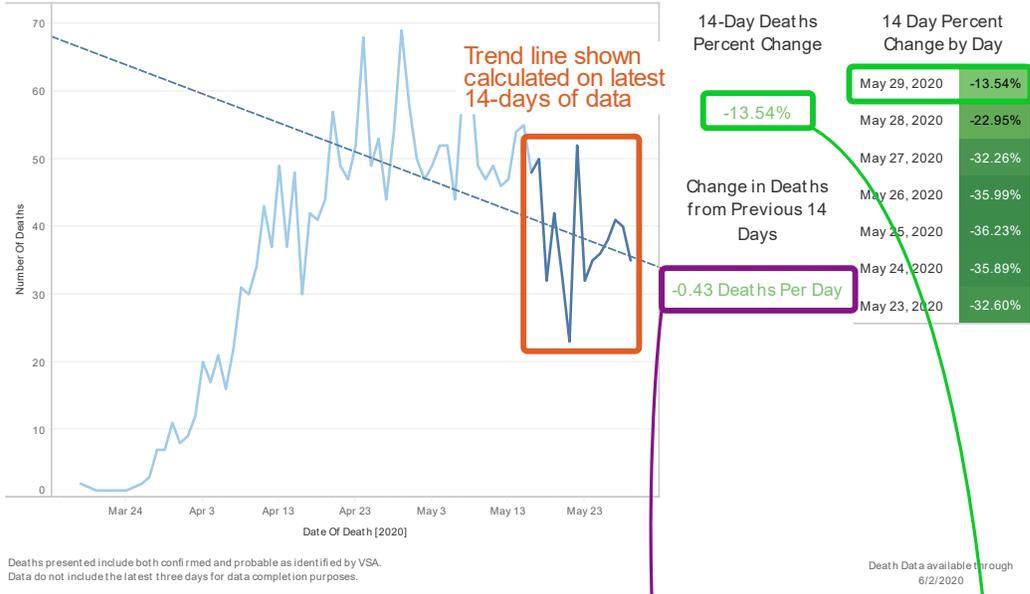| Measure	Definition
Trendline	The 14 day trendline is a linear model based on the number of admission per day in the last 14 days. $Y = \beta_0 + \beta_1 X$
14 Day Admission Count Change	The 14 day admission count change is the estimated slope of the 14 day trendline.
14 Day Admission Percent Change	The estimated number of admissions is calculated using the 14 day trendline model. The estimated number of admissions would be the Y variable in the equation. The estimated percent change takes the most recent estimated admissions subtracts the estimated admissions from 14 days before and divides by the estimated admissions from the 14 days before. $\% \text{ change} = 100 \times \frac{(\text{final - initial})}{|\text{initial}|}$
14 Day Percent Change by Day	The estimated number of admissions is calculated using the 14 day trendline model. The estimated number of admissions would be the Y variable in the equation The estimated percent change takes the estimated admissions for that day subtracts the estimated admissions from 14 days before the most recent date and divides by the estimated admissions from the 14 days before the most recent date. $\% \text{ change} = 100 \times \frac{(\text{final - initial})}{|\text{initial}|}$

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1. Report View

Maryland COVID-19 Fatalities

Numbers are of deaths reported by the Maryland Vital Statistics Administration - Maryland residents only.
As with all reports, do not distribute this information publicly. Please note: trend values may retroactively change.

Export to Excel for table of daily counts depicted in report

Trend line shown calculated on latest 14-days of data

Deaths presented include both confirmed and probable as identified by VSA.
Data do not include the latest three days for data completion purposes.

14-Day Deaths Percent Change

-13.54%

Change in Deaths from Previous 14 Days

-0.43 Deaths Per Day

14 Day Percent Change by Day	
May 29, 2020	-13.54%
May 28, 2020	-22.95%
May 27, 2020	-32.26%
May 26, 2020	-35.99%
May 25, 2020	-36.23%
May 24, 2020	-35.89%
May 23, 2020	-32.60%

Death Data available through 6/2/2020

2. Excel Export + Calculated Trend Line Values

A	B (Date)	C (Fatality count)	D	E (Trend Line Values)
10	May 16, 2020	48		41.1
11	May 17, 2020	50		40.7
12	May 18, 2020	32		40.3
13	May 19, 2020	42		39.9
14	May 20, 2020	33		39.4
15	May 21, 2020	23		39.0
16	May 22, 2020	52		38.6
17	May 23, 2020	32		38.1
18	May 24, 2020	35		37.7
19	May 25, 2020	36		37.3
20	May 26, 2020	38		36.9
21	May 27, 2020	41		36.4
22	May 28, 2020	40		36.0
23	May 29, 2020	35		35.6

3. Excel Regression Functions and Example Calculations

A	B (Trend Line)	C (Function)	D (Calculation)	E (Calculated Values)
3	Slope (Reported as Per Day value)	=SLOPE(C10:C23,B10:B23)		-0.43
4	Intercept	=INTERCEPT(C10:C23,B10:B23)		18884.14
5	Percent Change	=(E23-E10)/E10	(35.6-41.1)/41.1	-13.54%
6	Trend Line Value Example	=E3*B12+E4	(-0.43)*(May 16, 2020)+(18884.14)	40.3